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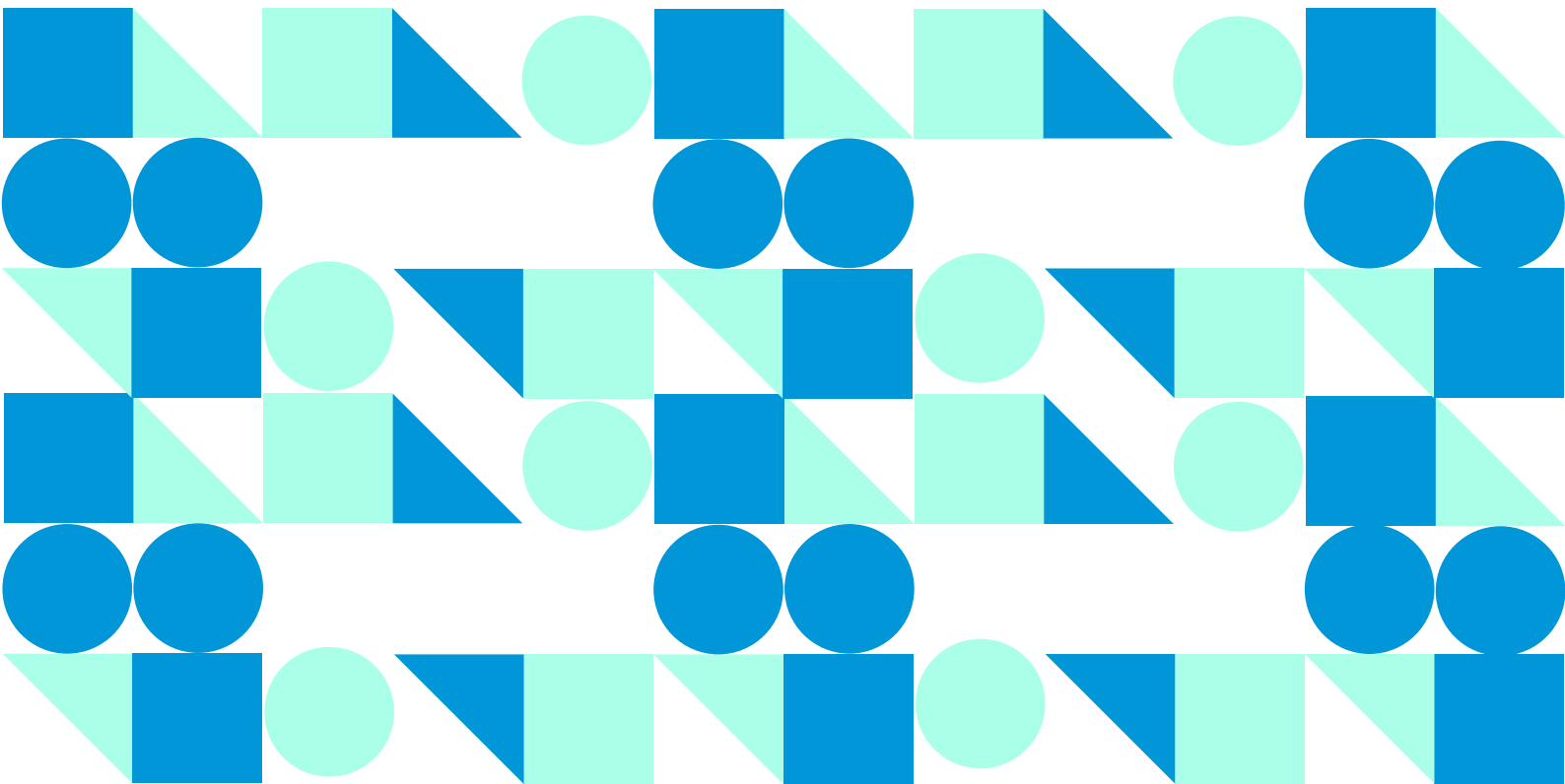
EN

1831-5860

Research paper

Lifelong learning in 2000 and 2020

What has changed for the individual citizen?



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Luxembourg: Publications Office of the European Union, 2025

Please cite this publication as:
Cedefop. (2025). *Lifelong learning in 2000 and 2020.What has changed for the individual citizen?* Cedefop research paper. Publications Office of the European Union. http://data.europa.eu/doi/10.2801/0797591

PDF ISBN 978-92-896-3902-6
ISSN 1831-5860
doi:10.2801/ 0797591
TI-01-25-090-EN-N

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Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a European Union agency with a renewed mandate.

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Foreword

How far have we come in transforming lifelong learning into a reality for individuals over the past two decades, and what remaining barriers must we overcome to ensure that everyone can benefit?

Lifelong learning has been integral to Europe's evolving social and educational landscape for more than two decades. The 1996 European Year of Lifelong Learning, followed by the Lisbon strategy (2000) and Memorandum on Lifelong Learning (2001), laid the groundwork for European Union (EU) policies in the area. By including lifelong learning in the first principle of the European Pillar of Social Rights (2017), it became a cornerstone of the EU's social policy framework. The recent proclamation of the European Year of Skills (2023–2024) highlighted the ongoing commitment to lifelong learning as a crucial element of EU social and economic development.

To make lifelong learning a reality requires enabling individuals to combine and accumulate learning across institutions, sectors and countries, giving them the flexibility to return to learning according to their needs and circumstances. This necessitated reforms at both the EU and national levels over a two-decade span, focusing on policies that enhance the transparency and transferability of learning outcomes. From the outset, Cedefop has played a key role in supporting the development and implementation of these EU transparency tools and principles.

Setting the turn of the century as a starting point, the first part of Cedefop's project 'Transparency and transferability of learning outcomes' (2022–2025) mapped and analysed the respective developments at the European level aimed at mobility and lifelong learning ([1]). Building on this analysis, this report shifts focus to individuals, investigating what has changed for them. It delves into the obstacles faced in 2000 to enter, re-enter or accumulate learning across institutions, sectors and countries, examines the progress made over the past 20 years, and identifies the obstacles that persist.

By adopting a long-term perspective, this research paper, combined with earlier work on policy coherence and impact, aims to inspire discussions on future EU and national policy directions. The insights gained will contribute to shaping alternative policy scenarios for 2040, offering visions for the future of lifelong learning.

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Head of Department for VET and qualifications

([1]) *Transparency and transferability of learning outcomes: a 20-year journey – Analysis of developments at European and national level*.

Acknowledgements

This research paper was produced by Cedefop, Department of VET and qualifications, under the supervision of Loukas Zahilas, Head of Department until February 2025.

Zelda Azzarà, Cedefop expert, with the support of Vasileios Symeonidis, Cedefop expert, were responsible for the publication and for the research conducted under the Cedefop project *Transparency and transferability of learning outcomes*.

Cedefop would like to acknowledge the Tavistock Institut Germany (TIG) and Istituto per la Ricerca Sociale (IRS) research teams, which conducted preliminary analysis and drafted their findings under the project team leader Kari Hadjivassiliou and the research team leader Manuela Samek Lodovici, who coordinated the national experts Silvia Castellazzi (Italy), Marcin Budzewski (Poland), Kari Hadjivassiliou (France), Thomas Spielhofer (Germany), Heidi Layne (Finland), Cristina Vasilescu (Romania) and Marc van der Meer (the Netherlands).

The publication was peer reviewed by Carita Blomqvist and Iraklis Pliakis, Cedefop experts.

Special thanks are also due to all those who actively participated in the Cedefop workshop 'Making learning progression a reality: Learners in the spotlight' in February 2024, which discussed the project findings.

Executive summary

Background

This report is part of the three-year Cedefop study ‘Ensuring transparency and facilitating transferability of learning outcomes; analysing two decades of European and national initiatives’.

The overall aim of this part of the study is to assess, over a 20-year period (2000–2020), how and to what extent the European Union (EU) and national measures adopted to support the transparency and transferability of learning outcomes have enhanced the flexibility and permeability of learning systems and improved learning opportunities for individual learners, facilitating learning transitions and lifelong learning. This report explores the main changes in lifelong and life-wide learning opportunities for individual learners, as well as the legislative and policy initiatives that have played a role in bringing about these changes, in order to answer the following three research questions (RQs).

(a) RQ 1: Which obstacles to individuals’ lifelong and life-wide learning existed in 2000, focusing on the transparency of systems and transferability of learning outcomes?

(b) RQ 2: Which obstacles to individuals’ lifelong and life-wide learning existed in 2020, focusing on transparency of systems and transferability of learning outcomes?

(c) RQ 3: Which European and national initiatives and reforms have made a difference to individual learners and their need to access, enter, re-enter and combine learning throughout life?

Methodology

The focus of the analysis is on the evolution of barriers and opportunities influencing individual learning transitions across three critical macro areas: (i) within and across formal education and training sectors; (ii) between formal, non-formal and informal learning; and (iii) across borders. To address the research questions, the analysis triangulates evidence from a literature review, a comparative statistical analysis of participation rate changes over the past two decades, and in-depth country case studies. The study focuses on eight countries – Germany, Ireland, France, Italy, Netherlands, Poland, Romania and Finland – selected for their diverse socioeconomic contexts and educational systems, as reflected in various quantitative and qualitative indicators. The research activities included desk studies, fieldwork and stakeholder engagement,

including 70 interviews with education and training policy stakeholders and experts, focus groups with 54 participants, and case histories detailing the experiences of 20 individual learners. To enhance the contextual understanding of the results, the analysis also draws upon findings from previous project phases, acknowledging the potential limitations of the stakeholder sample.

Main findings

Main barriers and changes from 2000 to 2020

At the beginning of the 21st century, the main barriers to horizontal and vertical mobility within the formal education and training system included (i) the presence of separate and parallel formal education and training pathways hindering horizontal and vertical mobility for individual learners; (ii) the low status and attractiveness of vocational education and training (VET) leading to low enrolment in VET compared with general education pathways; (iii) stereotyping of disadvantaged target groups leading to social segregation of learners, as well as the phenomenon of young people not in employment, education or training (NEETs), and early leavers from education and training; and (iv) the underdeveloped quality assurance mechanisms leading to individual learners facing low-quality learning content.

Significant barriers were also in place that hindered the ability to combine formal, non-formal and informal education and training. These barriers included (i) the underdevelopment of national lifelong learning systems and undervaluation of non-formal learning and (ii) the underdevelopment and fragmentation of validation arrangements for non-formal and informal learning by formal education and training institutions and by the labour market.

Multiple barriers were also present in the portability of qualifications and learning across EU Member States and beyond. These barriers stemmed from (i) underdeveloped mutual recognition frameworks affecting individual learners' academic and professional opportunities and (ii) complex, costly and non-transparent mutual recognition procedures.

Overall, these barriers hindered the promotion of flexible systems that could support the transferability of learning outcomes, ultimately limiting individuals' access to lifelong and life-wide learning opportunities. In the first two decades of this century, all Member States addressed these barriers and moved towards a new ecosystem that places a greater emphasis on learner-centred, flexible, lifelong and life-wide learning pathways, with smoother transitions across education and training systems within and across countries. Compared with the beginning of the century, in 2020 all the country cases demonstrated progress towards:

(a) increased opportunities for personalisation of learning experiences and flexible learning pathways;
(b) the expansion and diversification of education and training routes available to individual learners, particularly in VET and higher education, and the increased attractiveness of VET;
(c) easier horizontal and vertical transitions for individual learners across formal vocational and education pathways and between formal, non-formal and informal learning;
(d) the development of targeted measures to provide better opportunities for disadvantaged groups like early leavers from education and training, adults returning to education and NEETs and to reduce educational segregation;
(e) easier portability of qualifications and learning outcomes across countries and increased learners' support to facilitate cross-country mobility.

European and national policies have promoted measures and strategies leading to improved transparency and transferability of learning outcomes, contributing to more flexible, diversified and inclusive education systems, better accommodating the diversity of learner needs than in the past. The timing and implementation of national reforms and initiatives were different across countries, reflecting their particular institutional and socioeconomic contexts and the specificities and stage of development and maturity of their education and training systems.

Key changes within and across formal education and training subsectors include the growing use of learning outcomes and credit-based or modular-based systems, as well as the expansion and diversification of quality learning opportunities. The broadening of curricula in VET and general and higher education and a greater emphasis on work-based learning in all subsectors, together with more flexible admission requirements and increased comparability of qualifications, have facilitated transitions across sectors, making educational pathways more accessible. Together with quality assurance developments, this has improved the image and increased the attractiveness of VET. Targeted measures have been introduced to reduce educational segregation, improve learning opportunities and support re-entry into education and training for vulnerable groups and early school leavers.

In the two decades considered, improvements have also taken place in combing formal, non-formal and informal learning, thanks to the development of lifelong learning strategies, the increased visibility, relevance and quality of learning taking place outside formal sectors, and the increased ability of individuals to have their non-formal and informal learning outcomes validated. The increasing focus on learning outcomes and modularisation as well as the

existence of national qualifications frameworks (NQFs) open to qualifications outside the formal system have been key developments in this respect.

Finally, opportunities for international learner mobility have expanded, thanks to improvements in the recognition of (partial/full) qualifications and learning outcomes acquired abroad, the simplification of recognition procedures in some countries and increased (financial and non-financial) support for learner mobility.

While there is limited empirical evidence on how these measures have directly influenced individuals' learning pathways and impacted lifelong and life-wide learning, they have nonetheless shaped policy developments and practices and will continue to do so. The changes described empower learners to tailor their education according to their interests and needs, enabling them to engage in more flexible and accessible learning methods. Enhanced, high-quality opportunities boost engagement and outcomes, while improved access and transitions between subsystems facilitate smoother learning and progression. Additionally, measures supporting disadvantaged groups promote inclusivity, allowing more learners to fully participate in and benefit from education and training systems.

Persisting barriers and challenges

Despite the evident improvements in the flexibility and permeability of education and training systems for individual learners, several challenges persisted at the end of 2020. Difficulties remain in the practical implementation of measures adopted and in ensuring a coordinated approach among institutions, subsystems and countries. Fragmented strategies and bureaucratic hurdles hinder the seamless integration of learning pathways. For example, while learning outcomes have gained popularity, varying approaches across education and training subsystems – and even within regions – undermine the development of cohesive systems and the comparability of learning outcomes.

Challenges persist in the underdevelopment and underutilisation of credit systems in VET and upper general education compared with higher education. Even when credit systems exist, bureaucratic procedures and institutional autonomy impede their effective use. Differences in quality assurance frameworks and practices across education and training subsystems and countries seem to erode trust in learning opportunities and qualifications. The stakeholders interviewed highlighted issues such as perceived low quality of training, accessibility challenges related to teachers' schedules and limited validation of prior learning as barriers to participation in education and training.

Although initiatives for the validation of non-formal and informal learning have increased, most countries lack a comprehensive approach, and these developments do not cover all subsectors or qualifications. According to the

stakeholders interviewed, general and higher education institutions often hesitate to recognise learning from non-formal settings, thus limiting access. For both the validation of non-formal and informal learning and the recognition of qualifications, complex and lengthy procedures, along with uncertainly of outcomes, are considered significant obstacles. Challenges in learning mobility and recognition of qualifications remain, especially for VET learners.

Another important challenge is the need for tools and developments promoting transparency to adapt and evolve in line with the changing learning landscape and needs. While NQFs play a key role in promoting the transparency of qualifications and bridging different types of learning, their existence should not be taken for granted. Continuous efforts are needed to enhance their coherence and strive for continuous improvements and adaptation to changing societies and learning landscapes. The varying coverage of qualifications, partial qualifications and microcredentials within and beyond formal learning poses a challenge to making NQFs truly comprehensive tools for promoting lifelong learning. Additionally, engaging labour market actors effectively remains a challenge, and their impact is limited unless integrated into guidance and counselling practices and utilised by citizens.

Technological innovations offer opportunities to make learning more flexible and support its transferability. However, the increasing diversity of the student population and rapid technological advancements pose challenges for education and training providers, trainers and teachers in delivering personalised learning and adapting to new tools and pedagogies. The evolving learning landscape, with an increasing number and variety of learning opportunities from different actors, raises important questions about their relevance and integration with other learning options, and equal access for all. These developments also complicate individuals' ability to navigate and select suitable learning pathways.

Balancing the integration of occupational, general and transversal skills into VET curricula poses challenges in maintaining their relevance and attractiveness while avoiding excessive 'academisation' and ensuring programme links to the labour market. The growing adoption of microcredentials poses challenges related to quality assurance as well as alignment and integration with existing formal qualifications and standards, raising concerns about the clarity and coherence of learning pathways.

Awareness and uptake of available learning opportunities among citizens remain low, partly due to information gaps and a lack of guidance. Participation in learning, particularly among adults – especially those who are unemployed, inactive or have low educational levels – remains low across Europe, with significant disparities between countries due to varying national conditions and policies. High costs, time constraints, family commitments and lack of motivation

are major barriers, even though most people acknowledge the importance of continuous skills development.

Despite growing attention, inequalities in education access and progression persist across Europe. Disadvantaged students are often steered towards lower-status programmes, perpetuating socioeconomic disparities. Although the attractiveness of VET has increased, it is still perceived as a lower-status option in some countries. Limited incentives, financial barriers and insufficient access to information and guidance further restrict engagement in learning and complicate transitions.

Conclusions and policy implications

The report underscores the critical importance of continuous policy development and the need for a coordinated approach to education and training reforms at both the EU and national levels. By further promoting the transparency and transferability of learning outcomes, European and national initiatives can more effectively support lifelong learning, social cohesion and economic growth, creating a flexible and inclusive learning environment.

The report reviews significant changes in lifelong learning opportunities across the EU from 2000 to 2020, focusing on formal, non-formal and informal learning. These developments have fostered greater opportunities for individuals to enter, re-enter and integrate different forms of learning and have enhanced international mobility through improved portability of qualifications and their learning outcomes.

The research findings suggest that, while significant progress has been made in all Member States, further efforts are necessary to overcome persisting barriers and fully realise the potential of lifelong and life-wide learning across Europe. To address ongoing challenges and build upon the progress made, the report provides some policy recommendations.

A cohesive strategy at both the EU and national levels is essential to support lifelong learning, requiring engagement and cooperation between different actors. Addressing segmentation within education systems through better coordination among stakeholders is vital, alongside the integration of non-formal learning with robust quality assurance to ensure the transferability of learning outcomes. A coordinated approach between institutions, subsystems and countries could promote effective implementation of measures, reduce bureaucratic hurdles and leverage technological developments. Policy tools and developments need to continuously adapt, and at the same time there is a need to strengthen the capacity of institutions, teachers, trainers, practitioners and stakeholders to further support their implementation. To promote the coherent implementation of

initiatives, promote trust and reduce the complexity of procedures, it is fundamental to create spaces for discussion and exchange of best practices. The study also highlights the need for targeted policies to promote participation in learning, particularly among disadvantaged groups. Improving data collection, monitoring and evaluation systems is necessary to better understand the challenges and the outcomes of legislative reforms and policy initiatives.

Key recommendations include ensuring high-quality learning offers that align with labour market and societal needs and personalisation of learning. The use of learning outcomes facilitates discussions on the relevance of qualifications and customisation of learning pathways. However, to harness the potential of the approach it is essential to support practitioners in their use and applications. Educators need adequate training and resources to design and implement personalised learning pathways effectively, ensuring that technology is used in a way that is appropriate to the learning objectives. More targeted initiatives, including tailored education resources, are essential to support disadvantaged learners.

Another key recommendation is to ease access to programmes and qualifications and support the ‘stackability’ and accumulation of units of all types of learning within and across countries. While admission requirements to programmes have generally relaxed, this is not always the case, and validation of non-formal and informal learning should play a stronger role, along with recognition of foreign qualifications. The development of more supportive frameworks recognising the value of learning taking place outside formal systems, such as work-based learning, apprenticeships and community programmes, is also fundamental to enable learners to accumulate and combine learning experiences and qualifications in a flexible and modular way. These should be better integrated into providers’ and institutions’ practices, overcoming the resistance in some sectors to consider past learning experiences. At the same time, procedures for validation of non-formal and informal learning should be accessible, flexible and learner-centred, alongside simple, rapid procedures for recognising foreign qualifications and their learning outcomes. To increase efficiency, the use of digital tools not only for recognition but also for validation of non-formal and informal learning should be improved, including the further development of the Europass platform, with the development of well-functioning and quick authenticity verification systems for qualifications, credentials and learning outcomes. Bridging courses and second-chance education programmes are important developments in aiding early school leavers and low-skilled individuals in re-entering formal education and training. To enhance access to and transferability of units of learning outcomes, greater cross-sectoral collaboration among key stakeholders on quality assurance processes should be encouraged to promote trust and understanding, also between different

education and training systems and actors. Work on the implementation and on promoting the compatibility of credit systems should be improved to allow the transfer of components of qualifications, enabling transitions between types of learning. The use of credits resulting from validation procedures should be more effectively integrated into institutional practices. To improve the recognition of qualifications as well as microcredentials across countries requires engagement of diverse education and training stakeholders on recognition issues, along with capacity building for teachers and training managers on recognition procedures.

Investing in making information more easily accessible as well as investing in guidance and support services, including digital tools and platforms, can help learners navigate the complex landscape of learning offers and make informed decisions about their learning pathways. NQFs can play a key role in promoting the development of clear registers of quality-assured qualifications. They can show available opportunities and learning paths, providing clarity on how small units of learning outcomes, such as microcredentials, align with broader qualifications. Digital tools and platforms can be used to better connect information and ensure that it reaches the learner. At the same time, more investment in guidance and support services is needed, along with more comprehensive and integrated services addressing individuals' holistic needs and allowing engagement in learning. Financial incentives are also important for enhancing participation in learning. Targeted initiatives are needed to support disadvantaged learners to facilitate their reintegration into formal education systems and address socioeconomic barriers to equitable access.

Overall, this report points to the persistent segmentation of the education and training system that limits the ability of individuals to access, transfer and accumulate learning outcomes. It calls for addressing the 'siloed' operation of its subsectors. This requires greater investments in promoting coordination and cross-sectoral collaboration at different levels. This collaboration should involve key stakeholders, including learning providers, awarding bodies, quality assurance agencies, guidance services, learners, policymakers, employers and social partners. A consistent and integrated policy approach across education and training sectors is essential for promoting lifelong learning, and this also involves a stronger synergy between national and European initiatives on the transparency and transferability of learning outcomes. Although implementing these comprehensive and coordinated strategies requires significant resources, the socioeconomic costs of inaction are far greater. By addressing individual needs and adopting the corresponding policy recommendations, the EU can foster an effective, inclusive and learner-centred education and training space that promotes lifelong learning. This will enable the seamless transfer of learning across institutions, systems and countries, promote individual development and equip people with essential skills for the 21st century.

Chapter 1.
Introduction

Learning occurs in various aspects of life, and individuals should have the ability to combine and accumulate learning across institutions, sectors and even countries, and (re)-enter education, training and learning throughout their life based on their needs and circumstances. This can happen if education and training systems follow a learner-centred approach, focus on the individual and support flexible learning pathways. Over the past two decades, numerous European and national policy initiatives have tried to reduce barriers to lifelong and life-wide learning ([2]). Often focusing on the increase in transparency ([3]) of programmes, qualifications and systems and the promotion of transferability ([4]) of learning acquired in different learning settings (formal, non-formal and informal), these initiatives are at the core of efforts to make education, training and learning systems more flexible.

Taking the turn of the century as a starting point, the Cedefop project 'Transparency and transferability of learning outcomes' (2022–2025) aims to offer insights into, and stimulate discussions on, the relationships between and the impact of European and national policy initiatives promoting the transparency and transferability of learning outcomes ([5]). The project aims to:

(a) examine the extent to which national and European policies, together with the shift towards learning-outcomes-based approaches over the past 20 years, have contributed to more flexible education, training and learning, supporting lifelong and life-wide learning;

(b) provide an overarching and comprehensive overview of the interactions between EU and national policy initiatives and the interconnections between all subsystems of education and training (i.e. school, higher, vocational and

([2]) Lifelong learning refers to 'all learning activities undertaken throughout life, with the aim of improving knowledge, skills, competences and/or qualifications for personal, social and/or professional reasons'. Life-wide learning refers to 'all learning that takes place across the full range of life activities (personal, social or professional) and at any stage of a person's life, and can encompass either formal, non-formal or informal learning' (Cedefop, 2014, pp. 171–172).

([3]) Cedefop (2014) defines transparency of qualifications as the 'degree of visibility and legibility of qualifications, their content and value in the (sectoral, regional, national or international) labour market and in education and training systems'.

([4]) Cedefop (2014) defines transferability as the 'degree to which knowledge, skills and competences can be used in a new occupational or educational environment, and/or be validated and certified'.

([5]) Learning outcomes are defined as 'clear statements that outline what a learner is expected to know, be able to do, and understand upon completing a learning sequence, whether it takes place in formal, non-formal, or informal settings' (Cedefop, 2017).

adult education), the labour market and other relevant areas by going beyond the analysis of single and separate initiatives;

(c) provide insights into the consistency, sustainability and combined impact of policies on the transparency and transferability of individual learning outcomes.

This research paper is the second produced as part of this project. The first one (Cedefop, 2024a) provided a comprehensive mapping and long-term analysis of European policy initiatives (2000–2020) aimed at improving the transparency and transferability of learning outcomes to support mobility and lifelong learning. The first report examined both European and national policies, providing a macro-level, systemic understanding of their objectives, orientation, synergies and impact. It highlighted crucial advancements over the past two decades, including the shift towards learning outcomes, validation of non-formal and informal learning, growing convergences across policy initiatives and countries, increasing commitment to transparency, comparability and recognition of qualifications, and the need to promote permeable education and training systems with flexible learning pathways. Building on this foundation, the current report focuses on the impact of these developments at the individual learner level and examines what has changed for individuals following lifelong learning policy developments from 2000 to 2020.

1.1. Aims and research questions

The overall aim of this study is to assess how and to what extent policies, reforms and initiatives supporting the transparency and transferability of learning outcomes adopted at the European and national levels between 2000 and 2020 have contributed to the flexibility and permeability of learning systems and affected the lifelong and life-wide learning opportunities and choices of individual learners. For the purpose of this study, flexibility refers to learners' ability to shape their learning paths in alignment with their needs, aspirations and circumstances. It reflects the range of options available in learning formats, content and assessment that support them to continue learning throughout their lives according to their evolving personal and professional goals. Permeability refers to the capacity of education and training systems to support learners to move between different educational levels, sectors or systems (e.g. from vocational education to higher education, or between different countries' education and training systems). It emphasises the interconnection between various learning pathways and the seamless recognition of qualifications and learning outcomes.

It involves both horizontal and vertical permeability, allowing learners to move across academic and vocational streams at the same qualification level and progress from lower to higher qualification levels, regardless of whether they are in an academic or vocational stream.

Flexibility and permeability in the education and training system started to become dominant themes in education and training policy discussion and approaches in the 1990s (Cedefop, 2018) and have attracted increasing attention in the past two decades, characterised by the growing challenges posed by globalisation, technological change and demographic ageing. These challenges ask for the adoption of a lifelong and life-wide learning approach, offering individuals the opportunity to participate in learning over their entire life to improve knowledge, skills, competences and/or qualifications for personal, social or professional reasons, in all life-wide contexts and through different modalities (formal, non-formal and informal) (Cedefop, 2014; UNESCO, 2006a).

Specifically, research activities undertaken in this phase of the study seek to answer the following three research questions (RQs):

(a) RQ 1: Which obstacles to individuals' lifelong and life-wide learning existed in 2000, focusing on the transparency of systems and transferability of learning outcomes?
(b) RQ 2: Which obstacles to individuals' lifelong and life-wide learning existed in 2020, focusing on transparency of systems and transferability of learning outcomes?
(c) RQ 3: Which European and national initiatives and reforms have made a difference to individual learners and their need to access, enter, re-enter and combine learning throughout life?

1.2. Analytical and methodological approach

To address the research questions, it is first necessary to make the research hypothesis and the scope of the analysis explicit.

1.2.1. Research hypothesis, definitions and scope of the analysis

The research hypothesis is that the shift to a learning outcomes approach in education and training systems, and the European Union (EU) and national measures adopted to support the transparency and transferability of learning outcomes, have facilitated learning transitions and progression, as well as improved learning opportunities for individuals, meaning all the experiences and situations that people can learn from, both organised and spontaneous, so that they have the potential to gather and process knowledge and to acquire skills and

competences that help develop their individual character as well as learning and employment opportunities.

Learning opportunities are available in the formal education and training system, as well as in non-formal and informal learning, in the country of origin and in other countries. The transparency and transferability of learning outcomes within and across the formal educational training sectors, between formal, non-formal and informal learning, and across countries, therefore, are crucial to promote lifelong learning and thus the ability of individual learners to enter, re-enter and combine different forms of education and training according to their specific needs and circumstances.

Lifelong learning is not simply the summing up of different forms of learning. It envisages a shift of focus towards the combination of these forms of learning, as formal education and training is only one way by which people learn across their lifetime. In addition, responsibility for promoting lifelong learning – besides public institutions – also involves private and non-governmental organisations, as well as the individuals themselves. The literature shows that participation in learning and outcomes in terms of horizontal and vertical mobility is the result of the interaction between institutional and individual/household decision-making processes (Jarvis, 2010). It is related to the ability to access and return to education and training, combining different forms of learning over individuals' lifespans, according to individuals' needs and preferences. It includes perceptions about available opportunities/obstacles in the choice of pathways, subjects and institutions, particularly in the case of upper secondary and higher education (Hoelscher et al., 2008).

Developments in lifelong opportunities and the flexibility and permeability of learning systems are thus intrinsically linked to several factors. These include the regulations and procedures governing access to, and transitions within, various education and training sectors. The way that education and training are structured also plays a significant role. Implementation arrangements are crucial; they can encompass measures designed to guide and support individual learners, with particular attention given to those who are most vulnerable. Equally relevant are broader policy developments that enhance the transparency and transferability of learning outcomes. These aspects have been explored in previous phases of the overall project and encompass areas such as quality assurance, credit transfer and accumulation, comparability of skills and qualifications, validation of learning acquired in non-formal and informal settings, and the recognition of qualifications obtained in other countries (Cedefop, 2024a).

The focus of the analysis is on six sectors of education and training from upper secondary education and training:

(a) upper secondary general education;
(b) initial vocational education and training (IVET);
(c) continuing vocational education and training (CVET);
(d) adult education;
(e) higher vocational education and training (HVET);
(f) higher education.

Although some of these distinctions do not always reflect the specific features of national systems, this classification is adopted for cross-country comparisons.

The analysis primarily focuses on eight EU Member States (Germany, Ireland, France, Italy, Netherlands, Poland, Romania and Finland) that were identified at the beginning of the overall study as representative of distinct education and training systems and approaches and socioeconomic conditions. The selection was based on several quantitative and qualitative indicators reflecting each country's educational and lifelong learning framework and welfare and skills development systems. However, reference is also made to other Member States, and to the EU as a whole, to provide a comprehensive background for interpreting the findings from the in-depth analysis of the country cases.

1.2.2. Research methods, data analysis and limitations

The focus of the analysis is on how the shift to a learning outcomes approach, and the EU and national measures adopted to support the transparency and transferability of learning outcomes, have improved lifelong and life-wide learning opportunities for individuals. To this end, the analysis considers the changes in learning and transition opportunities for individuals that occurred between 2000 and 2020 in three macro areas: within and across the formal education and training sectors; between formal, non-formal and informal learning; and across countries.

To answer the research questions, a broad European and international literature review and a statistical analysis of available indicators on participation in education and training were conducted, together with an in-depth analysis of the eight country cases ([6]). The comparative analysis was based on the following

([6]) The country cases were identified on the basis of a set of quantitative indicators referring to the performance of national education and training and lifelong learning systems in terms of their outcomes and qualitative–quantitative indicators on the national education and lifelong learning framework.

criteria: (i) uncovering similarities, differences and unique characteristics across the main research questions; and (ii) identifying patterns and trends that emerged from the case studies.

Table 1 synthesises how the research questions were addressed and the methods for data gathering that were considered.

Table 1. **Research questions and methods**

Research question	Subquestions	Methods
RQ 1: Which obstacles to individuals' lifelong and life-wide learning existed in 2000, focusing on transparency of systems and transferability of learning outcomes?	— What were the opportunities available to the individual learner moving horizontally and vertically across formal education and training sectors? — What were the opportunities available to learn outside the formal education and training system? To what extent were qualifications and credentials acquired in non-formal and informal learning validated and recognised to enable learners to enter/re-enter the formal system? Was it possible to combine different forms of learning in a lifelong and life-wide perspective? — What were the opportunities available for the recognition of foreign qualifications and study periods abroad?	— Literature review — Review of findings from study's previous phases — Country cases (desk research and stakeholder/learner interviews and focus groups)
RQ 2: Which obstacles to individuals' lifelong and life-wide learning existed in 2020, focusing on transparency of systems and transferability of learning outcomes?	— Which key changes occurred between 2000 and 2020 in terms of: ▪ removing barriers to and increasing opportunities for horizontal and vertical transitions across formal education and training sectors? ▪ removing barriers to and increasing opportunities for acquiring qualifications and credentials in the non-formal and informal systems and having them validated and recognised in the formal system, to combine formal, non-formal and informal learning in an LLL perspective? ▪ removing barriers to and increasing opportunities for learning mobility and portability of qualifications and learning credentials across countries? — Which type of learner most/least benefited from the changes in LLL opportunities? How did participation	— Review of findings from study's previous phases — Literature review — Statistical comparative analysis — Country cases (desk research and stakeholder/learner interviews and focus groups)

Research question	Subquestions	Methods
	in LLL in education and training change in the period considered, by country and learners' characteristics? — Which persistent and new barriers and challenges were still present in 2020?	
RQ 3: Which European and national initiatives and reforms have made a difference to individual learners and their need to access, enter, re-enter and combine learning throughout life?	— Which key EU and national sectoral and broader policy initiatives contributed to the changes in opportunities/obstacles for individual learners and supported individuals' LLL?	— Review of findings from study's previous phases — Literature review — Statistical comparative analysis — Country cases (desk research and stakeholder/learner interviews and focus groups)

NB: LLL, lifelong learning.

The literature review supported the conceptualisation and preliminary identification of the key changes affecting individual citizens' transitions across education and training sectors within and between countries in the period considered (answering RQs 1 and 2), as well as the EU and national policy initiatives considered more relevant in the literature reviewed (answering RQ 3). The review covered grey and academic literature published over the last two decades regarding various policy measures related to lifelong learning that were introduced between 2000 and 2020 in different education sectors across Member States. The literature was selected based on the following criteria: (i) relevance; (ii) potential for comparative analysis; (iii) coverage of the 2000–2020 period; and (iv) English language for EU-wide literature and policy documents, and national language literature and documents for the eight country cases. The core team consulted the main academic full-text databases, including Google Scholar. References identified in the study's inception phase were further prioritised according to their relevance to the research questions, to identify the main implications for the individual citizen. These focused on increased opportunities to transition across different education and training sectors within and between countries, as well as on persisting challenges.

The statistical comparative analysis considered the evidence emerging from the main available EU comparative data and indicators and was disaggregated

by education and training sector and individual characteristics whenever possible ([7]). Evidence on the changes in participation in education and training was observed over the past two decades across the EU. Indicators on participation and enrolment rates were considered outcome indicators at the individual level, influenced by several factors (e.g. national context, personal circumstances and policy factors), including the possibility and ease of transitioning between national education and training systems.

For the identification and analysis of key policy initiatives, the study considered national measures/reforms (acts, regulations, guidelines, strategies, etc.) directly addressing the formal requirements and procedures to access, enter/re-enter and progress in the formal system and to obtain a qualification. The study also covers broader EU and national policies/initiatives supporting the overall transparency and transferability of learning outcomes. The policy initiatives considered refer to the five policy thematic areas analysed in a previous phase of the study (i.e. quality assurance, credit transfer and accumulation, comparability of skills and qualifications, validation of non-formal and informal learning, and recognition of qualifications) (Cedefop, 2024a), with additional specifications and new policy initiatives related to the focus on the individual learner's perspective.

The eight in-depth country cases comprised desk research and fieldwork covering the significant developments that took place within each country from 2000 to 2020 across the six identified (sub)sectors of education and training. This comprehensive analysis was based on a literature review of national policy documents and relevant resources, the expertise of the national researchers involved, and individual/group interviews and focus groups with key national stakeholders and individual learners (based on a case history approach). The case studies were structured according to a common template prepared by the core team, which provided detailed instructions on how to address the research questions and key guiding questions for both interviews and focus groups. All findings were triangulated by national researchers within structured country reports. A total of 70 interviews were conducted with national experts and stakeholders involved in education and training issues and policies. In addition, focus groups included 54 diverse stakeholders from both public and private education and training providers, along with representatives from learners'

([7]) To enable comparison across Member States and over time, the indicators on participation in education and training and on learning mobility are based mainly on the joint UNESCO–OECD–Eurostat data collection on education statistics. The indicators on participation in formal and non-formal education and training are based mainly on data from the EU Labour Force Survey and, to a lesser extent given the shortened time series available, from the Adult Education Survey, both available on the Eurostat website. Cedefop key indicators on VET and OECD statistics based on these data sources have also been considered.

associations. Furthermore, case histories were compiled to document the experiences of 20 individual learners.

The country case analysis covered:

(a) situations and barriers faced by individuals in terms of lifelong and life-wide learning at the beginning of the century;
(b) key national legislation and policy initiatives supporting the changes aimed at overcoming the barriers identified;
(c) persisting and new obstacles/challenges still present in lifelong learning opportunities at the end of the two decades considered.

The analysis presented in this report is derived from a triangulation of data collected through desk research and fieldwork at both the EU and country levels, including a literature review, statistical analysis and in-depth case studies in eight countries. The data collected from the various sources were compared and contrasted using a rigorous process, ensuring the reliability of the information. This methodological approach was bolstered by the active and continuous involvement of the entire core working team alongside national researchers and the Cedefop project team, who engaged in thorough peer review of the research process. This collaborative effort significantly enhanced the validity of the conclusions drawn from the study.

To account for the inherent limitation of generalising based on eight country cases and interviews with stakeholders and learners, the analysis adopted a comprehensive perspective. It incorporated central findings from previous study phases of the overarching project, insights from an extensive EU literature review, and comprehensive statistical analyses of available EU comparative data. By integrating these sources, the research team contextualised the country cases within a broader framework, enriching the interpretation of data and strengthening the conclusions. The multifaceted analysis acknowledged the complexity of the issues at hand while offering a nuanced understanding of the broader implications of the research findings.

1.3. Content and structure of the report

Following this introductory chapter, Chapter 2 presents the main barriers faced by individual learners in accessing education and training and progressing in learning at the beginning of the century (2000), to answer RQ 1. The analysis is based on the triangulation of evidence collected from desk research (literature review and statistical analysis) and fieldwork in the country cases. The analysis is structured along the three macro areas considered in this study:

(a) the main obstacles within and between formal education and training systems;
(b) the obstacles to and opportunities in combining formal, non-formal and informal learning;
(c) the obstacles to and opportunities in the recognition and portability of qualifications and learning credentials across countries.

Specific barriers are identified for each macro area to the extent possible given the information available. Within each section, examples and evidence from the country cases are provided, together with the perceptions of national stakeholders and learners.

Chapter 3 focuses on the key changes in the obstacles faced by and opportunities offered to individual learners between 2000 and 2020 and the contribution of European and national initiatives in reducing such obstacles and supporting transitions in lifelong and life-wide learning, to answer RQs 2 and 3. The analysis is structured following the same three macro areas discussed in Chapter 2, assessing the changes in the flexibility and permeability of learning pathways within and across the formal education and training sectors, between formal, non-formal and informal learning, and across countries. As in Chapter 2, each section includes examples and evidence from country cases, along with insights from national stakeholders and learners. The main findings from the literature review and statistical analyses are used to further support the analysis.

The concluding chapter, Chapter 4, summarises the main changes that occurred in the two decades considered (from 2000 to 2020) and then focuses on the persisting challenges emerging, overall and for each macro area of change, from the triangulation of findings from the literature review, statistical analysis and country cases in order to derive some preliminary policy indications.

Chapter 2.

Main obstacles to individuals' lifelong and life-wide learning at the beginning of this century

This chapter examines the major challenges within the education and training sectors at the turn of this century (2000) that were impeding individuals' ability to engage in lifelong learning. The analysis is based on the main findings of the case studies, supported by the literature and data review. As Figure 1 shows, the discussion is organised around the three macro areas identified and the main barriers that were identified in each of them in the comparative analysis.

Figure 1. Main barriers to participation in lifelong learning in 2000

Main barriers within and between formal education and training systems	Main barriers to combining formal, non-formal and informal learning	Main barriers to mobility and portability of qualifications across countries
• Separate and parallel formal education and training pathways with rigid curricula hindering the mobility of individual learners • Poor status and low attractiveness of VET leading to low enrolment in VET compared with general education pathways • Stereotypes leading to social learning segregation, NEETs and early leavers from education and training • Underdeveloped quality assurance mechanisms leading to individual learners facing low-quality learning content	• Underdeveloped lifelong learning systems and undervaluation of non-formal learning • Underdeveloped and diverse validation systems and initiatives used by formal education and training institutions and the labour market	• Underdeveloped mutual recognition frameworks affecting individual learners' academic and professional opportunities across countries • Complex recognition procedures: expensive, lengthy and non- transparent

NB: NEET, young person not in education, employment or training; VET, vocational education and training.

Source: Study team.

Within each of these macro areas, there are specific barriers and challenges that individuals may face. Some of these barriers are more structural in nature, arising from the education and training system and affecting the individual's learning opportunities. Others are socioeconomic, cultural and personal in nature, reflecting challenges that individuals encounter based on their socioeconomic and cultural backgrounds and their personal characteristics. The following sections provide a more detailed discussion of these barriers and their specific challenges.

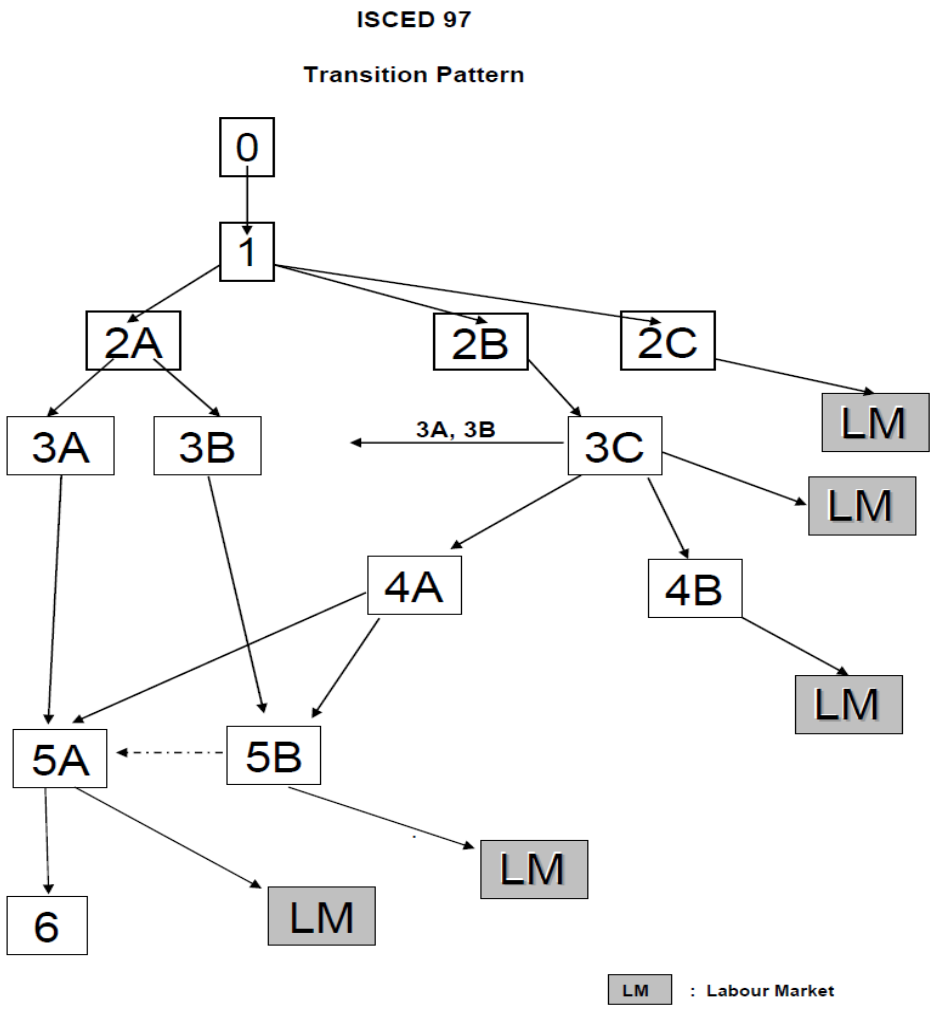
2.1. Main barriers within and between formal education and training sectors

Flexibility and permeability in formal education and training are crucial for lifelong learning, as they enable learners to access and transition between various learning pathways and institutions. In the past two decades there has been progress in this respect across Member States. However, at the beginning of the 21st century, the horizontal and vertical permeability of formal learning pathways faced several barriers hindering the learning progression of individual learners.

2.1.1. Separate and parallel formal education and training pathways with rigid curricula hindering the mobility of individual learners

At the end of the 1990s, education and training systems in most Member States were operating as separate subsystems (general, vocational and academic/higher education). These were interconnected in a hierarchical structure of primary, secondary and tertiary levels leading to separate, parallel education and training branches of study to higher education. Others – vocational or semi-vocational branches – led mainly to direct access to the labour market (UNESCO, 2006b).

Figure 2. **International Standard Classification of Education 97 transition pattern**



NB: All numbers refer to International Standard Classification of Education classifications as follows: level 1 – primary education or first stage of basic education; level 2 – lower secondary or second stage of basic education; level 3 – (upper) secondary education; level 4 – post-secondary non-tertiary education; and level 5 – first stage of tertiary education. LM, labour market.

Source: UNESCO (2006b, p. 18).

Figure 2 shows the typical formal educational system at the time, as reflected by the International Standard Classification of Education (ISCED) 97 classification. This was characterised by a rigid transition pattern in which learners, when choosing one of the two paths (vocational or academic), could not easily go back on their choice or advance to different pathways and levels, hindering mobility for individual learners. Such separation assumed that learners would progress in a linear sequential mode within each pathway (Breen & Jonsson, 2000).

Within this framework, the distinction between vocational and academic pathways made transferability particularly difficult. Vertical transitions to post-secondary and tertiary education and training were strongly determined by the general or vocational stream followed in lower and upper secondary education.

General education programmes (ISCED 2A) were typically designed for direct access to upper secondary general education (ISCED 3A or 3B), which would lead directly to tertiary education (ISCED 5A or 5B) ([8]). The pre-vocational or pre-technical education programmes allowed either direct access to the labour market (ISCED 2C) or access to vocational education in schools or the apprenticeship system (ISCED 2B). They were not designed to lead directly to tertiary education. Vocational education and training (VET) programmes (ISCED 2B) allowed access to either short-term tertiary professional education (in the case of ISCED 3B programmes) or post-secondary non-tertiary education (in the case of ISCED 3C programmes). However, these programmes were not present in all countries (Lipinska et al., 2007).

In most Member States, to enter higher education it was necessary to pass an examination (e.g. the *maturità* in Italy, A levels in the United Kingdom and the *baccalauréat* in France and Romania) directly accessible only to students of upper secondary general, technical or vocational education at ISCED levels 3A and 3B. In addition, many academic institutions set minimum grade requirements, which affected choice patterns (Hoelscher et al., 2008).

Such rigid separation led to institutional barriers that limited learners' options for advancing into higher levels of learning or switching to different education sectors at the same level (Cedefop, 2012). Challenges in switching learning path from VET to general education were also due to the difference in curricula between the two. For instance, general education emphasised theoretical knowledge, while VET focused more on practical skills. Additionally, the degree to which each programme incorporated transferable skills varied. These barriers, coupled with early tracking, undermined learners' participation in alternative levels of learning. In the 1990s, as mentioned earlier, learners often had to decide the branch of study at the lower secondary level. This made it very difficult, for example, for IVET students to switch to academic tracks or combine them later on, restricting their options and choices. In some European countries, such as Germany, Hungary and Austria, students were streamed into different school tracks at an even earlier age, which is considered by some to lead to strong inequalities in terms of achievement (Hanushek, 2006). The choice of vocational

([8]) ISCED 3A: general education programmes designed to provide direct access to academic tertiary education (ISCED 5A). ISCED 3B: technical and vocational programmes designed to provide direct access to tertiary programmes focused on occupationally specific skills (ISCED 5B).

track tended to strongly reflect the student's socioeconomic circumstances, leading to educational segregation (Müller & Karle, 1993; Breen & Jonsson, 2000). Students from disadvantaged backgrounds mainly enrolled in short VET pathways at ISCED level 2C or 3C, leading directly to labour market entrance in occupations requiring few and/or low-level qualifications or skills.

This rigid segmentation and the consequences for individual learners is evident from the desk and fieldwork carried out in the country cases. These show the low level of student mobility (such as entering and re-entering) within and across formal education and training sectors due to the siloed education and training system. For example, the French stakeholders interviewed highlighted that, at the beginning of the century, students in France faced numerous challenges in accessing, and benefiting from, vocational training. This was mainly attributed to the fragmented and hierarchical structure of the French education and training system, which was considered to lack the flexibility needed to cater to the diverse needs of learners, especially from upper secondary education onwards. This also resulted in limited flexibility in the curricula offered, a challenge recognised at the time by the Minister for Vocational Education who initiated a major review of the French VET system, presented to the Minister for National Education in August 2000 (Déclaration de M. Jean-Luc Mélenchon (Mélenchon, 2000)). This review identified five main weaknesses of the French VET system, including the inadequate flexibility of educational pathways together with the opacity and/or lack of transparency/visibility of these pathways (European Commission, 2014).

The information collected for the Polish case study stresses how the lack of flexibility in curricula and the inability to transfer educational achievements between different sectors or institutions posed obstacles to learner mobility across formal education and training sectors (Krajowe Standardy Kwalifikacji Zawodowych, 2004). In Romania, at the beginning of the 21st century – as noted by many of the stakeholders interviewed – there was a rigid education and training system with outdated curricula constraining institutions and individuals and leaving little room for flexible adaptation (OECD, 2000). In Finland, the establishment of universities of applied sciences (UASs or polytechnics) in 1994 made the transition from VET to higher education degrees more accessible (Meriläinen & Varjo, 2008). However, such transitions remained relatively uncommon in the early 2000s. As one learner explained, 'I studied in the 1990s in the social studies institute, obtaining a VET diploma.' When they later pursued a bachelor degree in social work at a polytechnic, 'both systems were completely separated, and it was not possible to shorten the studies despite the previous educational path. Years later, such studies became shorter for those with the same VET social studies diploma.'

The comparative analysis of case studies reveals that rigid and separate systems with low mobility of learners were further reinforced by a complex governance structure and significant differences in education and training policies among regions, leading to further fragmentation. This trend is particularly evident in the case studies of Germany, Italy and Poland.

The Italian case study shows how, at the turn of the century, vocational training and general education operated as separate systems. Access to tertiary education was possible for students following VET programmes offered at technical schools (*istituti tecnici*) and vocational schools (*istituti professionali*) and for students following upper secondary general programmes at *licei* (upper secondary schools). Access to higher education required passing the *maturità* exam after completing five years of upper secondary education. It is important to specify that, following Law 425/1997, students of the four-year vocational schools had to complete an integrative year to access the final *maturità* exam. This additional year aimed to integrate theoretical training with the practical training necessary to take the exam. This development, starting from the end of the 1990s, allowed students of national vocational schools to access the *maturità* exam by attending an additional year of upper secondary education. Technical and vocational institutes were not typically seen as pathways to tertiary education. The vocational diploma acquired after three years at a vocational school did not allow direct access to higher education. Additionally, the IVET system was divided between the formal state-based technical and vocational system, and the regional IVET systems, which were not formally recognised. These different systems were not permeable due to, among other reasons, the decentralised governance system for VET leading to barriers to learner mobility among regions. One of the Italian interviewees recalled that, in early 2000, 'both parents were workers, and decided to enrol me in a regional IVET course that would open the doors to the job market as soon as possible …. My employer promised to hire me if I obtained a diploma from a technical high school. At the time, my regional professional qualification did not allow me to enrol …, I had to study privately to take an exam as a private candidate that would give me the qualification that would then allow me to enrol in the fourth year of the technical high school. I had to attend evening school to complete the fourth and fifth year and finally be able to take the technical maturity exam.'

The fieldwork conducted for the German case study highlighted several barriers to education and training, stemming from the complexity, diversity and highly structured nature of federal education and training systems ([9]), which limits

([9]) Significantly, there are notable differences between the 16 federal states, resulting in a complex system structure and a distribution of responsibilities at both federal and national

opportunities for horizontal and vertical mobility. This issue was particularly pronounced at the beginning of the century, when parts of the complex system were characterised by excessive fragmentation and lack of transparency (OECD, 2010) despite the existence of transition programmes in IVET such as pre-vocational training, basic vocational training and introductory training. However, it is important to note that such transition programmes were not designed to address these systemic barriers directly. Instead, these programmes aimed to support disadvantaged learners and provide them with an accessible pathway to continue their education and training while they searched for a suitable apprenticeship or a school-based VET programme. During this transitional period, participants could gain general or vocational qualifications that could be used as credit towards future programmes. In 2006, for example, 50% of learners found themselves in transition as they moved from completing general education to starting qualified vocational training (Konsortium Bildungsberichterstattung et al., 2006). Additionally, learners with an IVET qualification faced challenges in accessing higher education (Euler & Severing, 2015). Universities and applied sciences colleges (*Fachhochschulen*) lacked integration, and different access requirements made transitioning between them difficult. For example, within higher education, not only do the 16 federal states have autonomy in decision-making (as for general education), but each higher education institution also has autonomy in admission decisions, leading to a wide variety of admission requirements (Banscherus, 2017).

2.1.2. Poor status and low attractiveness of VET leading to low enrolment in VET compared with general education pathways

At the turn of the century, VET faced significant challenges due to its poor reputation at both the secondary and post-secondary levels. Despite the growing demand for skilled workers in various industries, VET programmes were often perceived as inferior to traditional academic pathways. In the 1990s, VET was evolving from a period of fragmented provision, as training was predominantly led by industry skills needs. In this sense, VET provision was seen as focusing heavily on the acquisition of job-related skills (Armstrong et al., 2008).

The higher societal value placed on higher education qualifications weakened the appeal of the VET system, with few graduates advancing to higher education (Cedefop, 2020h). The attractiveness of VET was strongly related to socioeconomic status and family background, which generally influence young people's education and career choices (Lasonen & Gordon, 2008). Families with

levels that involves multiple stakeholders. This governance structure for CVET / adult education has been identified as one of the most complex among Organisation for Economic Co-operation and Development states (OECD, 2021b).

higher socioeconomic status tended to prioritise academic routes, perceiving them as more prestigious. VET, on the other hand, was seen as an immediate pathway to employment, also given its shorter duration than higher education. Besides its perceived inferiority, the limited progression opportunities and fragmented provision in the 1990s further exacerbated the lack of attractiveness of VET (Winch, 2013).

The low attractiveness of VET led to low enrolment in VET, as evidenced by available data. According to Organisation for Economic Co-operation and Development (OECD) data (Table 2), in 2000, in 15 out of the 22 European countries for which data are available, most students were enrolled in upper secondary general education programmes designed to prepare for tertiary education at the 'A' level (ISCED 3A).

Table 2. **Upper secondary enrolment patterns (2000): enrolment in public and private upper secondary institutions by programme destination and type of programme**

Distribution of enrolment by programme destinationM			
	ISCED 3A	ISCED 3B	ISCED 3C
Austria	43.5	48.1	8.5
Belgium	53.7	A	46.3
Czechia	63.5	0.5	36.0
Denmark	45.3	A	54.7
Finland	100	A	A
France	67.0	A	33.0
Germany	36.8	63.2	A
Greece	67.9	A	32.1
Hungary	74.6	1.7	23.6
Iceland	66.8	0.5	32.7
Ireland	78.1	A	21.9
Italy	80.8	1.3	17.9
Luxembourg	61.2	14.4	24.3
Netherlands	64.8	A	35.2
Norway	42.7	A	57.3
Poland	78.0	A	22.0
Portugal	75.9	17.0	7.0
Slovakia	78.1	A	21.9
Spain	66.5	N	33.5
Sweden	49.0	A	0.4
Switzerland	30.0	60.0	10.0
United Kingdom	24.3	A	75.7
OECD country mean	63.9	7.8	26.6

NB: 'a' denotes that data are not applicable because the category does not apply and 'n' denotes that the magnitude is either negligible or zero.

Source: OECD (2002).

The widespread perception of vocational education as having lower status than general and academic education was one contributing factor to its positioning as a secondary choice rather than an attractive option for many students. This sociocultural bias can be considered to have exacerbated the existing institutional divide between VET and academic pathways, hindering transitions even when technically possible.

In France, policy measures were adopted to improve the status of VET in 1968 and 1985 (France. Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation, 2016). This included the introduction of the technological and vocational baccalaureates (*baccalauréat technologique* and *baccalauréat professionnel*, known as 'bac pro'). However, VET's image, particularly that of upper secondary VET, was still quite poor (Michel, 2018). This was reflected in both the low number of young people who opted for the bac pro and the small proportion of bac pro holders progressing to higher education (Powell et al., 2009). This discrepancy was also reflected in the uneven distribution of

baccalaureate holders among tertiary education institutions, where those with a bac pro represented the lowest share of students (Duru-Bellat, 2015). In 2000, excluding work–study programmes, the proportion of bac pro holders who progressed to higher education was only 17.1% (France. Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation, 2017).

While in France the low attractiveness of VET was evident mostly among young people, the Polish case shows how, at the beginning of the century, VET was generally perceived as being exclusively targeted at adults who faced educational challenges, while adult education was often viewed as a 'second chance' for those (young) adults who had encountered obstacles in completing mainstream education earlier in their lives. Furthermore, the setbacks experienced at a younger age often resulted in a notable lack of motivation for these individuals to continue or return to education later in life. The shift away from basic vocational schools was also driven by the recognition in society that job opportunities for low-skilled workers were diminishing. A Polish stakeholder pointed out that not many teachers wanted to be associated with teaching in vocational schools, while expenditure on education, including vocational education, was insufficient, and this led to a 'mass liquidation' of vocational schools in 2000. VET's low status and attractiveness were seen as a major obstacle for individual learners' choice in the Irish and Romanian cases. In Ireland, focus group participants noted that 'we all needed to go to higher education – we didn't value vocational skills', with teachers pushing students towards university and frowning upon apprenticeships. Similarly, in Romania, a stakeholder highlighted that, in 2000, VET was negatively perceived by families because of 'outdated content poorly linked to labour market needs'.

The overall perception of vocational education having lower status than general and academic education across case studies and interviews was quite widespread, not only among individuals and families but also among companies and trade unions. As VET reforms were implemented and a system of HVET was established or expanded in various countries between 2000 and 2020, a shift in how social partners and civil society viewed VET began to emerge. Horizontal transitions from IVET to other upper secondary education and training sectors, leading to access to higher education, was technically possible, depending on the decisions of the individual education institutions. However, sociocultural barriers made these transitions very difficult.

2.1.3. Stereotypes leading to social learning segregation and the phenomena of NEETs and early leavers from education and training

The comparative analysis of the case studies identified educational segregation as one of the main barriers that learners faced at the beginning of the century. It

is a complex issue due to its multidimensional character, with students moving into schools based on various factors such as immigrant status and socioeconomic background (European Commission, 2021a). Likewise, path dependence is crucial for influencing educational choices – the degree to which transition probabilities from one level and/or type of education to another are influenced by the previous educational pathway. In this sense, students coming from the vocational pathway are less likely to access higher education.

In relation to this, at the end of the 1990s, certain characteristics prevalent in educational systems across various countries tended to reinforce stereotypes and promote learning segregation, such as the separate learning and training pathways identified in Section 2.1.1. Most educational models were characterised by a lack of horizontal and vertical mobility between vocational and general education streams, and this increased the risk of educational segregation. The separation in parallel branches of study reinforced the influence of social background on decisions about education (Breen & Jonsson, 2000). Furthermore, the allocation of students into particular schools and classes at an early age had – and continues to have – a crucial influence on their academic achievements, leading to disparities in opportunities (European Commission, 2021a). Educational segregation results from the extent and type of interaction between institutional and individual decision-making processes, as well as between decisions made at the different education and training system levels. For instance, when VET is perceived merely as a means to accommodate low achievers or disadvantaged learners, one inadvertently reinforces the stereotype of VET as a low-quality option. This cycle perpetuates educational inequalities and limits opportunities for students.

Besides social learning segregation, stereotyping of disadvantaged target groups also contributed to the phenomena of NEETs and early leavers from education and training. Concerning NEETs, this group became widely recognised in the mid 1990s. Despite often being viewed negatively as lacking status and significance ([10]) (Eurofound, 2012), it is in fact a highly heterogeneous group with a range of different profiles ([11]). Such negative status resulted in stigmatisation, exclusion and discrimination in education and employment opportunities (Suttill, 2021). This made it even more difficult for these individuals to seize work and educational opportunities, and to succeed. At the beginning of the century, despite the steady EU-wide increase in the number of young people staying on

([10]) Before the establishment of ‘NEET’ as a concept, the term 'status zer0' was used in the mid 1990s, referring to individuals between the ages of 16 and 18 who did not fall within traditional labour market status categories (employed or in education/training).

([11]) Eurofound has identified several distinct profiles within the NEET population, which have been further developed by Cedefop in the VET toolkit for empowering NEETs (Eurofound, 2012; 2016; Cedefop, 2021).

after compulsory education, around 45% of young people aged 19–22 and two thirds of those aged 23–24 in the EU were not in education or training (Cedefop, 2003).

In France, in 2000, the education system was characterised by a high degree of segregation and segmentation, despite long-standing efforts to make the system more inclusive (France. Government, 2004; Hébrard, 2002). In this regard, a decisive factor was tracking; at the key transition point between lower and upper secondary education, pupils were separated – and continued to be in 2020 – into general, technological and vocational tracks. The literature also recognises that academic, social and ethnic segregation in France constitutes an important factor in explaining inequalities in both academic performance and educational paths (Felouzis et al., 2018). This was more evident at the beginning of the century, when the country had a significant level of ethnic segregation in schools, with non-native pupils often concentrated in disadvantaged areas (Felouzis, 2003). This segregation negatively impacted their educational outcomes. Additionally, individuals with low qualifications were less likely to access training opportunities than those with higher qualifications, despite needing them more. In 2000, only 13% of those with either no qualifications or only a primary education certificate (30% of the study's population) had access to training compared with 51% of those with a bachelor degree (bac + 3) (9.6% of the studies' population) (Gendron, 2009). Various factors such as gender, age, socioeconomic status and employment type also played a role in determining access to training programmes. In 2000, the majority of those who participated in training courses were senior managers and professionals, reflecting inequities in access to training opportunities (Bentabet et al., 2003).

Learner segregation was also evident in the German case at the beginning of the century, also due to the pronounced division between VET and higher education. Such division was known as the 'German education schism' (Baethge, M., 2006). This division resulted in a system where most higher education learners held a general education qualification (*Abitur*) and came from families with an academic background, and the participation rate of non-traditional students, including those from migrant backgrounds, in higher education was notably low. Students from migrant backgrounds struggled to access and remain in high-performing schools due to selective mechanisms in educational pathways, leading to significant under-representation among those eligible for higher education. Segregation tendencies were evident in the distribution of these students across different types of schools, with approximately 1 in 4 attending schools where migrants constituted the majority, compared with 1 in 20 not from a migrant background (Konsortium Bildungsberichterstattung, 2006). The German general education system, which was particularly selective, resulted in

disparate qualifications and potential barriers for students from migrant backgrounds (Banscherus, 2017; Konsortium Bildungsberichterstattung, 2006).

In addition, the interviews revealed that individuals from migrant backgrounds often faced limited access to support services, which in turn impeded their ability to pursue educational and training opportunities. For instance, one learner, who was born and raised in Italy to migrant parents, said: 'During middle school, the class council advised me to attend a professional institute because I had been held back a year.' Although he enjoyed his chosen graphic design programme, he noted: 'in my final year of high school, there was no guidance for continuing studies. They didn't explain how to approach university or what other options were available.'

In Poland, individuals in rural areas are identified as a significant disadvantaged group, as educational facilities and training institutions are primarily located in urban areas (Neczaj, 2004). This lack of facilities, coupled with the poor offer of libraries, internet and university courses, posed even more challenges to accessing and continuing learning for these students (Aleksander, 2003). Romanian stakeholder interviews also highlighted limited resources and guidance, alongside significant inequalities in access to education, particularly among low-income families, minorities and rural populations. These challenges were perceived as stronger for continuous learning. Early leaving from education and training was a key challenge at the beginning of the century, particularly for vulnerable groups such as Roma students, students from rural areas and students with disabilities (OECD, 2000). Stakeholders noted that the low rates of university completion could be attributed to 'the lack of counselling services and high inequalities in Romanian society related to both the geographical provenance of students and the type of high school education completed' (Romania country case – stakeholder interviews).

2.1.4. Underdeveloped quality assurance mechanisms leading to individual learners facing low-quality learning content

In the 1990s, a proliferation of training providers offered a wide range of options to learners. However, at the beginning of the century, quality assurance mechanisms in education and training were not as developed as they are today. The absence of quality regulations allowed low-quality providers to enter the market, making it challenging to ensure that the education offered in both IVET and CVET was of sufficiently high quality. This raised concerns among Member States about maintaining standards, given the large number of providers and students. At the same time, the lack of a clearly defined quality framework contributed to the low status of VET pathways among learners and educational

institutions, resulting in distinct barriers to education and training, as evidenced in many of the countries considered.

In France, VET was characterised by a plethora of training providers; in 2000, there were over 45 000 training providers, including about 7 500 whose main business was the provision of training services (Cedefop, 2005). The number of individuals following a training programme almost doubled between 1990 and 2000, surpassing 12 million at the beginning of the century.

While the increase in the number and variety of training providers gave learners more options, it also introduced significant challenges – particularly the potential for fraud (Cedefop, 2000). This is because setting up a training organisation was relatively easy, with 'simple' bureaucratic procedures. This led to the proliferation of training providers that did not meet the necessary learning content and quality standards. The availability of substantial funds for training purposes further exacerbated the problem of fraudulent or bogus training providers (Cedefop, 2000). As the French case study points out, a report from the Service Central de Prévention de la Corruption (SCPC, 2005) underscored the vulnerability of the French CVET sector to fraud. This is due to disorganised monitoring controls, a complex regulatory regime and the availability of public and joint funding streams.

The high number of training providers has also been a concern in Finland. The goal of the Finnish Ministry of Education and Culture has for a long time been to reduce the number of providers of vocational training, partly due to considerations of budgetary efficiency. Mergers, which have always been voluntary, have also been financially supported. VET started to be organised into consortia, which are generally regional or provincial in scope and cover neighbouring municipalities. The difficulties in ensuring high-quality standards are also highlighted in the Irish case. At the beginning of the century in Ireland, multiple agencies were responsible for delivering training in specific economic sectors. The National Authority for Training and Employment (An Foras Áiseanna Saothair) played a key role in coordinating various training programmes, including apprenticeships. By 2000, each agency had developed its own system for recognising learning achievements and developing quality standards. However, as highlighted in the case study fieldwork, this lack of coordination and varying quality standards across sectors led to a fragmented system that took several years to be implemented. One stakeholder interviewed said: 'It was only after 2003 that accreditation bodies started to be in place.' The reform process was step by step 'due to the nervousness in the system' and really only put in place 10 years later 'after suspicions had been worked through'.

2.2. Main barriers to combining formal, non-formal and informal education and training

At the beginning of the century, the concepts of lifelong and life-wide learning became increasingly relevant (Cedefop, 2024a). In the EU vision, the concept of lifelong learning emphasises the importance of learning continuously or periodically throughout a person's life. The term life-wide learning, on the other hand, adds depth to this idea by highlighting that learning can occur across all aspects of our lives. This dimension underscores the interplay between formal, non-formal and informal learning, highlighting that learning can be beneficial in various settings such as the family, leisure activities, community involvement and work life. It was increasingly acknowledged that in order to support individuals in their learning and career paths, it is important to focus on learning outcomes and consider learning that takes place outside, and in addition to, formal education and training.

When discussing lifelong learning and combining formal, non-formal and informal learning, validation of non-formal and informal learning plays a key role. Individuals' learning goes beyond formal education and training. They engage in what is referred to as non-formal and informal learning in or outside the workplace for professional and career-oriented learning, for upskilling and reskilling, or for personal development. Informal learning may occur in volunteering and leisure activities. In the case of non-formal and informal learning, providers may be education and training institutions, employers providing training to their workers, or other private or third sector operators providing informal learning opportunities. Validation of non-formal and informal learning is crucial to ensure the visibility and the value of learning that takes place outside the formal education and training systems.

2.2.1. Underdeveloped lifelong learning systems and undervaluation of non-formal learning

At the beginning of the century, comprehensive strategies for lifelong learning were not yet in place in many Member States or were just starting to develop (College of Europe, 2001), and learning outside the formal system was undervalued and/or fragmented. This was coupled with challenges related to adult participation in non-formal and informal learning. The Italian case study shows that it was not until 2012, with the Fornero reform, that a formal framework was established to recognise learning acquired through formal, non-formal and informal contexts, giving attention to learning taking place after initial education and training. Prior to this, there were various experiments and initiatives in place, but they were fragmented. As a result, awareness of and access to learning opportunities were limited among both individuals and employers. In addition,

without a comprehensive implementation of learning outcomes approaches, there was a lack of conceptual reference for learning progression and validation of non-traditional learning methods at the beginning of the century.

As the concept of lifelong learning, encompassing the full spectrum of education and training options, gained traction in most Member States, there were efforts to establish ad hoc pieces of legislation and policy initiatives, sometimes targeted at specific groups of learners. However, these efforts did not always receive adequate financial support. At the beginning of the century in Germany, the Bund-Länder Commission for Educational Planning and Research Promotion (*Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung*) published a strategy for lifelong learning on how learning for all citizens can be supported across all phases and domains of life, in various learning environments and through diverse learning modalities. However, this was not translated into increased investment from the state. For instance, at the beginning of the century, spending on further education was below the EU average (OECD, 2006; Gatzke, 2007). Between 2000 and 2003, government investment in further learning decreased substantially compared with the mid 1990s. This trend was also reflected in the reduced spending on education and training, which decreased from EUR 6 808 billion in 2000 to EUR 3 616 billion in 2004 (Konsortium Bildungsberichterstattung, 2006). In Germany, in addition to financial constraints, there was an overall lack of awareness about learning opportunities. Learners often did not understand the relevance of continuous VET, and there was limited information on how it could benefit job prospects (BLK, 2001). This, coupled with varying VET guidance across federal states and a lack of centralised advisory services, contributed to a lack of awareness and clarity about available options (OECD, 2021a). This was also confirmed through interviews, where a stakeholder highlighted how the supply of CVET courses was provided by a wide range of providers, leading to a lack of clarity about their offers.

The German case is an example of how, at the beginning of the century in most European countries, learning outside the formal system was fragmented into different training activities and offers. Besides adult education initiatives meant to support early school leavers in the acquisition of a formal educational qualification, and support migrants with language courses, most non-formal and informal learning was job-related CVET. This training was occupation specific, targeted mainly at employed and (to a lesser extent) unemployed adults. It was aimed at the acquisition, maintenance and extension of professional knowledge and skills, or at advancing a professional career. In most countries, CVET was carried out after entering the labour market and was offered mainly by private providers, and funded by the government, employers and individuals. Often,

further training was culturally perceived as advantageous for companies – primarily in terms of ensuring business continuity and productivity – rather than being seen as beneficial for employees as well.

In Poland, interviews highlighted that, at the beginning of the century, there was no system for continuing adult education and that learning taking place outside formal systems, such as adult education, was not recognised in the formal systems, making it impossible to gain confirmation of qualifications acquired. For most people, education meant time at school. Romania had similar challenges, as the primary barriers to lifelong education and training included the limited ability to have informal and non-formal learning validated within the formal education system. Similarly, Dutch stakeholders reported that 'at the time …, there was non-formal education, courses, training courses, industry diplomas, but none of that was recognised in the formal system. So, there was a divided market, with established older parties, the cake was divided.'

The beginning of the century was also marked by limited participation in non-formal and informal learning. The lack of bridges with formal learning, the fragmentation and the low value attributed to education and training outside the formal system can be considered factors that discourage participation in such types of learning. Other aspects limiting participation in learning outside formal learning are the cost of training and the difficulty of combining training with the work schedule (mainly among men) and family responsibilities (mainly among women). Research (Cross, 1981; Broek et al., 2010) has identified that adults interested in learning often face a range of barriers that can be categorised as institutional, situational and dispositional barriers. Institutional barriers are practices and procedures that deter adult participation, such as opaque information and the lack of a learning culture. Situational barriers encompass practical constraints, including the cost of courses, time limitations due to work or family duties, and logistical issues like inadequate public transport or inconvenient course locations. Dispositional barriers are related to personal attitudes and psychological factors that affect adults' readiness to engage in learning, for example negative past educational experiences, low self-confidence in one's own abilities, perceptions of being too old to learn, and being unaware of the potential benefits of learning. These barriers are particularly pronounced among hard-to-reach groups, such as immigrants, illiterate people and those with lower levels of education.

Based on this assessment, Broek et al. (2010) identified three groups of countries based on the presence of conditions supporting adult participation in further learning at the beginning of the century. The first group (Austria, Belgium, Denmark, Finland, Germany, Lithuania, Luxembourg, Netherlands, Norway and Sweden) is considered to show favourable conditions for increasing the

participation of adults in learning, thanks to adult education being widely accessible, although situational barriers remain high, such as combining work, family duties and learning, funding of educational programmes and the lack of flexible provision. These countries nonetheless show a long-standing tradition of lifelong learning and have the highest participation rates across Europe. The second group of countries (Czechia, Estonia, France, Iceland, Ireland, Portugal, Slovenia and the United Kingdom) is considered to have satisfactory structures in place for adults to participate in learning; however, improvements are needed to increase participation. Finally, a third group (Bulgaria, Croatia, Cyprus, Greece, Italy, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Spain and Türkiye) face major barriers of all types, with institutional barriers being the most relevant due to the lack of sound structures and funding to get adults involved in learning.

Overall, before the 2000s, individuals who acquired knowledge and skills through non-formal and informal pathways often faced major challenges in having their competences validated and recognised. This posed a major barrier for individual learners looking to enter/re-enter education and training systems and move within and between them.

2.2.2. Underdeveloped and diverse validation systems, and initiatives by formal education and training institutions and the labour market

At the beginning of the century, validation was a new, evolving and emerging activity needing better conceptualisation and definition of objectives and responsibilities in the EU. The consultation leading to the communication on making a European area of lifelong learning a reality (European Commission, 2001b) showed major differences between European countries in the definition and understanding of core concepts and the use of different concepts for the same activities. There was also intermixed use of terms such as validation, accreditation, certification, recognition and assessment (Villalba-García, 2021). This led to a heterogeneous mix of national, sectoral and business approaches (Cedefop, 2000; Colardyn, 2001), with European countries at different stages of validation of non-formal and informal learning (Table 3) (Cedefop, 2005).

Table 3. **Validation of non-formal and informal learning across Europe at the beginning of the century**

Stage	Considerations
1st stage: experimentation and uncertainty. Examples: Germany, Italy, Austria and Sweden	The countries concerned are still at an experimental stage (to varying degrees) but accept the need for initiatives. To what extent these initiatives will influence existing structures and systems on a more permanent basis is still uncertain. Important changes are taking place, pointing towards more active policies.

2nd stage: emerging of national systems. Examples: Belgium, Denmark, Ireland, the Netherlands, Norway, Portugal and Spain	The countries concerned are moving towards national systems built on a legal and institutional basis.
3rd stage: permanent systems already exist. Examples: Finland, France and the United Kingdom	Substantial debate on future developments can be observed and further policy development may occur. In Finland, the questions raised relate to improving the existing competence-based system. In the United Kingdom, the concern the role played by accreditation of prior learning within the national education and training system.

Source: Produced by the core team from Cedefop (2005), Colardyn & Bjørnåvold, (2005).

France and Finland, and to some extent Ireland, differ from the other country cases, as they developed early systems for the validation of non-formal learning. However, this early development also presented some challenges. These related to the target and focus of such initiatives, the methodology and reliability of assessments, and the provision of adequate guidance for learners.

In the case of Finland, at the beginning of the century there was a noticeable shift towards the institutional integration of non-formal learning. Throughout the 1990s, non-formal learning was incorporated into formal education and training as part of a lifelong learning strategy, through legislation and institutional initiatives that aimed to connect formal education and training with learning outside the formal system. While Finland's system is considered strong in terms of long-term policy development and educational focus, interviewees pointed out shortcomings in the effectiveness of validating skills acquired through non-formal and informal learning in the early 2000s. The interviewees said that, at that time, validation systems focused primarily on previous studies and formal qualifications, such as diplomas and degrees, rather than actual skills and competences. Another challenge they identified was that education providers had autonomy in making final decisions on recognition, leading to inconsistencies across institutions. The interviewees also pointed out challenges in adapting to societal changes, such as the utilisation of immigrants' skills to meet labour force needs or addressing urgent issues like how to accommodate refugees and asylum seekers in the education and training system.

France has a long-standing tradition of validation of previous experience that dates back to a law established on 10 July 1934 ([12]), so it can be considered a pioneer in this field (Bjørnåvold, 2000). However, despite this legislative framework, the uptake and practice of validation procedures has been a slow process. The *validation des acquis professionnels* (VAP) system was introduced

([12]) Loi du 10 juillet 1934 relative aux conditions de délivrance et à l'usage du titre d'ingénieur diplômé (Law of July 10 1934 regarding the conditions for the issuance and use of the title of Graduate Engineer).

in 1992 ([13]) and concerns validation of previously acquired professional experience. This system was focused mainly on secondary and higher education qualifications awarded by the Ministry of Education, as opposed to the full spectrum of qualifications. In addition, VAP took into account only work experience, rather than experience acquired in other settings such as family, leisure or volunteering (Triby, 2005). Furthermore, work experience was eligible for VAP only if it involved at least five years' experience. This further excluded other potentially eligible experiences from recognition.

In addition, the validation procedures were considered by learners to be lengthy and complex, requiring considerable personal investment, for example the time required to compile the portfolio of evidence, the cost of accessing mentoring services to help them describe their experience/activities in line with the relevant qualification standards, and the enrolment fee for the assessment examination (Personnaz, E. et al., 2007). As the literature review and fieldwork carried out in France testified, France also faced challenges in validating skills due to a lack of appropriate methodologies that could accommodate a diverse range of learning contexts (Roy, 2005). Portfolio assessment, based on the judgement of validation panels, was found to be particularly challenging, as panel members struggled to assign values to an individual's experience. Panel members, more familiar with formal examination procedures, lacked sufficient training on *validation des acquis de l'expérience* (VAE) methodologies, leading to concerns about the consistency, reliability and quality of the validation process (Cedefop, 2007).

In Germany, there has historically been limited formal recognition and validation of learning achieved outside formal educational settings, such as through work experience or other activities. Notwithstanding the changes that have taken place over the years, today the only formal way of validating such learning is through the examination for external candidates (*Externenprüfung*). This is available to individuals who have worked in the relevant profession for at least one-and-a-half times as long as the duration of the training programme. However, this process leads only to obtaining a full vocational qualification in a specific occupation, as partial qualifications are not achievable through this route. As one stakeholder noted, 'in Germany, validation of non-formal learning did not have the same attention as in other European countries, mainly due to the low role of, and space for, non-formal and informal learning outside the solid dual VET system.' Another stakeholder highlighted that 'the use of external

([13]) VAP was introduced by Loi no 92-678 du 20 juillet 1992 relative à la validation d'acquis professionnels pour la délivrance de diplômes et portant diverses dispositions relatives à l'éducation nationale (Law No 92-678 of 20 July 1992 relating to the validation of professional experience for the award of diplomas and establishing various provisions relating to national education).

examinations in the dual system, covering about 5% of all annual examinations, was perhaps the most important element bridging non-formal and formal learning. This examination provided experienced workers with the right to take part in the final craft examination (*Abschlussprüfung*) together with those enrolled in the ordinary dual system route.' Additional initiatives, such as partial qualifications (*Teilqualifikationen*) and supplementary qualifications (*Zusatzqualifikationen*), were also considered relevant to bridging formal and non-formal learning pathways.

Due to the scant attention given to validation of non-formal learning at the beginning of the century, demand for it was low. Learners attributed a lower value to informal and non-formal learning, as the formal system of education and training covered the majority of the population (Colardyn & Bjørnåvold, 2005).

Desk and fieldwork research also showed that in some countries, together with favourable conditions for increasing the participation of adults in learning through the validation of non-formal learning, there were some challenges that hindered progress in the system. Ireland was among the first countries to introduce initiatives related to validation of non-formal and informal learning. However, this was not developed in higher education, and different bodies operated their own validation systems, resulting in a fragmented approach. Participants in focus groups noted that, while recognition of prior learning (RPL) had been established in the 1990s as a method for 'giving students recognition of informal and non-formal learning', transitions from vocational education or non-formal learning to higher education remained rare due to slow implementation. The validation system was also perceived to be focused predominantly on the needs of school leavers only. Additionally, 'a lot of students wouldn't know about recognition of prior learning, and they struggled to understand it, which really impacted its usage' (Ireland country case – focus group member). Interviews also highlighted that, by 2000, lifelong learning was primarily seen as offering 'ladders of opportunity', but its scope was more limited than in 2020. According to an interviewee, 'Few people could engage in education or training flexibly or return to education following the cessation of studies', showing that the system was not yet equipped to support a broad, flexible learning culture.

As the country cases show, the lack of comprehensive guidance services not only prevents learners from being aware of the existing learning opportunities available to them, it also results in a general lack of awareness among citizens about their potential for ongoing educational and personal growth. Many people did not realise that they had the option to continue their education beyond traditional schooling or were unaware of the various resources and programmes available to them.

2.3. Main barriers to the portability of qualifications across Europe and beyond

In the late 1990s and at the beginning of the current century, the promotion of a European labour market and European objectives for education and training inevitably raised the issue of learning mobility. It became evident that the recognition of individuals' qualifications and competences abroad was one of the major factors supporting intra-EU mobility. Therefore, the proliferation of qualifications, the diversity of national qualifications systems and education and training structures, and their constant evolution, became areas to be examined and updated, presenting numerous challenges.

2.3.1. Underdeveloped mutual recognition frameworks affecting learners' academic and professional opportunities across countries

At the start of the 21st century, as the Bologna process and the Lisbon Recognition Convention for higher education, as well as the Copenhagen process for VET, were being implemented, Member States began developing recognition systems for qualifications earned abroad at varying paces. The objective of these systems was to streamline the recognition process for individuals seeking employment or further education within and beyond the EU, with the ultimate goal of creating a more coherent and efficient recognition system that would facilitate the mobility of workers and students across borders.

The recognition of qualifications obtained in other countries is crucial for individual learners, as it can greatly impact their academic and professional opportunities. When qualifications earned in one country are accepted and recognised in another, it opens doors for learners to pursue further education, seek employment or advance their careers abroad. However, the case studies revealed that, at the beginning of the century, only Germany and France had established some patterns for mutual recognition in the higher education sector through bilateral agreements between countries. According to OECD data on international students in higher education, in 2000, Australia, France, Germany, the United Kingdom and the United States received 70% of all foreign students studying in the OECD area. Among these, Germany received 12% and France received 8% (OECD, 2002).

France serves as a prime example of a country with bilateral agreements in place prior to 2000, particularly related to VET, general education and higher education. This is largely attributed to its long-standing policy focus on promoting international mobility for pupils, trainees, apprentices, students and graduates. The German and French governments reached a bilateral agreement in 1977 on the mutual recognition of their vocational qualifications (Task Force Frontaliers de la Grande Région, 2012; Goulet & Seidendorf, 2017). This agreement, along

with subsequent bilateral agreements, means that German vocational qualifications are considered to be equivalent to French vocational qualifications. A French stakeholder provided an illustrative example: 'The Franco-German exchange programme for young people and adults in initial and continuous VET, established in 1980, is an exchange programme that supports mobility in both countries. Jointly funded by the German and French Ministries of Education, the programme is overseen by the Franco-German agency for VET exchanges, ProTandem.'

Similarly, the Irish case study demonstrates that, prior to the 1999 Bologna Declaration, recognition occurred primarily between Ireland and the United States. Ireland maintained strong connections with the United States, often through university-level research and collaboration. This resulted in ad hoc recognition and trust among specific institutions, but there was no overarching framework for Irish education and training institutions to evaluate and compare qualifications before the establishment of national qualifications frameworks (NQFs).

However, these processes also faced specific challenges. For instance, as highlighted by the German case study, there was a lack of a standardised credit system, making it difficult for students to transfer credits earned at one university to another country or within Germany. Each institution had its own credit system, leading to inconsistencies and complications in recognising academic achievements. In Finland, too, there was an underdeveloped system for recognising studies and internships abroad for VET students. A stakeholder highlighted that: 'In 2000, Finland lacked a national qualifications framework and degrees were regulated by education laws.' While the Bologna process introduced inclusive policies such as the European credit transfer and accumulation system (ECTS) and quality assurance for higher education, this 'internationalisation' did not extend to VET. Qualifications in certain professions, including teaching, law and social work, required a recognition process by the Finnish National Agency for Education (EDUFI), which is the national representative of National Academic Recognition Information Centres in Finland. A stakeholder said: 'the system to complement the qualifications for certain professions has been a barrier to access working life in Finland …. Therefore, newcomers often choose another study field and a new qualification or degree.'

The German case study also shows that some mechanisms for recognising vocational qualifications were in place for Member States and late German ethnic resettlers. However, learners from other countries did not have the legal right to determine the equivalence of their qualifications in Germany (Michalski et al., 2012). Recognition processes for all nationalities applied only to academic qualifications for further studies (Englmann, 2010). An interviewee in Germany

said: 'When immigrants registered as job seekers without a recognition decision for their foreign qualifications, they were labelled as "unskilled".'

In contrast, the Italian case study demonstrates that a 1999 presidential decree (Decree No 394/99) addressed the management of migration flows and included provisions for recognising degrees obtained abroad, particularly in the healthcare sector. It provided access to higher education and the right to work in specific professions for foreign individuals, although the lack of a structured system hindered the process. As an interviewee in Italy noted: 'At the beginning of the century, Italy lacked a comprehensive system, which made it difficult to establish credit transfer, mobility agreements and recognition practices.'

2.3.2. Complex recognition procedures: expensive, lengthy and non-transparent

At the beginning of the 21st century, although some specific procedures for recognising qualifications obtained abroad in Europe existed, the implementation of these procedures faced considerable challenges (Rauhvargers & Rusakova, 2009). Desk research and fieldwork highlighted that the existing recognition procedures were not only lengthy and expensive but also involved cumbersome bureaucratic processes and complex steps, which impeded the smooth recognition of foreign qualifications and prevented individuals from fully utilising their expertise and skills in a new country. According to a stakeholder interviewed in France: 'Difficulties in enhancing transparency and mutual understanding of each country's qualification system proved to be challenging, also due to the complex task of accurately representing and comparing the intricate connections between institutional frameworks, education and training systems (particularly VET), labour market dynamics, industrial relations and the involvement of social partners.'

In France, during 2000, issues arose concerning the implementation of Directive 92/51/EEC of 18 June 1992 (on a second general system for the recognition of professional education and training to supplement Directive 89/48/EEC) (European Commission, 2000). Specifically, fully qualified professionals, for example teachers from other Member States, could not have their qualifications recognised in France unless they took part in the final (competition) stage of the corresponding French professional qualification. France's difficulties in fully implementing this directive and its successor, the Professional Qualifications Directive (Directive 2005/36/EC) regarding the recognition of the right to work in a foreign country based on foreign qualifications, persisted throughout the beginning of the century (Lipiec, 2021). For example, in 2001 the European Commission decided to continue the infringement proceedings it initiated against France for its failure to comply with the directive

on the mutual recognition of professional qualifications (European Commission, 2001a).

In Finland, there was lack of transparency in the recognition process at the beginning of the century. The Finnish Ministry of Education and Culture had a strategy for internationalising higher education but not the VET sector. As a Finnish stakeholder noted: 'There was a significance of EU contributions to Finnish education in terms of the transferability and also comparability of degrees and credits between different EU countries. However, [the] VET sector remains excluded from this, due to the variety of education systems across countries and thus their low transparency.'

Similarly, in Germany, different federal states and professional sectors had varying requirements and guidelines, leading to inconsistencies and difficulties for individuals seeking recognition (Michalski et al., 2012). The recognition processes often demanded fees and expenses, including application fees, translation costs and administrative charges. These, along with other costs, prevented recognition attainment. Additionally, the lack of clear information regarding the complex process, criteria, documentation required and authorities involved affected not only applicants but also advisors, job placement officers and companies.

At the beginning of the century in Romania, learners faced challenges related to limited transparency in learning outcomes and limited recognition of qualifications within the education system and job market. Various factors contributed to this, including differences across regions in the education system's structure and qualifications obtained, the absence of a learning outcomes-based system, a lack of trust in Romanian qualifications due to the absence of robust quality assurance mechanisms, and complex and expensive procedures for recognising Romanian qualifications in other countries and vice versa.

Chapter 3.

Key changes in lifelong learning opportunities between 2000 and 2020 and in supporting EU and national policy initiatives

The previous chapter examined the barriers that hindered individuals' participation in lifelong and life-wide learning at the beginning of the century. This chapter builds on that discussion by exploring the changes that have occurred over the last 20 years and have impacted the barriers identified and enhanced the ability of individual learners to navigate within and across different education and training (sub)systems, including across the EU and beyond. To ensure consistency, the comparative analysis of these changes is structured around the same three macro areas identified when discussing barriers in Chapter 2:

(a) changes within and across formal education and training sectors;
(b) changes across formal, non-formal and informal education and training;
(c) changes across countries.

It is important to note that changes in one macro area may have implications for other macro areas, highlighting the interconnected nature of these changes. The comparative analysis of national developments revealed several key changes, which can be linked to EU and national policy initiatives aimed at promoting transparency and transferability of learning outcomes (Cedefop, 2024a). However, the timing and implementation of reforms and initiatives have varied significantly across countries, reflecting each country's unique institutional and socioeconomic context.

Each section of this chapter presents the key patterns of change affecting individual learners and the supporting EU and national policy initiatives. This is followed by an analysis of changes in participation – whether in formal education, non-formal/informal learning or cross-country mobility – based on comparative statistics. Finally, each section concludes with an assessment of the degree of change in the country cases.

3.1. Increased flexibility and permeability of learning pathways in formal education and training

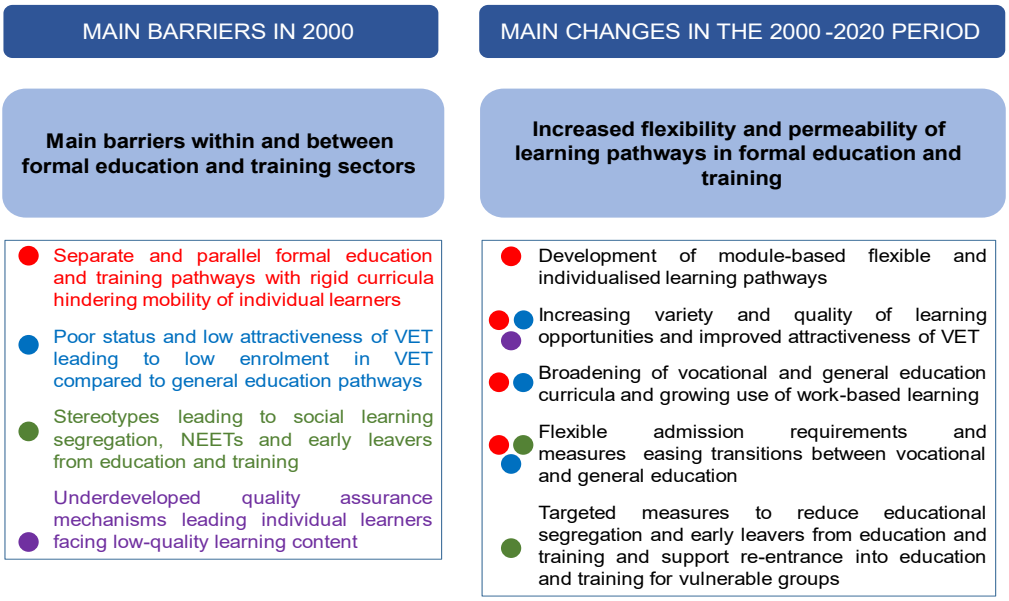
The first macro area of change observed between 2000 and 2020 concerns formal education and training. In the last two decades, there have been many changes fostering flexibility and permeability in this area. The shift to learning outcomes, the

expanding role of quality assurance systems, the growing adoption of credit systems and modular approaches, and the work on improving comparability of systems and qualifications, including through the European qualifications framework (EQF) / NQFs, have contributed to changes affecting learners' opportunities.

As illustrated in Figure 3, the analysis of national developments in formal education and training systems identified several key combined changes that have addressed the structural and cultural obstacles to learners' access to and progression in the formal education and training system that were present at the beginning of the century, as described in Chapter 2, albeit to a different extent. These are:

(a) the development of modular, credit-based and individualised learning pathways, reducing the separation between education and learning pathways and enabling individuals to tailor learning to their needs, interests and circumstances;
(b) increasing the variety and quality of learning opportunities, particularly in VET, and improving the quality and increasing the attractiveness of VET for learners;
(c) a broadening of curricula and the growing use of work-based/dual learning in all education and training routes, reducing the boundaries between VET and general education, increasing the attractiveness of VET, and facilitating horizontal and vertical transitions;
(d) more flexible admission requirements facilitating learner transitions between VET, general and higher education, which, in turn, has contributed to reducing barriers to learners' horizontal and vertical mobility and the separation between education and training pathways, as well as increasing the attractiveness of VET;
(e) targeted measures to reduce educational segregation, improving learning opportunities for disadvantaged learners and supporting the re-entry into education and training for early school leavers, NEETs and adults.

Figure 3. **Main barriers to flexibility and permeability in formal education and training in 2000, and changes between 2000 and 2020**



NB: The coloured dots illustrate the barriers addressed by each change. For example, the first change addressed the first barrier (red), and the second change addressed the first, second and fourth barriers (red, blue and purple).

Source: Study team.

3.1.1. Key patterns of change for individual learners and the main supporting EU and national policy initiatives

3.1.1.1. *Development of module-based flexible and individualised learning pathways*

In several countries, including Denmark, Finland, France, the Netherlands, Norway, parts of the United Kingdom and, more recently, Lithuania, the increased adoption of modular, credit-based systems has facilitated the tailoring of education and training programmes and qualifications to meet individual learners' needs. This approach has been promoted by, and has promoted over the years, a competence-based qualification structure, allowing learners to complete a qualification by combining different forms of learning regardless of where and how their competences were acquired. Such developments make it possible for learners to opt for hybrid pathways, with courses from both general and vocational streams (Cedefop, 2023f) and to receive support in their progression in education and training, instead of leaving education and training early.

The fieldwork indicated that, among the country cases, Finland leads in the development of flexible, individualised, modular and credit-based learning

pathways in all education and training subsystems, as illustrated in Box 1. In this country, the use of modularised and credit-based curricula represents an important facilitating factor in the personalisation of learning pathways and in easing both horizontal and vertical transitions. In addition, the focus on personalised study plans forced the Finnish education and training system to strengthen students' support and guidance services and to improve teacher training to help them gain the skills required to support personalised learning.

Box 1. **Development of personalised module-based learning programmes in Finland**

A series of reforms started in the 1990s paved the way for personalised module-based learning programmes in the 2000s. They eased credit accumulation and transfers across general education, higher education and VET (OECD, 2023), and promoted the extensive use of validation and recognition procedures for prior credits and qualifications in VET and higher education. The 2017 VET reform (which entered into force in January 2018) introduced a single VET system for both young people and adults, based on individualised module-based curricula and the ability to accumulate and recognise competence points (a credit-based system similar to the European credit system for vocational education and training (ECVET)), across general education, VET and higher education (Cedefop, 2024a; 2023f), facilitating transitions from one education level to another. The reform also introduced the ability to acquire smaller units of qualifications (microcredentials), although the system is still in the early stages of implementation. On completion of their personal competence development plans, students get the related qualification through competence testing certification.

Since 2021, upper secondary general education has also adopted a modular structure, allowing students to repeat only the part of the course they failed rather than the entire year and to move to other equivalent programmes for completion. Pupils can draft their own study plan and set the pace for their studies to accumulate the number of study points required to complete curricula (Briga and Looney, 2021).

In higher education, the use of ECTS has promoted the modularisation of programmes in both academic universities and UASs. In addition, higher education institutions provide modular approaches via the Open University system, which allows learners who have no degree or are already in work to acquire a degree via small units of learning (using ECTS) and provides short courses to supplement the learning of those with a degree.

Source: Finnish country case.

France and the Netherlands have also improved the use of modularisation in VET, although the personalisation of learning pathways appears less implemented on the ground than in Finland.

In France, the modularisation of all VET courses around blocks of competences/skills (*blocs de compétences*, introduced in 2014), in combination with the validation of prior learning, facilitates learner progression towards full and/or new qualifications. Blocks of competences can be acquired throughout life

and by different learning pathways – academic, vocational, general and adult education, as well as through validation of non-formal and informal learning. Thus their introduction represents a key step towards increasing the flexibility and permeability of the French education and training system and promoting lifelong learning. Additionally, module-based education and personalised support and guidance have been adopted to prevent disengagement from school. However, stakeholders interviewed during fieldwork indicated that practical implementation remains a challenge, especially in learning progression and mobility, and particularly among the low skilled. In 2019, blocks of competences became mandatory for the registration of professional qualifications in the National Directory of Professional Certifications in order to enhance their integration into the French lifelong learning system.

In the Netherlands, since the late 1990s / early 2000s there has been growing customisation of module-based courses in VET, and of entry routes (pre-courses) connecting the various systems. A 2016–2017 reform further enhanced modularisation in upper secondary and higher VET. The upper secondary VET pathway (*middelbaar beroepsonderwijs*, MBO), combining IVET and CVET, can provide certificates or statements for parts of qualifications, with microcredentials playing an increasing role. In addition, personalised learning routes are increasingly being considered, with students able to choose between many elective courses. In tertiary professional education (*hoger beroepsonderwijs,* HBO), flexible, part-time professional education has been available since 2017. There is also a multitude of training modules for workers related to many career options.

The other countries studied have also supported the development of personalised learning modules with specific measures; however, their implementation is still at an early stage or is experiencing challenges.

3.1.1.2. *Increasing the variety and quality of learning opportunities and increasing the attractiveness of VET*

Between 2000 and 2020, the diversity of learning pathways that individuals could pursue to achieve officially recognised qualifications included in NQFs increased, together with attention given to quality assurance, especially in VET. These developments have enhanced the visibility of and trust in VET providers and programmes among learners and education and training institutions, increasing the attractiveness of VET pathways and fostering the institutional trust needed to support system permeability.

The shift to learning outcomes, the expanding role of quality assurance systems, and the development of the EQF and NQFs and module-based pathways can be considered to have encouraged the pursuit of qualifications at various levels

through more diverse learning pathways, offering flexibility in terms of duration, subject choices (including the combination of vocational and general subjects) and modular learning options (Cedefop, 2017c).

Many countries have strengthened the offer of IVET qualifications at EQF level 4. These programmes tend to be of longer duration than IVET level 3 programmes and involve a higher share of general education subjects, including theoretical knowledge and transversal/soft skills. They usually enable direct access to the labour market, as well as to further education and training (FET) opportunities. Specifically, they can provide a pathway to post-secondary vocational education (at EQF level 5) and/or higher education, including higher professional education (EQF levels 6–8). Some countries, like France, which offers vocational baccalaureates (bac pros) at the end of three-year programmes, and Slovenia, have introduced such qualifications to facilitate access to tertiary education. As a result, IVET EQF level 4 programmes often serve as a crucial intermediary step, enabling transitions from IVET EQF level 3 to post-secondary and higher education (Cedefop, 2020a).

Links between IVET and CVET have also been strengthened in some countries (e.g. in France, Italy, Netherlands, Poland and Finland among the country cases), giving an opportunity to adult learners to enrol in IVET courses, thanks to the growing use of modular approaches, the validation of prior learning, and 'making IVET programmes more based on adult learning principles, allowing more flexibility in the programme delivery' (Cedefop, 2023g, p. 127).

Another important development has been the growing offer of higher VET programmes, most often referenced at EQF level 5 and, to a lesser extent, levels 6 and 7 (European Commission, 2016; Cedefop, 2023f). According to a European Commission study (European Commission, 2016), more than one third (22 out of 63) of higher VET programmes were introduced in the decade up to 2015 and most (19 out of 22) are offered at EQF level 5 ([14]). Among the countries that introduced VET programmes at EQF level 5 in the period considered are Sweden, in 2001, Norway, in 2003, Italy, in 2008–2010, Estonia, in 2012, and Cyprus, in 2013 (Cedefop, 2019a). Other countries, such as Germany, France, the Netherlands and Finland, expanded the offer of vocationally oriented short-cycle programmes and professional bachelor and master degrees at EQF level 6 and 7 in UASs (Cedefop, 2023f).

([14]) As there is not a common definition of higher VET for all countries, the European Commission study considers a broad definition of higher VET, including short-cycle programmes and professional bachelor and master degrees included in the European higher education area (EHEA) and other types of vocational programmes and qualifications that are outside the EHEA with a duration of at least six months (European Commission, 2016).

In several countries, the last two decades have also registered an increasing variety of programmes in upper secondary general education and higher education, offering a growing number of orientations in different study areas.

Alongside the increasing availability and diversity of programmes, the enhancement of quality assurance systems has boosted transparency and trust among education and training stakeholders. In this respect, the development of NQFs has played a key role, as quality standards serve to include qualifications in NQFs linked to the EQF.

In VET, quality assurance has been focused on the delivery of training and the quality of providers through accreditation systems or providers' registers, which in some countries give access to public funding. Some countries rely on self-assessment based on quality requirements set by public authorities, as for example in the Finnish case, while others, such as Ireland and France, require external certification. In CVET, VET providers or bilateral bodies may organise additional quality assessment systems at the sectoral level, as in the case of Italy. In higher education, a public agency typically handles quality assurance and accreditation, with some countries fostering cross-sectoral cooperation between VET and higher education (Cedefop, 2024a).

The country cases represent well the variety of national developments in improving quality assurance and expanding the offer of education and training, strongly linked to the country-specific institutional framework, policy approach and implementation capacity. In Italy, Poland and Romania, the expansion of good-quality VET (IVET and higher VET) and general education (including higher education) has been one of the major developments in the last two decades, largely supported by funding from the European Social Fund (Ecorys & Ismeri Europa, 2020). Pre-accession funds and programmes also had a significant impact on the quality of the VET system in Romania.

Since 2003, Italy's VET system has been significantly reformed to offer a wider range of learning pathways. State-based IVET was reorganised into new specialisations, with vocational programmes shifting from a three-year programme followed by a two-year programme to a full five-year programme (EQF level 4) in 2010, enabling access to higher education. The integration of regional VET (*istruzione e formazione professionale*) into the national system began with Law 53/2003 and was reinforced by Legislative Decree 226/2005 and subsequent state–region agreements in 2011 and 2012, establishing a unified qualifications framework. Since 2018, students have been able to transfer between regional and state-based VET through credit recognition, although this is rarely utilised (Fumarola, 2024). Post-secondary VET expanded with higher technical education and training (*istruzione e formazione tecnica superiore*) at EQF level 4 in 1999 and courses at higher technological institutes (*istituti tecnici superiori* (ITSs)) at EQF

level 5 in 2008, which became part of higher education in 2022, offering degrees up to EQF level 7. Universities have provided vocationally oriented master programmes (EQF level 7) since 2004, often including mandatory apprenticeships. Quality assurance is ensured by the National Institute for the Evaluation of the Education System and the National Plan for Quality Assurance for Education and VET, promoting a cohesive framework based on learning outcomes (Italy. MLPS et al., 2017).

From 2000 to 2020, Poland saw an extensive expansion and increase in the quality of its learning pathways, particularly in IVET and higher education, spurred in part by its EU accession. According to a trade union representative: 'There is an abyss between opportunities offered in 2000 and 2020, mainly thanks to Polish accession to the EU and a plethora of programmes and initiatives (both national and European) aiming at the development and support of all kinds of learning – formal, non-formal and informal – and, more importantly, their quality has grown immeasurably, as well as the quality of equipment and tools used during the educational process.' In IVET, the 2017 and 2019 VET reforms established a two-stage system in sectoral vocational schools. Students can achieve an initial (EQF level 3) vocational qualification certificate after stage I and then either enter the labour market or continue training at stage II (EQF level 4). In addition, five-year technical secondary schools enable access to the *maturità* and thus a vocational diploma. These reforms increased the attractiveness of VET. In higher education, the 2011 reforms introduced a clear distinction between academically oriented programmes and professionally oriented programmes to increase the offer of curricula and make them accessible to a wider group of students. As for quality assurance, in 2016 the Integrated Qualifications System Act (IQS Act) introduced both internal and external controls on the certification processes of each institution, the monitoring of internal quality assurance systems, and a periodic assessment of the compliance of quality assurance providers with the requirements of the act.

In Romania, many legislative changes addressed the IVET system between 2000 and 2020, although implementation on the ground was limited by the lack of adequate institutional facilities and experience (Kitchen et al., 2017). Since 2014, technical and vocational education has become part of mandatory education after the eighth grade. In addition, since 2018 students not completing secondary lower education can access vocational training to obtain a qualification at NQF level 1. These measures, together with the introduction of scholarships for IVET students in 2012, triggered an increase in participants in IVET, although enrolment in IVET in 2019/2020 remained far below that in upper secondary general education (16% compared with over 70%) (Ministerul Educației, 2021).

France and Ireland also expanded their higher VET provision and quality assurance systems in the period considered. In France, the provision of higher

VET has been established for some time, with two-year programmes leading to the higher technician certificate (*brevet de technicien supérieur* (BTS); EQF level 5) provided by university institutes of technology and higher technician sections within some secondary schools (*lycées*) (OECD, 2020a). Historically, the undergraduate diploma in technology (*diplôme universitaire de technologie* (DUT)) was also offered, but it has been integrated into the longer university bachelor of technology (*bachelor universitaire de technologie* (BUT); EQF level 6), with the aim of increasing its recognition internationally and making it an attractive choice for certified learners (NQF inventories 2020, 2018; ViED 2023). Note that as of 1 January 2024, the DUT (level 5) was replaced by the BUT (level 6) (NQF survey 2024). On completion of the BTS, it is possible to enter a three-year professional bachelor programme (EQF level 6) and then either enter the labour market or proceed to the professional master level (EQF level 7). The 2018 law 'for the freedom to choose one's professional future' introduced new quality arrangements, including the Qualiopi certification, a quality label that applies to all CVET providers whose activities are funded with public or mutualised funds (Joseph, 2022). Launched in 2019, the Qualiopi certification became mandatory for all training providers as of January 2022.

In Ireland, the Institute of Technology Act in 2006 designed 13 institutes of technology that can provide HVET qualifications at least up to EQF level 6. In 2019, these institutes were designated as awarding bodies up to master level (Quality and Qualifications, Ireland, 2020; 2024). Quality assurance has since 2012 been regulated by a single central agency, Quality and Qualifications Ireland, responsible for quality assurance in all higher education institutions and for the quality assurance and certification of VET (Cedefop, 2024a).

The expansion of learning opportunities in VET and general education also occurred in countries with a relatively stable education and training system, such as Germany and the Netherlands.

In Germany, the equivalence of vocational and general education enhances the mobility and career prospects of VET graduates (BMBF, 2023). In 2020, the Vocational Training Act, amending the 2005 act, further increased the comparability of academic studies and higher VET EQF levels 6 and 7, by legally assigning to their qualifications the same NQF levels. The title *Meister* (master craftsperson) is now legally equivalent to the professional bachelor degree holder, and NQF-level professional master degrees are equivalent to university master degrees (BMBF, 2023). The quality assurance remains sector based, and efforts are being made to reduce regional differences by defining common standards and criteria at the sector level. To this end, the 2002 Standing Conference of the Ministers of Education and Cultural Affairs resolution on the development of quality assurance across all *Länder* and all universities established the accreditation of

study courses under the responsibility of the German Accreditation Council, while the 2017 Interstate Study Accreditation Treaty set out the legal requirements for a common accreditation system. Similarly, in VET, the 2005 Vocational Training Act and its subsequent amendments specify national quality assurance standards for in-company training as well as quality requirements for trainers and training institutions, and how examinations should be carried out by competent bodies.

In the Netherlands, study routes in upper secondary and tertiary education and training have expanded over the past two decades, partly due to the increasing contribution of private education and training providers, particularly in adult learning and lifelong education. In the VET system, a competence-based qualification structure was implemented between 2004 and 2012. Upper secondary VET (MBO) provides qualifications at four levels ([15]), enabling different progression routes. Another important development has been the introduction, in 2002, of HBO professional bachelor programmes, allowing UASs to offer master programmes. In addition, in 2013, the so-called associate degree (short-cycle higher education; EQF 5) became part of HBO bachelor programmes, and since 2018 it has been considered a self-standing qualification facilitating the transition from VET to higher education (Netherlands. Ministerie van OCW, 2017). As for quality assurance, in higher education and VET it is the responsibility of two different bodies (the Accreditation Organisation of the Netherlands and Flanders (NVAO) and the Dutch Inspectorate of Education), although the Dutch Inspectorate of Education (part of the Education Ministry) is responsible for quality across all sectors (Cedefop, 2024a).

Finland has taken a different approach to VET by seeking to reduce the number of providers of vocational training through the establishment of consortia. The VET reform of 2017 introduced a unique integrated vocational training pathway for both young people and adults, strengthening the connections between IVET, HVET and CVET. However, stakeholders interviewed during fieldwork noted that there are still separate pathways for young people and adults in the everyday practices of different education providers. The reform ensured the acquisition of different qualifications at each level ([16]) and eligibility for higher education studies, as well as strengthened job-related skills and workplace learning. In 2020, a three-year programme, *Oikeus Osata*, was launched to improve the quality and equality of VET provision and the learning outcomes and learning opportunities for VET students, and to increase the capacity of education providers to respond to labour market changes and reform their procedures, practices and management systems to ensure better quality (Cedefop, 2024a). In higher education, since 2002 UASs

([15]) Basic ISCED 2, advanced ISCED 3, middle-management ISCED 4 and specialist ISCED 4.

([16]) Vocational upper secondary qualifications (EQF 4), further vocational qualifications (EQF 4) and specialist vocational qualifications (EQF 5).

have been able to offer master degrees (EQF level 7) as well bachelor degrees (EQF level 6). Quality assurance is the responsibility of education and training providers, which have a statutory duty to assess the education provided and to conduct external assessments. Since 2014, the external quality assessment of the entire education system has been the responsibility of the Finnish Education Evaluation Centre, which also supports education institutions in their internal evaluation and quality management systems (Eurydice, 2024).

The increasing variety and better quality of VET learning opportunities, together with increased parity of esteem between VET and general education resulting from the inclusion of VET qualifications in NQFs and better quality assurance systems, have also increased the attractiveness of VET. In several countries, EQF level 4 IVET programmes have become the most popular IVET option (Cedefop, 2020a), while HVET programmes have increased the attractiveness of VET for high-level occupations (European Commission, 2016). The growing enrolment rates in vocationally oriented short-cycle tertiary programmes reported in Section 3.1.2 is an indicator of the increased attractiveness of these pathways, although their share in total enrolments in tertiary education is still low. Furthermore, a Cedefop study (Cedefop, 2019a) shows that higher VET has the same or even higher attractiveness as academic tertiary education in Germany, France and Austria, thanks to its value in the labour market and its greater focus on the challenges related to the technological, digital and green transitions.

3.1.1.3. *Broadening of general education curricula and growing use of work-based learning*

In the first two decades of the century, important developments also took place in learning content, characterised by the broadening and ‘hybridisation’ of curricula in both general education and VET. These changes were made to address the evolving competences required in the labour market. As described in a Cedefop report, there was ‘ … a blurring of lines between initial VET and general upper secondary education’. The report said: ‘ … it is becoming increasingly difficult to say which school programmes should be defined as VET and which as higher education. Hybrid or dual programmes that combine general subjects and vocational specialisations have become more common’ (Cedefop, 2020h, p. 14).

Although in most countries VET and general education pathways remain distinct with their own qualifications and programmes, general subjects and transversal skills (e.g. language, mathematics and science, communication and interaction, general culture) have been increasingly incorporated in VET programmes, particularly in higher VET (academic drift), while work-based learning modules and vocational subjects have been increasingly included in upper

secondary general education and higher education academic programmes (vocational drift) (Cedefop, 2023f). Dual programmes – combining school-based and work-based learning – also expanded in the period considered, with a growing role of traineeship and apprenticeship schemes providing credits towards achieving formal qualifications at all levels (including higher education) and, to different extents, in all sub-subsystems of education and training.

These developments, reducing the differences between general education and VET curricula present at the beginning of the century, facilitated greater permeability across subsystems and learners' horizontal and vertical mobility between VET and general education (Cedefop, 2023f). The availability of a double VET and general education degree, through the development of hybrid programmes combining VET and general education curricula, such as in Denmark, Ireland and Finland (Cedefop, 2020h) is also considered to ease access to higher education.

The country cases provide interesting examples of these developments. For example, in Germany, Ireland, France and Italy, the apprenticeship system has been extended to higher education qualifications (EQF levels 5–8).

In 2018, with its law for the freedom to choose one's professional future ([17]), France started to improve the links between apprenticeship-based and academic pathways, and progression in learning and/or re-engagement in training with a lifelong learning perspective (France Compétences, 2021). Upper secondary school-based VET programmes combine general education with VET subjects (comprising at least 50% of the programme) and include an internship of 12 to 22 weeks, depending on the qualification (Cedefop, 2022a). This law also initiated the apprenticeship reform, which provides that, inter alia ([18]), apprenticeship contracts enable access to recognised qualifications corresponding to EQF levels 3–8 through successive contracts or switching from school-based higher education to apprenticeships. According to national data, the number of new apprenticeship contracts rose from 283 500 in 2015 to 809 000 in 2022, also thanks to generous financial incentives to employers, funded by the EU's Recovery and Resilience Facility (European Commission, 2023b).

In Germany, the education and training system has remained relatively stable over the past 20 years. However, IVET has undergone significant changes. There is a growing emphasis on transversal skills and competences (e.g. teamwork,

([17]) Loi no 2018-771 du 5 septembre 2018 pour la liberté de choisir son avenir professionnel (Law for the freedom to choose one's professional future).

([18]) The law of 5 September 2018 simplified the legislative framework and administrative procedures for the regulation of apprenticeships; changed the funding of apprenticeships and unified/rationalised the employer financial incentives; and eased/liberalised the creation of apprenticeship training centres (CFAs) and allowed companies to establish accredited CFAs, the only organisations accredited to train apprentices (France Compétences, 2021).

language and communication skills), while occupational profiles and curricula have become broader within the same occupational sector (Cedefop, 2022b). Furthermore, apprenticeship-type programmes have been expanded to include higher qualifications, and part-time vocational training is now available to all apprentices, as well as to people with disabilities and refugees (European Commission, 2023a).

Ireland, with the national apprenticeship system reform in 2016, introduced a new apprenticeship scheme, providing for higher levels of apprenticeship qualifications (equivalent to EQF levels 5–8), more flexible duration (between two and four years) and a wider range of topics. These apprenticeships are a form of higher VET provided by the institutes of technology and, to a lesser extent, universities and other higher education providers. Diverse models of training on and off the job, models of delivery and target groups are used.

In Italy, the apprenticeship system was substantially reformed between 2003 and 2015. Qualifications in technical and vocational schools and in higher education can now be acquired through credits earned in two new types of apprenticeship schemes as well as in the previous apprenticeship contract (which remains outside the education and training system). The new higher education and research apprenticeship scheme established in 2003 and reformed in 2011 and 2015 provides credits for qualifications referenced to EQF levels 5–8, leading to university degrees, ITS diplomas and doctoral degrees, based on guidelines provided by each university. The other apprenticeship type provides, instead, credits for an IVET diploma. In addition, traineeships became mandatory from the third year of upper secondary general education and IVET for admission to the final state examination ([19]) with the 2015 *buona scuola* (good school) reform (Law 107/2015). However, as underlined by a vocational school teacher who was interviewed, offering work-based internships to students aged 15–16 is challenging: ‘A difficulty lies in reconciling the training needs of students with company requests ... and managing the transition for very young students from the protected school environment to the workplace … where their fragilities are less protected.’ The share of general content in regional IVET curricula has also significantly increased since 2003, when regional IVET courses were integrated into the upper secondary national education and training system.

Dual study programmes have also been implemented in Poland and Romania, although to a lesser extent than in the other country cases. In Poland, with a 2019 reform, trilateral training agreements among employment offices, employers and training institutions were established for vocational/apprentice training in technical secondary schools and stage I sectoral vocational schools. In Romania,

([19]) Pathways for transversal skills and guidance (*Percorsi per le Competenze Trasversali e per l'Orientamento*).

apprenticeship schemes for people aged 16 and over have been available since 2005. Amendments in 2017 increased the levels of qualifications and duration of apprenticeship contracts, including in vocational/professional short-cycle tertiary education (ISCED level 4). In addition, six-month internships for higher education graduates were introduced in 2013 by Law No 335/2013 and the Labour Code (published in 2011 and amended in 2022), for which training institutions and companies hold joint educational responsibility.

In Finland, the vocational and general upper secondary routes, although still based on separate legislation, are equal in value and both provide access to higher education. Students can also complete a double degree, combining an upper secondary general qualification and a vocational qualification.

3.1.1.4. *Flexible admission requirements and measures easing transitions between vocational and general education and training*

The developments considered so far contributed to reducing the rigid separation between general education and VET curricula in upper secondary and higher education and training, increasing the ability of learners to move horizontally and vertically across VET, general education and higher education.

The adoption of more flexible admission requirements and measures that ease transitions across formal education and training subsectors has further contributed to reducing the barriers present at the beginning of the century. National measures include:

(a) easing the admission requirements for upper secondary general education, HVET and higher education, and strengthening RPL, as for example in Germany, France, Romania and Finland (to access higher education) among the country cases;
(b) creating specific mechanisms allowing students to change track in IVET and upper secondary general education (as in Germany and Italy among the country cases); the hybridisation of VET and general education curricula has also assisted in this;
(c) developing bridging programmes/classes adapting curricula in IVET to meet the admission requirements of higher education institutions, as for example in Austria, France, Germany, Italy, the Netherlands, Poland, Norway and Spain.

The adoption of these measures has been facilitated by the extensive use of learning outcomes, credit systems and quality assurance mechanisms in higher education and, to a lesser extent, in VET. Among the country cases, Ireland, France, Italy and Finland registered substantial changes in admission requirements and in measures to ease learners' transitions between VET and general/higher education.

In Finland, according to the University Law (2009), all types of VET qualifications must provide access to all types of universities (academic as well as UASs). To be eligible, applicants must have either passed the national matriculation examination or hold a vocational upper secondary qualification, a further vocational qualification, a specialist vocational qualification awarded under the Vocational Adult Education Act or a corresponding qualification.

To access UAS master programmes, several years of work experience are necessary following the completion of a bachelor degree or another applicable degree. However, when it comes to student selection, there is less emphasis on work experience, and grades from previous education and the entrance exam have more weight in terms of admission requirements (Cedefop, 2019b). With a UAS bachelor degree it is possible to enter and access master programmes at academic universities. This had a significant effect on individual learners' choices. Between 2015 and 2020, bachelor degrees awarded by UASs increased significantly from 1 638 to 28 735 (Cedefop, 2023f). In 2018, access to higher education was reformed with the aim of speeding up the transition from upper secondary education and strengthening the role of the national matriculation examination vis-à-vis universities' entrance examinations. A joint application to higher education (academic universities and UASs) is also possible, and students with good results from VET and general education can directly access both routes without having to pass entrance examinations as before. As underlined by the national stakeholders involved in focus groups, transitions to academic universities from VET are increasing, and many students have a dual degree (VET and general education).

In France, horizontal permeability was eased in 2016 by a ministerial circular granting 10th grade students the opportunity to change track up to the autumn break (European Commission, 2019a), although this is limited by the scarcity of places in higher education. Since 2018, bridging solutions (*passerelles*) have also been possible between blocks of competences for qualifications registered in the National Directory of Professional Certifications (Répertoire National des Certifications Professionnelles (RNCP)) and the 'specific register'. The 2018 reform of the general and technological baccalaureates ([20]) facilitated vertical transitions to higher education and increased completion rates (OECD, 2020a), as acknowledged by the stakeholders interviewed. A recent development has been the introduction of the *diplôme de spécialisation professionnelle* (Bac + 1) qualification, a professional specialisation diploma equivalent to 60 ECTS credits, registered at EQF level 4 by France Compétences and included in the RNCP, that

([20]) The general education baccalaureate allows direct access to higher education academic and technological studies. Technological baccalaureate holders usually move on to tertiary undergraduate or professional bachelor programmes, while the vocational baccalaureate allows access to higher education (usually short-cycle programmes) for the undergraduate technician certificate after completing a three-year programme (OECD, 2020c).

can be obtained after one year of higher education and enables students to enter the second year of a university or technical institute diploma or a bachelor degree (EQF level 5). According to a stakeholder, these initiatives aim to 'offer students greater flexibility and to enhance the value of the vocational route'. Another representative noted that 'pupils can now move more easily between the vocational and general educational pathways', benefiting from policies that integrate pathways and provide diverse training opportunities for their future. According to national data, since the start of the century an increasing number of vocational baccalaureate holders are progressing directly to higher education (France. Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation, 2016). In 2020, 37% of first-time tertiary education graduates were short-cycle VET graduates, over double the EU average of 16.3%. The use of ECTS in higher education is considered to have made 'a major contribution to the construction of more flexible career pathways and the de-compartmentalisation of study programmes' (France Compétences, 2021).

In Ireland, access to formal education has greatly improved with the establishment of the NQF in 2003 following improvements aimed at enhancing the ability of learners to navigate different levels, types and branches of the education and training system. According to an interviewee, the NQF is assuming increasing relevance in raising awareness about the ability to transition between higher education and FET. The definition of guidelines for RPL in 2005 and the establishment by the government in 2020 of the Department of Further and Higher Education, Research, Innovation and Science, addressing funding and policy decisions for both FET and higher education, are also considered important developments. The interviewee said: 'Increasing initiatives are implemented to make sure that students can freely experience transition from FET to higher education. A very recent (January 2023) reform is accelerating these developments towards the creation of a unified tertiary education and training system which combines higher education and FET.' Stakeholders interviewed during fieldwork pointed out that most progress has occurred only since 2020 and responsibility for RPL is still delegated to each educational institution, while awareness of the RPL system and advice and guidance services is still low among learners. Overall, the stakeholders' perception is that RPL remains more focused on access than transfers, being adopted by some universities for admissions, mainly for mature students or people with leaving certificates (applied or vocational). Procedures do not yet exist for easy transfer of RPL between higher education institutions.

In Italy, horizontal transitions between IVET and general education have been possible through so-called *passerelles* (bridges) since the 1980s. However, these bridging opportunities were legally formalised only in the early 2000s. The 2003

and the 2015 education reforms extended the ability of individual learners to move between subsystems, ensuring the recognition of credits and qualifications acquired in other subsystems. Access is however still based on the assessment of individual cases by each school. Horizontal transitions tend to occur in the first or second year of upper secondary education; changing later is rarer and more difficult. Access to higher education and ITSs is possible for holders of the upper secondary diploma, obtained by passing the state examination at the end of the fifth year of state-based general, technical and vocational education. Regional vocational training courses (*istruzione e formazione professionale*) allow direct access to second-level regional vocational courses or, in the case of four-year courses, to higher technical education and training courses (*istruzione e formazione tecnica superiore*) (EQF level 4) or the fifth year of the state vocational system (Cedefop, 2020g). Before the 2022 ITS reform, credits obtained in the two-year ITS courses enabled enrolment in higher education, shortening the list of exams to be taken for a bachelor degree, depending on each university's rules. Since the 2022 reform, ITS courses have been integrated into higher education and ITSs now provide bachelor and master degrees.

In Germany, the Netherlands, Poland and Romania, permeability between vocational and general education routes has also increased.

In Germany, tracking already occurs in lower secondary education at 12 years old. However, students are allowed to change track when entering upper secondary education (OECD, 2018a; Dustmann et al., 2017). Vertical progression from VET to higher education has improved since the 2009 Standing Conference of the Ministers of Education and Cultural Affairs resolution, which enabled unrestricted access to academic higher education for VET-qualified applicants in all federal states (Spöttl, 2013; Spöttl, & Windelband, 2013). Depending on the type of vocational qualification, learners may have direct access to all types of higher education (vocational or general) and may have their vocational learning outcomes accredited within higher education, covering as much as 50% of an undergraduate degree programme (Cedefop, 2022b, p. 94). Graduates from IVET ISCED level 3 programmes have direct access to professional tertiary programmes in UASs after relevant professional experience. However, these graduates need to hold compatible professional experience and complete an aptitude test or obtain a professional tertiary qualification first. IVET graduates may also access bridging programmes or pursue additional general education credits during their vocational programme to gain access to university (OECD, 2023). Several projects have also been implemented to encourage universities to enhance institutional permeability. For example, the ANKOM initiative (from the German for 'Credit transfer of occupational competences to higher education courses'), launched in 2005, supported the development of test procedures to

accredit professional competences acquired through training qualifications (Stamm-Riemer et al., 2017). Holders of *Meister* and *Fachwirte* (specialist) qualifications with at least three years of full-time professional work experience can now access German universities without holding the higher education entrance certificate (*Abitur*), although universities still have autonomy in admission decisions (Frenz et al., 2022; IHK, 2023). National data show that the proportion of first-year students who have entered university through the vocational route increased significantly from 0.6% of all first-year students in 1997 to 3.1% in 2020 (Centrum für Hochschulentwicklung, 2025).

In the Netherlands, students in upper secondary general education may be given the option, in the event of failing a course, to shift to IVET to avoid repeating a year (OECD, 2023). IVET graduates have direct access to only professional bachelor programmes; however, completing the first year of a professional bachelor programme enables access to the first year of academic higher education (OECD, 2023). The associate degree programme (EQF level 5) offered by UASs facilitates the transition from VET to higher education by offering a two-year programme instead of the four-year bachelor course. To enter an associate degree programme, an IVET diploma at level 4 is required (Cedefop, 2023f). National data show that associate degree programmes offered by state-funded higher education institutions (full-time, part-time and dual study programmes) increased significantly from 21 in 2007 to 316 in 2021, with student numbers increasing from 6 786 in 2016 to 17 528 in 2020 (Cedefop, 2022b, p. 94).

In Poland, the 2019 VET reform, which changed the structure of vocational schools, establishing a two-stage sectoral vocational education, promoted access to higher education after completing stage II and passing an exam for a second qualification. Graduates gain a vocational diploma and can take the maturity exam, enabling access to higher education professional programmes; the pass rate in professional exams is high, at 78%. Before the reform, a vocational graduate could go to a technical secondary school (three years) and, after passing the maturity exam, go to university.

In Romania, no relevant changes occurred in the analysed period in transitions between IVET and general education, which remain rather difficult in practice. An issue is the problematic transition from lower secondary to upper secondary general education and VET. Despite the revision of the lower secondary state exam in eighth grade, there has been a general decline in the number of students participating in this exam, leading to early school leaving (ESL), particularly among students in rural areas and in VET, as well as a decline in the number of students enrolling in the baccalaureate exam (Kitchen et al., 2017; Dalu et al., 2023). Transitions from upper secondary general education to higher education have been eased by the revision of university admission procedures, which shifted from

being based only on exams to a mixed system in which universities can decide to admit students based on both the baccalaureate mark and marks from previous study years. In addition, since 2004 high-performing general upper secondary students with a baccalaureate diploma have been able to enrol in higher education without completing admission exams. Transitions between upper secondary VET and post-secondary VET have been eased by allowing enrolment in post-secondary non-tertiary education without having to pass the baccalaureate exam. Despite these changes, the fragmentation of Romania's education and training system still hinders transitions between VET and higher education on the ground, as reported by the stakeholders interviewed. National data also register a decline in IVET students entering tertiary education, despite the increase in their share of total enrolments in upper secondary education from 5.7% in 2009/2010 to 14.4% in 2018/2019 (Ministerul Educației, 2021).

3.1.1.5. *Targeted measures to reduce educational segregation and early leavers from education and training, and to support the re-entry into education and training of vulnerable groups*

In the period considered, many Member States implemented targeted strategies to support more inclusive admission procedures for under-represented and disadvantaged groups and to reduce ESL. Besides financial support for students from disadvantaged backgrounds, the most common initiatives were targeted measures to prevent school disengagement, the implementation of second-chance programmes targeted at vulnerable learners, and the strengthening of information and guidance support services at all education and training levels.

Most countries (including all the country cases) are increasingly implementing specific programmes targeted at students with special educational needs or from disadvantaged backgrounds and at high risk of ESL, such as migrants, refugees and ethnic minorities like the Roma. There are also adult education and second-chance programmes to improve learning opportunities for early school leavers and help adults wishing to re-enter the formal education and training system to acquire new qualifications.

Accessible information, guidance and support services are becoming increasingly important to accompany the growing offer of learning opportunities registered in the period considered. These services have been strengthened in most countries to help learners identify their personal aspirations and abilities, make informed choices and support them in remaining engaged in education and training. The increased role and visibility of NQFs / the EQF for education and training operators and learners is also helping to clarify the qualification landscape within countries. The availability of information, guidance and support services is, however, very different across Member States. While in Nordic countries more than

80% of students have consulted career advisors at school, less than 30% have accessed these services in other countries (OECD, 2023).

Ireland, France, the Netherlands and Finland have developed rather well-structured programmes to prevent early leaving from education and training and to support early leavers and disadvantaged groups in gaining a qualification, while also providing information and guidance services.

In Finland, targeted programmes have been implemented over the years to support young students to progress in education and training and to support low-skilled adults to return to education and gain a qualification. A preparatory education programme (tutkintokoulutukseen valmistava koulutus (TUVA)) is now available at the end of compulsory education (EQF level 2) to support access to upper secondary general education and VET for learners with low achievements in lower secondary education or who lack some basic skills (like the Finnish language). TUVA merges two previous preparatory pathways, one preparing for upper secondary education and one for vocational training. VET and upper secondary education providers have primary responsibility for providing preparatory education for those who need extra support to transition to upper secondary education and training and for ensuring that young people achieve at least a VET certificate after basic education.

A TUVA participant from a migrant background said: 'I moved to Finland at the age of 14 after completing basic education in the international English secondary school. I then attended the TUVA preparatory year to improve my Finnish language and basic education. This allowed me to proceed to either upper secondary general education or VET. I enrolled in a VET business programme (FINNQF level 4) and now plan to apply to polytechnics (UASs) for a bachelor in business. If I get good results in the VET course, I can enter the polytechnic without an entrance examination (this was not possible before).' The participant's studies, fully funded since the compulsory education age increased from 16 to 18 in 2022, illustrates the TUVA efforts in offering personalised study plans and targeted support, helping students transition successfully into higher levels of education and training.

The Noste programme, implemented in Finland between 2003 and 2009 to raise the level of education among adults with only basic education, illustrates the importance of integrating the provision of personalised learning with outreach and information measures and targeted funding (Box 2).

Box 2. **Noste programme in Finland**

The Noste programme was developed through tripartite cooperation between social partners and education providers (Finland. Ministry of Education and Culture, 2010). A total of 19 540 full and partial qualifications were completed between 2003 and

2009. Long-term follow-up showed that personalised learning, guidance and support measures were important to ensure the participation of and good outcomes among the least educated adults. The programme also increased awareness among education and training providers of the need to assess students' educational needs and adopt personalised teaching approaches, improving trainers' skills. Tripartite cooperation was also important, ensuring commitment to the education process among both employers and workers. The extensive networks created during the programme promoted new operating cultures among education providers as well.

Source: Study team.

France has been investing heavily in reducing year repetitions and early leaving from education and training since 2008. Students struggling in the last two years of lower secondary education are provided with additional hours of support. The French government has introduced several measures to tackle early leaving from education and training, including the 2014 'All together to overcome school dropout' action plan (*Tous mobilisés pour vaincre le décrochage scolaire*) (France. Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, 2014). This plan, which is part of a broader effort to address this issue, provides for temporary, tailored support for secondary education pupils who are at risk of dropping out, including monitoring and early intervention for those at risk of disengagement, with flexible, module-based education and personalised support and guidance; opportunities for work experience through a mentoring programme with trained mentors (often company employees); remedial education services (*micro-lycées*); and the legal right of school dropouts to return to initial training. Building on this initiative, subsequent national plans, such as the 2019 law for a 'school of trust', have established measures like the training guarantee (*obligation de formation*) for young people aged 16–18 (Cedefop, 2022a, p. 28).

Other targeted programmes in France include the personalised educational success programme (*programme personnalisé de réussite educative*); the setting up of school dropout prevention groups (*groupes de prévention du décrochage scolaire*); and initiatives aimed at re-engaging early leavers from education and training, such as voluntary military and civic service (OECD, 2020a; France. Ministère de l'Éducation nationale, de l'Enseignement supérieur et de la Recherche, 2014; 2015). The National Agency for Combating Illiteracy (Agence Nationale de Lutte contre l'Illettrisme) was established in 2020 to coordinate actions to prevent and combat illiteracy and the lack of adequate basic skills, and has been active since, with the creation of a National Observatory of Illiteracy and Electronic Illiteracy in 2023. However, despite these efforts, social and ethnic educational segregation and the intergenerational transmission of education inequality remain significant challenges (Boutchenik et al., 2020; France. Government, 2004; Hébrard, 2002; Felouzis, 2003; Felouzis et al., 2018; Blanchard & Tirole, 2021).

In Ireland, several targeted measures are in place to improve access to further and higher education for disadvantaged groups, as illustrated in Box 3. A guidance body (the Institute of Guidance Counsellors) established in 1968 supports the provision of guidance services. Stakeholders in the country's focus groups underlined the important equity strategies and national action plans undertaken by the Higher Education Authority since 2001. These action plans define admission targets for disadvantaged groups in higher education, for example low-income families (10% of total admissions in higher education), mature students (10%) and people with disabilities (5%), and increasing the proportion of travellers. Access to and progression in education for disadvantaged students is also supported through a growing range of VET options addressing social and labour market issues, such as functional illiteracy. There are national initiatives such as the 'Disability access route to education)' and '(Higher education access route' programmes)', which are part of a strong policy commitment to support progression through NQF qualification levels. All these programmes are likely to have contributed to Ireland being the Member State with the highest share of population aged 25–54 with a tertiary education (58.9% compared with an EU-27 average of 38.7% in 2023). However, according to focus group stakeholders, the autonomy of higher education institutions makes such schemes optional, and some universities do not use these access programmes despite government funding. In addition, while most universities have opened most of their programmes to applicants from VET backgrounds, further education itself is not part of the national access plans.

Box 3. **Programmes and projects to support low-skilled adults in entering/re-entering formal education and training in Ireland**

The Back to Education initiative was introduced in Ireland in 2003 to provide flexible, part-time courses covering basic skills and vocational education. It is free of charge for those aged 16+ with less than an upper secondary education or low levels of literacy (OECD, 2021c). Another initiative is WriteOn.ie, the National Adult Literacy Agency's first online learning website, set up in 2008. It provided free, flexible online learning for adult literacy learners who could not access, or were not ready to access, existing provision in adult literacy services. It also aimed to facilitate literacy certification for adult learners, initially at level 2 and later at level 3 of the Irish NQF. Between 2008 and 2019, when the website was decommissioned, 11 593 adult literacy learners achieved national Quality and Qualifications Ireland minor awards in literacy, numeracy and digital literacy through the website (Quality and Qualifications Ireland, 2024). Following on from this, the government currently has a 10-year 'Adult Literacy for Life' strategy to help the estimated 500 000 people in Ireland with unmet literacy needs.

Source: Study team.

In the Netherlands, the formal education and training system includes basic education for adults with limited or unfinished school careers and second-chance education for adults without a qualification, with a specific focus on the over 50s. There is also a specific programme for students with learning disabilities, the so-called practical education stream. Until 2019, no diplomas were awarded in this type of school, only a certificate. Since 2019, students who successfully complete practical education (PRO) or secondary special education receive a diploma that formally recognises their achievements, referring to the level involved (Cedefop, 2022b). In addition, the 2014 Adequate Education Act (Wet Passend Onderwijs) established the so-called care and advice teams, involving teachers, coordinators, remedial teachers and external/private parties who provide career guidance and undertake preventive measures for at-risk students with behavioural difficulties (Cedefop, 2020b).

Conversely, in countries such as Italy, Poland and Romania, measures targeting disadvantaged learners face implementation challenges, especially due to the difficulties in reaching out to them and the limited provision of guidance services.

In Italy, provincial adult education centres (*centri provinciali per l'istruzione degli adulti*, under the remit of the Italian Ministry of Education, provide programmes leading to lower and upper secondary general and vocational qualifications to ensure progression opportunities for early school leavers and the low-skilled, as well as courses on the Italian language for foreigners, foreign language courses, and courses on personal development, the arts, robotics, etc., which do not lead to certification. The adult education system was reformed in 2007 and again in 2017 with the aim of raising the basic skills of those aged 16+ with a low level of education in order to acquire a recognised qualification through the certification of competences. According to the latest available survey from the Ministry of Education, in 2018 around 290 000 individuals had signed up for adult education in 130 provincial adult education centres (INDIRE, 2018). Guidance services are promoted by legislative acts and guidelines but are still unevenly implemented. Law 107/2015 requires that all upper secondary schools (from general education to VET) provide information and guidance on school-to-work transition pathways, with information and support for individual learners' choices among the available training opportunities. Guidelines on pathways for transversal skills were published by the Ministry of Education in October 2019 (Italy. Ministero dell'Istruzione, dell'Università e della Ricerca. MIUR, 2019) and updated in December 2022. These guidelines are aimed at fostering self-guidance and supporting students to make more informed choices, as well as supporting a reform of the guidance system, which should become a substantial part of education programmes in both compulsory and post-compulsory education and training.

However, according to the stakeholders interviewed during the fieldwork, the available services are still not able to reach out to the most vulnerable population groups and encourage them to enrol in education and training programmes. In addition, they pointed out the persisting cultural stereotyping among counsellors and teachers of students from migrant or disadvantaged backgrounds. IVET continues to be perceived and communicated as an 'easier' route for pupils who do not want, or are considered not able, to pursue more demanding studies, thus reinforcing its image as a lower-value pathway.

Romania has promoted specific education and training measures to support early school leavers in achieving basic qualifications (ISCED levels 1, 2 and 3), such as the 'Second chance' programme (Box 4). Scholarships, free public transport and targeted programmes have also been adopted to prevent ESL and to support students to stay in upper secondary and tertiary education and training ([21]). However, these programmes – often funded by the European Social Fund and/or the World Bank – lack continuity and are fragmented, according to the stakeholders interviewed. Other special measures were introduced with the 2011 Education Law to encourage vulnerable students' participation in higher education, including reserving special places for Roma students and students from rural areas. Evaluation studies (UEFISCDI, 2020) underline that in the 2018/2019 academic year, scholarships contributed to lowering the dropout rate and enhancing on-time graduation rates. However, they did not seem to encourage more disadvantaged students to pursue higher education. The evaluations also noted the positive contribution of places reserved for students in rural areas, although the measure is not widely known among potential beneficiaries. According to some of the stakeholders interviewed during fieldwork, these measures had limited effects on the ground, as they were not accompanied by adequate support measures for vulnerable students, so Romania still has a 48% dropout rate in tertiary education.

Box 4. **'Second chance' programme in Romania**

The 'Second chance' programme for adult early school leavers in Romania supports their return to school to achieve qualifications at ISCED levels 1, 2 and 3. It is structured into several modules over four years and is implemented locally in schools at different times of the day (including in the evening). Enrolment is open throughout the year. The programme also allows individuals who have already earned certification for their formal and informal skills to complete a shorter training period,

([21]) Examples include the Romania secondary education project, which, since 2015, has supported remedial classes, counselling, career guidance, coaching, personal and socioemotional skills development and extracurricular activities. The 'School after school' programme provides remedial education for students and the 'Money for high school' programme, adopted in 2018, grants students financial support to continue or complete their studies.

and offers apprenticeship opportunities. A European Social Fund project established in November 2017 aims to enhance the accessibility and flexibility of the programme. According to a 2019/2020 report on pre-university education, a total of 10 884 students and 4 532 students were enrolled in the Second Chance programme for lower secondary education and primary education, respectively, helping the country reach the target of 65 492 students in the 2015–2020 'Reducing early school leaving in Romania' strategy, adopted in 2015.

Source: Cedefop country studies.

3.1.2. Changes in individuals' participation in formal education and training: evidence from comparative data

The policy changes described above, promoting greater flexibility and permeability of education and training systems, can be considered to have positively influenced individual learners' participation and progression in formal education and training, helping to prevent ESL, although it is not possible to establish a causal link.

The available comparative data from the EU reveal a significant decline in ESL alongside an increase in participation in formal education and training in the period analysed, particularly among young people, with wide differences across countries and individual characteristics. Eurostat's EU Labour Force Survey (EU-LFS) data show that the ESL rate ([22]) in the EU-27 declined from 16% in 2004 to 10.2% in 2019 ([23]). Despite this progress, early leaving from education and training remains a challenge in many Member States, showing a strong territorial and socioeconomic dimension (European Commission, 2022a). The largest declines occurred in southern and some eastern European countries, from very high levels at the beginning of the century, as in the Italian and Romanian country cases. The ESL rate in Italy declined from 23.1% in 2004 to 13.5% in 2019, and in Romania from 22.4% to 15.3%. Sharp declines were registered over the same period in Ireland (from 13.1% to 5.1%) and the Netherlands (from 14.1% to 7.5%), countries with ESL rates below the EU average in 2004.

Data show that in all countries ESL is higher among young men than young women and is particularly high among students from an immigrant or disadvantaged socioeconomic background. EU-LFS ad hoc data from 2021 reported in the 2022 European Commission Education and Training Monitor (European Commission, 2022b) show that the risk of ESL among young people with parents with a low educational level (26.1%) is nine times higher than among

([22]) The ESL rate is the proportion of people aged 18–24 who have completed lower secondary education at most and are not involved in further education or training.

([23]) The period considered for the statistical analysis is 2004–2019 for three main reasons: (i) 2004 is the first year for which disaggregated data on participation in formal and non-formal education and training are available; (ii) 2019 is the most recent year before the COVID-19 pandemic, when participation in education and training declined due to distancing measures, especially among adults; and (iii) 2021 data on participation in learning may not comparable with data from previous years, as in 2021 some definitions in the EU-LFS survey were revised.

those with parents with a high level of education (2.9%). ESL tends to be higher in IVET than in upper secondary general education, and higher in UASs than in academic universities. This is likely to be related to the greater opportunities for direct labour market access and the higher share of learners from a disadvantaged socioeconomic background than in general and higher academic education (European Commission et al., 2021; ECEA, Eurydice, Cedefop, 2014; European Commission, 2019a).

EU-LFS data on participation in formal education and training also show significant differences across Member States and individual characteristics (e.g. age, sex, level of education, ethnicity, labour market conditions).

Between 2004 and 2019, participation in formal education and training increased among young people aged 15–24 (from 63.1% to 68.5%), while remaining low and stable among adults aged 25–64 (increasing from 2.7% to 3%). As expected, participation in formal education and training was highest among young people aged 15–19: on average in the EU-27, 89.5% of this age group was participating in formal education in 2019, up from 86.9% 2004. This increase is strongly influenced by differences in the compulsory school leaving age and changes in this age.

The Cedefop key indicators on VET ([24]) show that on average in the EU-27, IVET students represented almost half (48.7%) of all upper secondary education students in 2021, not much different from the share in 2015 (48.9%), the first year for which data are available. The share of IVET students tends to be lower than average in Baltic and southern European countries, except for Italy, which registered a share of IVET students of 51.8% in 2021. Among the country cases, the highest shares of students enrolled in IVET were registered in the Netherlands (increasing slightly from 68.5% in 2015 to 68.7% in 2021) and Finland (declining from 71.3% in 2015 to 67.3% in 2021). The lowest shares were registered in Ireland (23.9% in 2021) and France (declining from 41.5% in 2015 to 40.1% in 2021).

Participation in formal education and training in the period considered increased significantly among the 20–24 age group in the EU-27, from 40.4% in 2004 to 47.9% in 2019. Among the country cases, a high increase was registered in the Netherlands (+ 11.8 percentage points (pp), with the share of young people aged 20–24 in formal education reaching 60.3% in 2019), Romania (+ 11.2 pp, reaching 41.4% in 2019), Germany (+ 10.9 pp, reaching 54.9% in 2019) and Ireland (+ 9.7 pp, reaching 43.8% in 2019). The growth in participation in formal education and training for this age group is related mainly to participation in tertiary

([24]) These key indicators are calculated by Cedefop using the joint data collection of UNESCO, OECD and Eurostat on formal education, and Eurostat and Eurofound surveys.

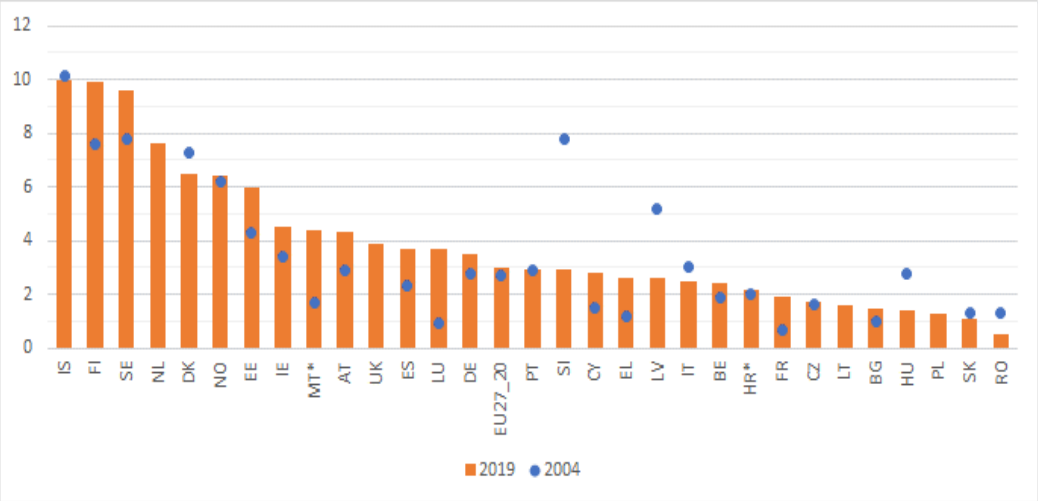
education (ISCED levels 5–8). Eurostat data show that on average in the EU-27, the share of people aged 20–24 in tertiary education increased from 33.6% in 2015 to 36.2% in 2021 (Eurostat, 2024c). This share increased in all the country cases considered, except for Poland, which registered a decline. The increase was particularly high in the Netherlands (from 35.6% in 2013 to 42.9% in 2021), Ireland (from 31.2% to 37.5%) and Germany (from 27.3% to 32.6%).

Many European countries registered an increase in participation in vocational/professional short-cycle tertiary education and training (ISCED level 5), which is likely to be related to the expansion and growing attractiveness of these learning opportunities in the period considered. Eurostat data show that between 2015 and 2021, the share of students enrolled in professionally oriented short-cycle tertiary education increased by 26% on average in Member States for which data are available, although their numbers are still relatively low (1.4 million in 2021 in the EU-27) ([25]) and there are wide national differences in enrolment rates. All the country cases for which data are available (France, Germany, Italy and the Netherlands) registered an increase in enrolments, while Poland registered a decline (source: Eurostat (educ_uoe_enrt02). Cedefop key indicators show that the share of short-cycle VET graduates as a percentage of first-time tertiary education graduates increased significantly in the period considered, with the EU average for countries providing data increasing from 8.7% in 2015 to 17.3% in 2021, again with wide country differences. In 2021, this share ranged from 44.4% in Spain and 37% in France to only 0.3% in Poland (Cedefop, 2023c). In some countries, graduates from higher degree programmes are also increasingly enrolling in professional higher education, to acquire a qualification that is more labour market oriented. For example, in Italy national data show that students with an upper secondary general education diploma or a bachelor or master degree are enrolling in ITS programmes (INDIRE, 2023a, 2023b). In the Netherlands, students with an MBO degree, or who have recently completed an MBO degree or are already working, are entering associate degree programmes (Smulders et al., 2019).

Among adults aged 25–65, participation in formal education and training in the EU-27 remained relatively low and stable in the period considered (3% in 2019), although with diverging patterns across countries, as shown in Figure 4.

([25]) The sum of students enrolled in ISCED 55 – short-cycle tertiary education (vocational/professional); ISCED 65 – bachelor or equivalent level (professional); and ISCED 75 – master or equivalent level (professional) increased from 3 million to 4.1 million (+ 36.7 %) (source: Eurostat (educ_uoe_enra16)).

Figure 4. **Participation rate of adults aged 25-64 in formal education and training in the four weeks prior to the interview, 2004 and 2019**



NB: ISCED 2011 defines formal education and training as 'Education that is 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 authorities or equivalent authorities, e.g. any other institution in cooperation with the national or subnational education authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognised as being part of the formal education system.' The reference year 2007 was used instead of 2004 for Croatia and Malta. There are several breaks in the time series for all countries.

Source: Eurostat (trng_lfs_09); data extracted on 16 October 2023.

Adult participation in formal education is much higher than the EU average in Nordic countries, including Finland (with a participation rate of 9.9% in 2019), and the Netherlands (with a participation rate of 7.6% in 2019), while the rate is quite low (below 2%) in France and most eastern and southern European countries, reflecting national policy differences and persisting barriers to participation. National differences are particularly relevant for adults aged 30 and older (i.e. the age groups 30–34 and 35–64). Among the country cases, in Finland 17.9% of adults aged 30–34 and 7.1% of those aged 35–64 were enrolled in upper secondary and tertiary education (ISCED levels 3–4 and 5–8, respectively) in 2019, much higher than the other country cases, going from 1.1% in Romania to 7.8% in Germany for the 30–34 age group, and from 0% in Romania to 3.3% in Ireland for the 35–64 age group. The high participation rate of adults in formal education in Nordic countries is an indicator of the flexibility and permeability of their learner-centred education and training systems and the measures in place to support early leavers from education and training and adults with a low level of education to re-enter and progress in formal education and training. The Nordic countries also register a higher average age of IVET students than other countries thanks to the greater flexibility of IVET programmes, as illustrated by the Finnish country case. While in most countries, including Germany and Italy, IVET is still

predominantly youth centred (with more than 60% of learners aged under 20), in Nordic countries IVET is more adult centred (with more than 60% of learners aged above 20) (Cedefop, 2023f). Furthermore, in Nordic countries new entrants into tertiary education tend to be older than in other countries, indicating that short-cycle tertiary programmes also offer opportunities to acquire new skills mid career (OECD, 2023).

Regarding learners' other characteristics, EU-LFS data show that the adult participation rate in formal education and training increases with the educational level in all countries. Nordic countries stand out with their relatively high and growing level of participation among adults with a low level of education, an indication of the effectiveness of their programmes designed to achieve this. For example, among the country cases, in Finland the rate of adults educated to ISCED levels 0–2 participating in formal education and training grew from 2.3% in 2004 to 7.4% in 2019, compared with an increase in the EU-27 average from 0.6% to 1.1% in the same period.

Adult women tend to participate in formal education and training more than adult men, and their participation rate increased more in the period considered. The gender gap in favour of women is largely explained by their average higher participation in general and higher education than men, particularly in Nordic countries. The only countries with a higher participation of men than women in 2019 were Germany, Luxembourg and Portugal. Gender segregation in education and training remains high in most countries however, with technical and vocational pathways in the industry sector attracting predominantly male learners, although the share of women is increasing.

When considering labour market conditions, an interesting piece of evidence is that adult participation in formal education and training is higher and increasing more among the unemployed and the inactive than among the employed. This is an indication of the relevance of measures taken in the period considered to support non-employed low-skilled adults and early school leavers to get back into formal education and training. Again, Nordic countries stand out, with much higher participation rates than other European countries. For example, in Finland the participation rate of unemployed and inactive adults reached 11.9% and 16%, respectively, in 2019, compared with an EU average of only 3.7% and 5.2%. Among the country cases, the lowest participation rates among the unemployed and inactive are in France, Poland and Romania.

Turning to horizontal and vertical transitions across formal education and training subsystems, the comparative evidence available shows that, even when mechanisms are in place, student transitions between VET and general education and between VET and higher education are rare compared with transitions

between general education and VET and higher VET (OECD, 2018b; Cedefop, 2020a).

According to EU-LFS data (Eurostat, 2024a), the share of upper secondary IVET graduates who completed programmes enabling direct access to tertiary education increased in the EU-27 from 61% in 2015 to 68% in 2021, with wide country differences and some countries registering a decline (Bulgaria, Germany, Spain, Lithuania, Luxemburg, Austria, Romania, Slovenia and Sweden). Cedefop key indicators show that the share of young IVET graduates among the population aged 18–24 with a medium-level vocational qualification (ISCED level 3 or 4) as their highest educational attainment also increased between 2015 and 2021 from 33% to 36.6%. In 2021, this share varied from only 12.8% in Lithuania to 66.8% in Luxemburg. In the country cases, it ranged from 27.6% in Germany to 56.9% in Romania (Cedefop, 2025). The high share in Romania could be related to the easing of transitions from IVET to post-secondary non-tertiary education.

3.1.3. Concluding remarks

Table 4 summarises the main policy changes that occurred in the eight country cases in the period considered that contributed to improving the flexibility and permeability of the formal education and training system for individual learners.

As detailed in the previous sections, all the country cases, to different extents, adopted new legislation and/or strategies to address barriers to the flexibility and permeability of the formal education and training system, and learners' access to and progression across subsectors, that were present at the beginning of the century.

All the country cases developed modularised learning pathways based on learning outcomes, allowing more flexibility in individual curricula, especially in higher education and, to a lesser extent, in VET and higher education. All expanded and increased the variety of education and training programmes offered, especially in higher VET; improved quality assessment (particularly in VET); and broadened VET, general and higher education curricula, improving the status and increasing the attractiveness of VET. All eased admission requirements, recognising credits from prior learning, including work-based learning, and developed measures to reduce the separation between VET and general education pathways. Measures targeted at disadvantaged learners have also been implemented to address ESL and educational segregation, and to support early leavers to re-enter and progress in the formal education and training system. Finland recorded the most relevant developments in both legislation/strategies and implementation, followed by France, Germany, Ireland and the Netherlands. Italy, Poland and Romania; despite important policy developments, remaining implementation challenges are hindering their achieving their full potential.

Table 4. **Changes in the flexibility and permeability of learning pathways in formal education and training subsystems in the country cases**

Country	Development of module-based personalised learning pathways	Expansion and increasing variety and quality of learning opportunities	Broadening of curricula and growing use of work-based learning	More flexible admission requirements easing transitions between VET and GE/HE	Targeted programmes for disadvantaged learners (including early school leavers)
Finland	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation
France	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Germany	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Ireland	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation
Italy	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Netherlands	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Poland	Changes in legislation, but implementation difficulties	Changes in legislation and implementation	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Minor changes in legislation
Romania	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties

NB: Red = no or only minor changes in legislation/regulations and/or initiatives/strategies; yellow = changes in legislation/regulations and/or initiatives/strategies in at least one sector, but implementation difficulties are hindering the full implementation of the changes; and green = changes in legislation/regulations and/or strategies/initiatives in at least two sectors and high/full implementation of the changes in at least two sectors. GE, general education; HE, higher education.

3.2. Increased relevance of non-formal and informal learning and opportunities to combine learning

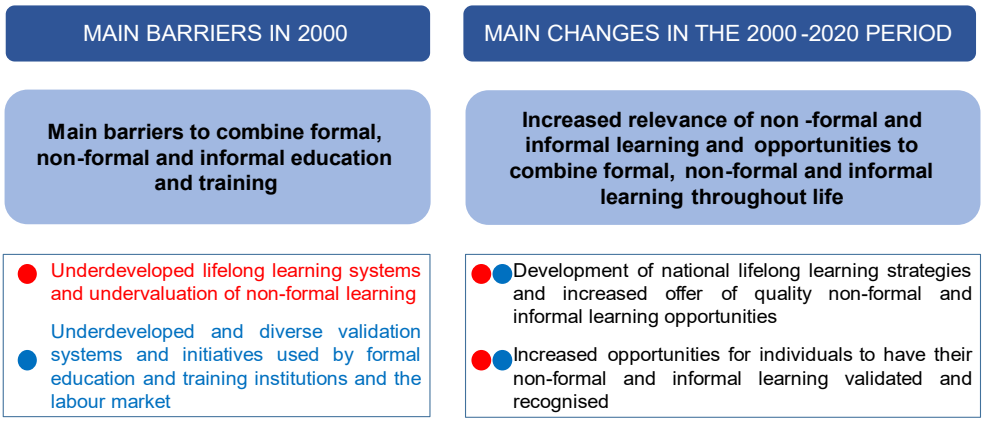
As illustrated in Chapter 2 and Figure 5, at the beginning of the century in most countries the concept of lifelong learning systems was underdeveloped and the skills, knowledge and competence acquired in non-formal and informal activities were hardly valued, validated or recognised, hindering access to and progression in the education and training system and progression in working careers. However, over the past decades, non-formal and informal learning have been increasingly acknowledged by national and European institutions and civil society as a key component of lifelong and life-wide learning.

From 2000 to 2020, policy developments at both the European and national levels promoting transparency and transferability of learning outcomes played an important role, increasingly emphasising the relevance of lifelong learning and the validation of non-formal and informal learning. Key milestones include the adoption of the EQF recommendation in 2008, revised in 2017, which spurred the development of qualifications frameworks based on learning outcomes inclusive of various types of qualifications. The 2012 Council of the European Union recommendation on the validation of non-formal and informal learning, alongside related national progress in the area, undoubtedly played a pivotal role in driving the development of national arrangements for validation (European Commission, 2020a). Credit-based systems, along with developments in related policy areas, such as the modularisation of learning aimed at facilitating the implementation of validation, have enabled the validation and recognition of parts of qualifications and learning credits (Cedefop, 2005). While in the first decade, quality assurance efforts at both the European and national levels appeared to focus primarily on formal learning, more recently there has been an increasing focus on the quality assurance of validation for non-formal and informal learning.

Two key changes have emerged as crucial for individual learners in overcoming existing barriers, and are addressed in this section:

(a) the development of lifelong learning strategies and the increased offer of quality non-formal and informal learning opportunities;
(b) the increased ability of individuals to have their non-formal and informal learning outcomes validated and recognised to access and progress in the formal education and training system.

Figure 5. **Main barriers to the ability to combine formal, non-formal and informal learning over a lifetime for individual learners at the beginning of the century, and the main changes between 2000 and 2020**



NB: The coloured dots illustrate the barriers addressed by each change. LLL, lifelong learning; NFIL, non-formal and informal learning.
Source: Study team.

3.2.1. Key patterns of change for individual learners and the main EU and national policy initiatives supporting these changes

3.2.1.1. *Development of national lifelong learning strategies and increased offer of quality non-formal and informal learning opportunities*

In the last two decades many European countries have developed and/or strengthened their lifelong learning strategies and the institutional framework regulating learning that takes place outside formal systems in order to increase trust among learners and education and labour market stakeholders. An increased focus on learning outcomes and the development of learning outcomes-based NQFs have been key factors in fostering comprehensive systems that recognise diverse learning experiences for the benefit of learners.

In the last five years there has been considerable progress in including qualifications awarded outside formal education and training in NQFs. In 2022, 16 Member States had opened their frameworks to such qualifications (Cedefop, 2024b). The programmes leading to these qualifications are usually smaller in scope than mainstream formal education and training programmes and can therefore be more accessible, for instance for working adults. When formally validated and recognised within and across countries, these qualifications can support participation in further learning, including re-entering formal education and training. The opening up of NQFs to include qualifications awarded in CVET has strengthened the links between IVET (in the formal system) and CVET (which in

many countries is outside the formal education and training system and is offered by non-formal and private providers), changing the boundaries between formal and non-formal education and training (Cedefop, European Commission & ICF, 2016).

The greater recognition and regulation of non-formal and informal learning as part of lifelong learning strategies, together with the increasing focus on the reskilling and upskilling of the working age population, promoted an increased offer of quality learning opportunities (in person and/or online) outside the formal education and training system, not always leading to a formal qualification.

Interesting developments are documented in the country cases. In Finland, the main developments in the period considered were the transition to a unified system for IVET and CVET and the abolition of a separate competence system for adults following the previously mentioned 2017 VET reform (Virolainen, 2022). Adults with CVET (partial) qualifications can now have them recognised in order to complete IVET qualifications. The more recent 2020 parliamentary reform of continuous learning supports on-the-job upskilling and reskilling, particularly for groups under-represented in adult education. It introduced specific goals for 2030 and financial incentives to encourage participation in non-formal and informal learning and to develop apprenticeship training. It also set up a service centre for continuous learning as an independent subunit within the National Agency for Education, under the Ministry of Education and Culture and the Ministry of Economic Affairs and Employment (Virolainen, 2023). Common principles have also been set to support validation of learning acquired outside formal education (Cedefop, 2020c). In addition, community colleges provide many courses, like art and foreign language courses, which do not lead to any qualification but are undertaken for personal interest and development.

In France, the National Intersectoral Agreement of 5 December 2003 on lifelong learning, ratified in 2004 by Law No 2004-391 on lifelong vocational training and social dialogue, introduced, inter alia, a new employee right to training and an appraisal interview at least every two years, and a ‘career guidance interview’ every five years for workers from the age of 45, in order to identify training and development needs. The law also introduced the possibility of providing part of vocational training outside working hours (with 50% remuneration for trainees) and including an on-the-job training period as part of a permanent employment contract; it also introduced support for training targeted at low-skilled workers, strengthened the appeal of apprenticeship contracts and increased the amount paid by companies for funding vocational training. In addition, it introduced the right for social partners to regulate further details of CVET in sectoral agreements. In addition, the 2018 national skills investment plan and the post-COVID-19 recovery plan (titled *France Relance*) provide for investments supporting upskilling and reskilling, including VAE, for disadvantaged and rural revitalisation areas with a

high proportion of low-skilled or unskilled jobseekers (France. Ministère de l'Économie, des Finances et de la Relance, 2021; European Commission, 2021b).

In Germany, the German Qualifications Framework was introduced to improve transparency and permeability in the education system and enhance the comparability of qualifications across sectors. However, it is restricted to formal learning, excluding non-formal and informal learning, although there is currently a debate about whether to integrate them. At the same time, there have been relevant developments in combining formal learning with partial qualifications as a way to support lifelong learning. Although opinions vary on the potential of partial qualifications, they are being offered by various training providers, including the Chambers of Industry and Commerce, as an interviewee mentioned. Partial qualifications allow a person to gradually attain a professional qualification related to recognised occupations. They are offered nationwide in various sectors, such as hospitality and catering. The number of individuals undertaking a partial qualification increased between 2016 and 2019, although only in a very small percentage of cases did this lead to a full professional qualification. For many, partial qualifications are used mainly to improve employment opportunities (Patuzzi, 2020), being a quicker and more efficient way to enter the labour market than other measures such as retraining to obtain a full qualification (Bertelsmann Stiftung, 2022).

In 2012, with the Fornero labour market reform, Italy defined a comprehensive normative framework for a national system of lifelong learning consistent with EU initiatives such as the recommendation on validation of non-formal and informal learning and the EU's 'Upskilling pathways' initiative. CVET provides non-formal training for workers and is regulated by national and regional legislation, while training for the unemployed and inactive is managed by regions and public employment services (PESs) in the framework of Italy's active labour market policies. Since the beginning of the century, interprofessional funds, managed by social partners, have had a growing role in CVET funding and management, ensuring that the training provided is responsive to industry needs. In recent years, there has been a greater focus on developing workers' digital and soft skills, as well as involving small and medium-sized enterprises and low-skilled and temporary workers in training activities. There has also been an increased emphasis on quality assurance and accreditation, with some interprofessional funds, such as Fondimpresa, developing specific quality frameworks. However, differences across regions and economic sectors remain. Informal learning is associated with the large and growing area of professional or 'leisure' training provided by public, private and third sector organisations, for which no comprehensive monitoring data are available.

In Poland, the 'lifelong learning perspective' adopted by the government in 2013 highlighted the need for greater openness of the formal education system to other forms of learning, their integration into the NQF and a new approach towards adult education. Based on this strategy, the 2015 IQS Act helps to ensure compliance with relevant EU initiatives and requires that state-regulated and market qualifications awarded outside formal education and training are certified and have an internal quality assurance system (Cedefop, 2023e). Since 2014, the National Training Fund supports employers investing in CVET for their employees, covering 80–100% of training costs. To promote lifelong learning, there are also programmes focusing on getting the over 50s back into the labour market and on addressing the social isolation of the over 60s. In addition, market qualifications were introduced by the IQS Act. These are qualifications that can be created by companies and proposed for inclusion in the Polish Qualifications Register (over 200 have already been registered).

Romania also adopted specific measures to improve the institutional framework regulating CVET and increase both learners' and education and labour market actors' trust in CVET. A 2003 decision (amended in 2022) introduced changes in the methodology for adults' professional training and promoted Law 167/2013 on the vocational education of adults. The NQF, set up in 2013, comprises qualifications from all education and training subsystems – IVET and CVET, apprenticeships, general education and higher education – and qualifications obtained through validation of learning outcomes from non-formal and informal learning contexts in accredited assessment centres (Cedefop, 2023b). Since 2013, training measures have been complemented by the assessment and certification of learning obtained in non-formal and informal settings. However, as pointed out by stakeholders interviewed during fieldwork, these measures have several limitations that hinder their potential: limited coverage of potential beneficiaries; limited coordination between stakeholders involved in skills audits, guidance and validation; limited delivery of non-formal and informal training; and limited quality assurance systems. A 2021 study on IVET and CVET in Romania (World Bank & KWPF, 2021) also underlined quality issues, as CVET providers are less subject to quality checks than IVET providers. The limited effect of these measures is confirmed by the fact that Romania remained behind the other Member States in CVET participation rates throughout the entire period analysed (Ministerul Educației, 2021).

Financial support is also increasingly provided to individual learners and/or employers to encourage participation in learning over the course of learners' lives. Training vouchers are provided by PESs for the retraining and upskilling of disadvantaged and unemployed people in many European countries, including all eight country cases.

France is a particularly interesting case, because it introduced the personal training account (*compte personnel de formation* (CPF)) scheme in 2014 and reformed it in 2018 (see Box 5). It is a structured and ambitious financial incentive that can be considered a precursor to the EU initiative on individual learning accounts (Council of the European Union, 2022). With the CPF scheme, individuals have autonomy in their training choices. They can access training that leads to a certificate or qualification at any time in their professional life. The CPF system's broad scope and flexibility of use has increased the likelihood of learners' obtaining a qualification through successive steps using validation of learning outcomes. Validation is indeed one of the actions eligible for financing by the CPF scheme. The system is connected to both the French NQF ([26]) and its supporting registers (the RNCP and specific register), as one can use it to access study/training towards qualifications listed in either qualification register. Overall, the CPF incentive is also closely linked to France's aim of promoting lifelong learning and professional mobility by, inter alia, creating more flexible (learning) pathways in line with individual needs, and also due to the ability to use a CPF to gradually acquire blocks of learning outcomes (Cedefop, 2019c).

There are, however, some challenges in the use of CPFs that can also apply to the use of individual learning accounts. For example, it is still not clear whether some of the CPF-funded training is replacing long-term/strategic employers' investment in employee training (OECD, 2020a). The shorter duration of CPF-related training also raises the question of whether this instrument is sufficient to fund the lengthy training often required for proper upskilling/retraining. Moreover, it is still not clear whether the greater autonomy in training choices that CPFs grant to individuals is sufficient to mobilise the most vulnerable groups without professional guidance and support (European Commission, 2022c). In addition, migrants face barriers in accessing the CPF, as access depends on the regularity and length of employment.

Box 5. **Main features and users of the French CPF scheme**

The CPF scheme is open to anyone aged 16+, whether they are in employment, are looking for a job or being supported (by PES) in professional orientation and integration, or are on an apprenticeship contract. CPFs are accessible online through a dedicated website. Learning credits can be used to access training and achieve nationally recognised qualifications as well as career guidance. The 2018 reform expressed individual training rights in euros instead of hours, which was the case

([26]) The qualifications-related criteria for inclusion in the RNCP and specific register have been reviewed in line with the French NQF to ensure transparency, relevance and comparability of qualifications, to support horizontal and vertical progression and to create equivalences between qualifications offered in the same sector and/or by different awarding bodies (Cedefop, 2022a).

previously, providing an individual amount of up to EUR 500 per year for training activities, rising to EUR 800 per year for the low qualified. Among the eligible actions for financing is VAE and training for a qualification listed in the RNCP and/or the specific register. Since the 2018 reform, there has been a marked increase in the use of CPFs among the working age population and the less qualified ([27]). Direction de l'animation de la recherche, des études et des statistiques data (DARES, 2021) show that in 2021 over 2 million individuals used CPFs (Enquête-Source, 2022), compared with only 517 000 in 2019. This unprecedented rise was attributed to, inter alia, the removal of intermediaries (Jaumont, 2022). Specifically, since November 2019, individuals have been able, through the so-called direct purchasing process (*parcours d'achat direct*), to use their CPF training entitlement to directly invest in their training, without having to rely on intermediaries (DARES, 2021; Jaumont, 2022).The average cost of training is lower than before the reform, due to the shorter average duration of training (Jaumont, 2022; Corazza & Filippucci, 2022).

Source: French country case.

Most public initiatives and funding concerns adult training, which is promoted and funded by PESs, and are targeted at low-skilled and disadvantaged learners who would otherwise not be involved in lifelong learning. Highly skilled workers are also increasingly being offered non-formal and informal learning opportunities from academic, vocational, corporate and entrepreneurial universities, and from training centres promoting one- or two-year courses for professional development, which do not always lead to a formal qualification (ACEEU, 2024). For example, in Ireland, the Springboard+ initiative, managed by the Higher Education Authority, provides courses from NQF level 6 (certificate) to level 9 (master) delivered by public and private higher education providers to the unemployed and people returning to work. Most of the courses are part time and last for one year or less, but there is an increasing number of full-time and two-year courses. Another initiative is the 'Rethinking engineering education in Ireland' programme, where students spend the first two years on campus and the final two years at a host company partner, gaining engineering skills through practical work. In the Netherlands, training vouchers have been in use since 2013, with their amount increased in 2014 and their use expanded to include a wider variety of training and RPL. In addition, between 2013 and 2016, sectoral or regional social partners were able to ask for co-funding from the government for initiatives to improve the sectoral or regional labour market, including retraining and upskilling adults (OECD, 2020b). Non-regulated professionally or vocationally oriented qualifications are increasingly offered at NQF levels 5–7 by private providers or sector organisations. Many companies have also started their own in-house training academies. In the Netherlands, there is no institutional framework for CVET, and provision is market driven, with many suppliers. In 2011, the Dutch NQF was adopted. It is considered to have better-connected private

([27]) In 2021, the CPF scheme was used most by women (50 % of users); the over 50s (20 %); workers and employees (70 %); job seekers (30 %); and the under 40s (55 %) (DARES, 2021).

initiatives with a formal qualification structure, and legislative plans are ongoing to better regulate its role.

3.2.1.2. *Increased opportunities for individuals to have their non-formal and informal learning validated and recognised*

While the formal education and training system is still focused on education and training at a young age, a lifelong learning system has to link a variety of formal and non-formal learning paths according to individuals' needs and life trajectories. In this context, the identification, documentation, assessment and certification of skills, knowledge and competences acquired in different learning settings becomes crucial. Making acquired competences visible and official is important to enable individuals to leverage and expand on the skills and knowledge they have gained. It is important for individuals wishing to re-enter and progress in formal education and training or the labour market and for their personal fulfilment. Validation of prior learning can support individuals in their upskilling and reskilling pathways. Learners can achieve full or partial qualifications or receive credits for their prior learning, which can be recognised in formal education programmes, reducing the time and effort required to complete a degree or certification and, in some cases, personalising pathways for individual learners. It expands access to lifelong learning by creating new opportunities for obtaining qualifications, especially for migrants, the low skilled and the long-term unemployed. It can also serve as a route back into formal education and training, for example for early leavers or adults, boosting their confidence and potentially motivating them to go further on their learning pathway.

From the individual learner's perspective, the effectiveness of validation arrangements in supporting lifelong learning and facilitating the combining of different forms of learning depends on two main factors: the presence of comprehensive and recognised validation arrangements, and the capacity of national systems to outreach, motivate and support individuals in taking up validation opportunities. In the period considered, there were improvements regarding the first factor, but less so regarding the second.

As reported in Chapter 2, at the beginning of the century only a minority of countries had systems to validate non-formal and informal learning (European Commission, 2020a). Validation procedures were in the early stages of development and varied greatly across sectors, leading to little consideration of the skills acquired in these forms of learning, hindering access to and progression in formal education and training.

Most European countries developed validation measures in the second decade of this century, following the 2012 EU validation recommendation and developments in other policy areas, including the shift to learning outcomes, the setting up of NQFs and consolidated quality assurance systems, and the adoption

of credit systems and modularisation (Cedefop, European Commission & ICF, 2019; Cedefop, 2024a). In 2023, validation arrangements were in place in all the countries considered in the Cedefop inventory, although they covered all education and training subsystems in only eight countries (Austria, Belgium – Flemish Region, Finland, Germany, Iceland, Lithuania, the Netherlands and Spain). In the other countries, most validation arrangements were present in only one subsystem, mainly CVET, followed by higher education, adult education and IVET (European Commission & Cedefop, 2024). Most validation arrangements allowed for some form of certification of full or partial qualifications, learning credits or modules.

In Member States, a variety of approaches are used, such as focusing on CVET (e.g. Poland) or developing different validation frameworks for different routes, for example labour market or education routes (e.g. the Netherlands), or specific frameworks for education and training sub-subsystems (e.g. Spain and Lithuania). Sometimes validation processes are embedded in upskilling initiatives run by public bodies (e.g. Belgium, Italy, Portugal and Finland) or social partners (e.g. Denmark, Germany, Ireland, Finland and Sweden) (European Commission, 2020a).

The validation of non-formal and informal learning to fulfil at least part of the first cycle of higher education is possible in almost all European education systems (30 out of 37 systems surveyed), although in most countries there are restrictions on the workload that can be validated (European Commission. EACEA. Eurydice, 2024). Specific quality assurance arrangements for validation of non-formal and informal learning have also been developed in many countries, although the quality assurance procedures adopted in the labour market and third sector areas are not always consistent with those adopted in the education and training area.

As noted above, from the individual learner's perspective, as well as the availability of comprehensive validation (or RPL) systems, the capacity of national systems to reach out to and support individuals in taking up available validation and RPL opportunities is also important. Take-up of validation can be considered a key indicator of such capacity. The study accompanying the Commission evaluation of the 2012 recommendation (European Commission, 2022d) registered an upward trend in the take-up of validation opportunities between 2012 and 2018 in 15 Member States (Belgium, Bulgaria, Greece, Spain, Italy, Cyprus, Latvia, Luxembourg, Malta, Poland, Portugal, Slovenia, Slovakia, Finland and Sweden), but a slight decrease in countries with a well-established validation system (Denmark, France and the Netherlands) and in Romania. In 22 Member States, validation has become more accessible, thanks to its having been embedded in labour policies (as in Italy), adult education policy (as in Estonia) or equality of

standards (as in Lithuania), or in specific measures, such as the German Valikom initiative.

Outreach measures and providing information, advice and skills audit services for the validation or recognition of skills, competences and prior learning are crucial to ensure take-up of and access to validation, particularly in the case of disadvantaged individuals. Progress has been made in recent years in raising awareness about validation opportunities, although the scope and range of these activities are very different across countries (European Commission & Cedefop, 2024). To support validation take-up, almost all Member States have implemented awareness-raising, information and guidance measures, with 15 countries providing individual guidance services throughout all phases of the validation process. In some countries, these measures include a specific reference to CVET and adult education, and target specific population groups (e.g. adults with a low level of basic skills or qualifications) (European Commission. EACEA. Eurydice, 2021). Among the Member States, Nordic and Anglo-Saxon countries place greater emphasis on engaging stakeholders and end users through the provision of free skills assessments, information and advice. Skills audits are available in most countries, with their offer increasing for the unemployed or those at risk of unemployment, and are now present in 26 countries (Cedefop, European Commission & ICF, 2019). However, only six countries (Belgium – Flanders Region, Croatia, Czechia, Finland, Iceland and Italy) provide skills audits within six months of unemployment, as stated in the 2012 recommendation. Other disadvantaged groups attract less attention (in 19 countries), with migrants and refugees particularly neglected.

The country cases illustrate the different developments in and approaches to validation and RPL adopted at the national level in the decades considered and their relevance to individual learners. Ireland, France and the Netherlands had moved towards a structured comprehensive national validation system even before the 2012 EU recommendation.

France illustrates the importance of national cultural and socioeconomic contexts as well the role of guidance and support services in influencing the development and use of a comprehensive and consolidated validation system for qualifications acquired in non-formal and informal settings. The national validation system (VAE) ([28]) enhances the credibility and validity of the validation process, with qualifications awarded through validation being considered of equal value to those awarded through formal VET, and is closely connected to the NQF. There

([28]) Between 2000 and 2020, the validation system received new impetus with the Law of 17 January 2002, linked to a learning outcomes-based approach. The aim was to create more flexible progression pathways, ensuring consistency across sectors and that qualifications awarded through VAE have parity of esteem with those awarded through formal education and are included in France's RNCP.

are no restrictions on the workload that can be validated, and validation can be partial or full, and can lead to the award of a higher education degree. However, take-up has remained low due to the complexity of the process, the insufficient guidance and support provided to individuals, and the qualification hierarchy prevalent among education operators, who still consider formal degrees superior to experiential and practical forms of learning. This has resulted in reluctance among parts of the French education and training system to grant diplomas via the VAE system (UNESCO, 2016).

Over time, validation systems in France have been revised to facilitate access and increase take-up. Law No 2016-1088 reduced the minimum duration of experience required for an application from three years to one year; improved support and guidance to candidates; simplified the procedures; and removed the time frame on the validity of parts of qualifications obtained through validation. The validation system is now also more closely linked to CPFs and the RNCP, to encourage more people to have their experience recognised with a certificate. However, according to DARES data, take-up of VAE is still limited and did not reach the target set in 2006 (DARES, 2016; 2017). To improve take-up, a VAE reform in 2022 aimed to, inter alia, make the system simpler and easier to access through an online platform. The individual learner's experience has been mixed, however, as reported in Box 6.

Box 6. **Difficult training experience of a French worker and the importance of validation**

Marie (a pseudonym) has taken several training courses throughout her professional career. Upon leaving secondary school, she was referred to a vocational college (*lycée professionnel*), where she obtained a secretarial diploma in 1988 after two years of training (Certificate d'Aptitude Professionelle and Brevet d'Etudes Professionelles, CAP-BEP).

The guidance services at the *lycée* did not ascertain whether the course was the most appropriate one for her or assist her in pursuing other studies. After holding several salaried positions, she was forced to cease her last secretarial role due to a disability.

Following parental leave, she embarked on a lengthy period of job hunting and unemployment. She relocated to another city and enrolled in a training course leading to a diploma equivalent to the French baccalaureate, providing access to university studies. Upon completion of the one-year course in 2016, she enrolled in a management assistant course to get a BTS diploma in management assistance (Bac + 2). The course was funded by the French PES (*pôle emploi*). To obtain the diploma, she had to complete a work placement of more than three months, but the company that recruited her terminated the contract before she completed this period. She was unable to find another placement and received no assistance from the training centre to find one; therefore, she was unable to get her BTS validated. She then enrolled in a refresher course of four months on office automation tools, again funded by the PES, which did not lead to a qualification. Following the course, she continued to face challenges in securing employment. She was then granted access

by the PES to a seven-month sales assistant training course, including six weeks' work experience at a company. She successfully secured a position with a company and was finally able to validate this training by obtaining a professional qualification in June 2023. Following this training, she was at last able to get a position at an elderly care facility with a permanent contract.

She remains somewhat disgruntled about her training experience, feeling that training organisations are not adequately incentivised to support trainees, who bear significant responsibilities, particularly in securing work placements with companies where their position may be vulnerable. She also believes that training organisations are disconnected from the needs of companies and operate with the sole aim of receiving public funding, with the welfare of trainees and their future being secondary concerns.

Source: French country case – individual case history.

In Ireland, initiatives promoting the validation of non-formal and informal learning began before 2000. Over time, the formal education and training system has increasingly embraced non-formal learning, including within higher education. While fragmented arrangements and a lack of awareness of opportunities remain obstacles, efforts towards more coordinated approaches have greatly increased. These efforts include the production of guidelines available to all education institutions and the establishment of an RPL network in 2014 that facilitates knowledge sharing and cross-fertilisation of good practices. The NQF plays a key role in validating qualifications acquired through the validation of non-formal and informal learning, using the same standards as for formal qualifications.

However, stakeholders report challenges in implementing validation, particularly in higher education institutions where the credential-based system and the autonomy of providers complicate progress, often disadvantaging individual learners ([29]). Traditional higher education institutions are considered less experienced than technical universities in involving students from non-typical educational paths. Since 2020, a national project has provided funds to promote RPL in higher education and develop a national framework, bringing actors together in a more structured process. The stakeholders interviewed generally considered a centralised approach more effective than voluntary associations.

Overall, interviewees believed that, while the system in Ireland is effective at providing access, it falls short in ensuring the transfer of learning transversally across institutions. It was noted that there is a cultural challenge in RPL being viewed as 'functionally sitting within an equality and inclusion framework'. Deeply embedding RPL to increase access and progression would lead to RPL being seen more as a 'social justice tool'. Even in VET, challenges remain in how to measure learning outcomes, which outcomes should be considered, and how to change the assessors' approach. The 2019 Qualifications and Quality Assurance (Education

([29]) Technical universities were already recognising prior learning before year 2000.

and Training) (Amendment) Act gave providers a more central role in the application process. However, the stakeholders' perception is that implementation is limited by inconsistent definitions, guidance and resources for capacity building, especially among small providers.

In the Netherlands, a national system for the validation of prior learning has been in place since 1998. A 2013 reform set out a two-tiered validation system with a labour market and an education route encompassing different objectives, procedures and stakeholders. In the labour market route, validation is focused on adult career guidance to support employability, better skills matching and on-the-job learning. The education route involves the recognition of formal, non-formal and informal learning against the national school curricula. Learners can gain access to formal education programmes, obtain exemptions from learning units, or access partial/full formal qualifications in VET and higher education programmes. Validation procedures are carried out by education institutions. In VET an examination support body supported schools in validating competences at NQF levels 2–4 from January 2016. In 2018, this body was merged with the support body for the implementation of the NQF (the Expertise Centre for Education and Examination – Kennispunt Onderwijs en Examinering). It is up to schools and employers' organisations whether they use the tools provided (Cedefop & ReferNet, 2023), including intake assessments, e-portfolios, competence tests and ECVET principles. A formal procedure can result in the award of an experience certificate. In higher education, validation is mainly offered in UASs, while research universities usually accredit only formally acquired learning outcomes. In recent years there has been an increasing focus on the need to ensure stronger synergies and links between the education and labour market routes. Two legislative reforms are under discussion in parliament at the time of writing this report: the Learning Outcomes Act and the NLQF Act, which are expected to formalise practices that have been in development for a long time, creating a stronger link between formal and non-formal learning.

Finland is an example of country with a well-established validation system and outreach and awareness-raising activities that refer explicitly to validation opportunities for disadvantaged groups (European Commission & Cedefop, 2024) ([30]). Similarly to France, legislation grants a subjective right to validation of non-formal and informal learning in the different subsystems of formal education (European Commission. EACEA. Eurydice, 2024). The validation process has been simplified and is now based on learners' individual skills development plans and the assessment of prior learning through competence testing. However, specific laws and regulations define validation separately for each education and

([30]) An example is the Finnish 2021 'Reveal Your Skills' campaign (*Osaaminen näkyviin*), which achieved a high degree of visibility.

training subsystem (Cedefop, 2021a) and leave the validation approach to the provider's decision, so that different tools and approaches are used. The use of validation to achieve partial or full qualifications is relatively well established in VET and was further strengthened by the 2017 VET reform and the EDUFI guidelines in 2021 (European Commission, 2023a). In the case of partial qualifications, the education provider guides the student to acquire the part of the skills and competences that have not been validated. At least in principle, candidates can obtain qualifications without any formal training (European Commission. EACEA. Eurydice, 2024), although there is anecdotal evidence of some providers refusing to accept evidence of informal learning (e.g. foreign language skills) towards the attainment of qualifications. An e-tool supports candidates in self-assessing their competences against the requirements set for each vocational qualification. The adoption of validation of non-formal learning is more recent in higher education. A specific process, AHOT, has been adopted based on guidelines provided by the Council of Rectors of Finnish Universities and used for vocational universities (UASs). The adoption of validation arrangements in higher education has been facilitated by most curricula being described in terms of learning outcomes and motivated by its increasing popularity among students. However, validation is still used mainly to accredit previous formal learning and, in most cases, only for small parts of overall qualifications. There is also still a lack of transparency in the recognition procedures adopted by higher education institutions (Mikkola & Haltia, 2019).

In the Italy and Romania country cases, although efforts are being made towards the creation of structured comprehensive national validation systems, there have been implementation difficulties, including getting general and higher education institutions to accept and use validation systems for (full or partial) qualifications acquired in non-formal and informal settings. The Italian case is also an example of the difficulties encountered in defining and implementing a national validation system when competences on VET are decentralised to the regional level and are fragmented across many stakeholders.

In Italy, the Fornero reform in 2012 set up a comprehensive national validation system for full or partial qualifications covering most education and training subsystems as well as the labour market sector, in line with the principles of and guidance in the 2012 EU recommendation. Common standards and guidelines have been set since 2013, together with a national framework of regional qualifications, establishing a mechanism of mutual recognition among regional qualifications. Currently, some regions are advanced in their validation arrangements, while others are still in the initial phase. The 2021 EU interoperability guidelines were an important step for improving validation arrangements, according to the stakeholders interviewed, and for the integration

of minimum quality standards in certifying competences and validating informal and non-formal learning. Validation arrangements have also been tested in national programmes targeted at the third sector, for skills acquired by young people involved in the civil service in 11 regions under the EU's Youth Guarantee, 2015/2017. As shown in Box 7, validation not only increases the ability to progress in the labour market or education but also improves workers' self-confidence and in some cases encourages business growth.

Box 7. **Learners' voices: the importance of validation for Italian workers**

— Sonia, after 27 years of employment and on the suggestion of her employer, has certified her competences and now feels recognised in her profession, and has really seen on paper the different competences that she had gained over time.

— Carolina, at 55 years old and without regular employment, used the validation opportunity to pull together and make explicit the experience she had gained in different contexts to become a 'family assistant'. It gave her the opportunity not only to validate these experiences but also to regain enthusiasm and trust in her abilities, and not feel 'too old' to start again in a recognised occupation.

— Elena, a Romanian worker in her late 40s, said: 'I have always been passionate about cooking and preparing food. I have worked for many years in an institute for elderly people (RSA) in Piedmont, I did enjoy my work but felt that I could do something more. My then employer suggested me to pursue an additional certification participating in a regional training course. The regional operators were fantastic and helped me a lot in this process! I enjoy learning and [it] was a really interesting experience. After that, I moved on to another institute with additional responsibilities and am now thinking about learning more on vegetarian and gluten-free cooking, which will become very important in the future.'

— Giorgio, an entrepreneur, wanted to support the 'emerging' competences of a co-worker: 'Five years ago, we took over a small shop that has since become a beautiful store, thanks to the collaboration of a worker. … A representative from the consortium proposed to validate and certify the competencies of this worker. … These jobs are often submerged [unseen]. By certifying those who work for us, not only [do] we certify professionalism, but we also certify our companies, strengthening business.'

Source: Italian country case – individual case history.

In 2006, Romania also set up a comprehensive legislative framework for validation of non-formal and informal learning, later revised with the 2011 National Education Law and the 2015–2020 national strategy for lifelong learning. A structured implementation system has also been formally set up, with accredited competence assessment centres responsible for validating and certifying competences and skills acquired in non-formal and informal learning. These centres also offer information and counselling services to applicants. The National Centre for Accreditation created in 2014 (under the Ministry of Education) accredits the centres and contributes to validation system coordination and performance monitoring (European Commission, 2023e). Validation is based on national

occupational training standards; however, individuals can obtain partial or full qualifications only for NQF levels 1–3 related to CVET qualifications. With the volunteering law adopted in 2014, Romania also recognises volunteering as a professional experience, and it is possible to obtain credits for these activities. These measures have been recognised as having positive outcomes for individual learners (UNESCO, 2023). However, the stakeholders interviewed pointed out that the limitation of qualifications being recognised only at levels 1–3 of the NQF hinders learners' potential. In addition, the competence assessment centres have their own assessment instruments, leading to high fragmentation, while their uneven geographical distribution makes it difficult for some target groups to access validation services.

Germany and Poland did not develop a comprehensive national system for validating non-formal and informal skills acquisition in the period considered. Germany launched a national pilot initiative (Valikom) in 2015 to develop a standardised national procedure to assess and certify professionally relevant competences acquired outside the formal education system (WHKT, 2023). Based on the Valikom experience, the federal government in 2023 introduced a bill for a federal law on the validation of vocational skills, which also includes individuals' legal entitlement to validation (European Union, 2024).

In Poland, a wide variety of solutions have been implemented, with many projects carried out by different organisations and institutions. Validation has been regulated by the Ministry of Science and Higher Education since 2006, based on the Regulation on acquiring general knowledge, skills and vocational qualifications by adults, which was revised with the 2012 Regulation on examinations and the Regulation on journeyman examinations and exams. The exams are carried out by the Chambers of Crafts (Educational Research Institute, 2014). The 2015 IQS Act introduced a formal definition of validation and guaranteed the ability to acquire qualifications via validation of non-formal and informal learning in general education and VET. The Polish NQF acts as the reference point for qualifications at all levels (Cedefop, 2021a), and several validation tools were developed by the Educational Research Institute. RPL is, however, not regulated by law (Eurydice, 2025) at the national level, and there are no formal national validation and recognition procedures. Certification is treated as a distinct process, with separate institutions responsible for validation and certification. In higher education, the 2018 act opened up higher education to non-regular students and the recognition of their competences through various processes, including the use of microcredentials, although formal mechanisms are still lacking (Piotrowska et al., 2023). Poland has also started piloting the Badge+ system ([31]) as a way to

([31]) The system is a web-based application for issuing, collecting, storing and sharing digital badges using the Open Badges standard and creating digitally secured PDF certificates.

accumulate credits for microqualifications, in line with the European recommendation on microcredentials and the European Learning Model (Cedefop, 2023d).

3.2.2. Changes in individuals' participation in non-formal and informal learning

The available data show growing participation in non-formal and informal learning, with wide disparities across countries and learner characteristics. According to EU-LFS data, participation in non-formal education and training ([32]) has increased, especially among young people, since the beginning of the century. On average in the EU-27, the participation rate for those aged 15–24 increased from 6.0% in 2004 to 11.4% in 2019, compared with an increase from 5.3% in 2004 to 8.2% in 2019 for adults aged 25–64. Among the country cases, the largest increases in participation in the period considered were registered in France (+ 12.2 pp) and Ireland (+ 4.7 pp).

Participation in non-formal learning is more common among employees with full-time, open-ended contracts in medium-sized to large companies, as most non-formal training is job related. In fact, job-related training accounted for 74% of non-formal education in 2022. Additionally, individuals with higher levels of education are more likely to participate in non-formal learning, often with encouragement from their employers. Adult participation in non-formal learning also increased among unemployed adults in nearly all countries with available data, driven by reskilling and upskilling measures. Between 2004 and 2019, several countries saw significant increases, with France, Luxembourg, Malta, Portugal, Finland and Sweden recording rises of over five percentage points.

Adult participation in informal learning, covering many different forms of learning and not only those related to professional needs, is higher than adult participation in formal and non-formal learning, and has increased significantly over time in all Member States. The latest available Adult Education Survey (AES) data ([33]) show that, on average in the EU-27, the adult participation rate in informal learning in the 12 months preceding the interviews increased from 41.8% in 2007 to 59.5% in 2016, a much higher share than adult participation in formal learning (only 5% in 2016) and non-formal learning (41.4% in 2016). These high

([32]) In the EU-LFS survey, non-formal education and training is defined as any institutionalised, intentional and organised/planned learning activities outside the formal education system. The EU-LFS survey includes among non-formal learning activities courses, seminars and workshops, and private lessons or instructions, but not guided on-the-job training. Participation refers to the four weeks before the interview.

([33]) Comparable information on adult participation in informal learning provided by AES is currently available only for 2007 and 2016. Informal learning includes learning occurring in the family, workplace, local community and daily life, on a self-directed, family-directed or socially directed basis.

participation rates are probably related in part to the wide typologies of learning involved and the growing use of e-learning opportunities, making it easier for adults with other commitments to participate. Personal development is the most common reason for participating in informal learning (81% of participants on average in the EU-28), followed by professional development, that is, improving job skills (49%), basic skills (35%) and computer skills (21%) (Cedefop, 2020f). Similarly to the other forms of learning, participation rates in informal learning are higher among younger adults (25–34 years old), those with tertiary education and the employed.

The participation rate in both formal and non-formal learning can be considered a proxy for participation in learning ([34]). According to EU-LFS data, between 2004 and 2019 participation in both formal and non-formal education and training increased in the EU-27 among both adults (increasing from 7.6% in 2004 to 10.8% in 2019) and, in particular, young people (increasing from 65.5% in 2004 to 71.5% in 2019), with some exceptions ([35]). However, significant differences across Member States in the levels of participation in education and training still persist. For instance, in 2019, among young people aged 15–24, participation in all forms of learning ranged from below 60% in Malta and the United Kingdom to about 80% in Luxembourg and the Netherlands. Participation among adults aged 25–64 ranged from less than 2% in Bulgaria and Romania to 19.5% in Finland and the Netherlands and 34.3% in Sweden.

While, as expected, young people aged 15–24 are more likely to participate in formal than in non-formal education and training ([36]), adults aged 25–64 tend to participate more in non-formal than in formal education and training. Particularly high levels of adult participation in non-formal learning (above 20%) were recorded in Denmark, France, Cyprus and Sweden in 2019. As noted previously in Section 3.1.2, in the Nordic countries adult participation in formal education and training was well above the EU-27 average in 2019 (around 10% compared with 3%), and in the Netherlands, at 7.6%. These relatively high shares are likely to reflect the presence of well-developed systems making re-entry transitions into formal education and training easier, including for adults.

Figure 6 presents the evolution over the past 20 years (or more, when data are available) of participation rates in formal and non-formal education and training among adults aged 25–64 for the eight country cases compared with the EU-27

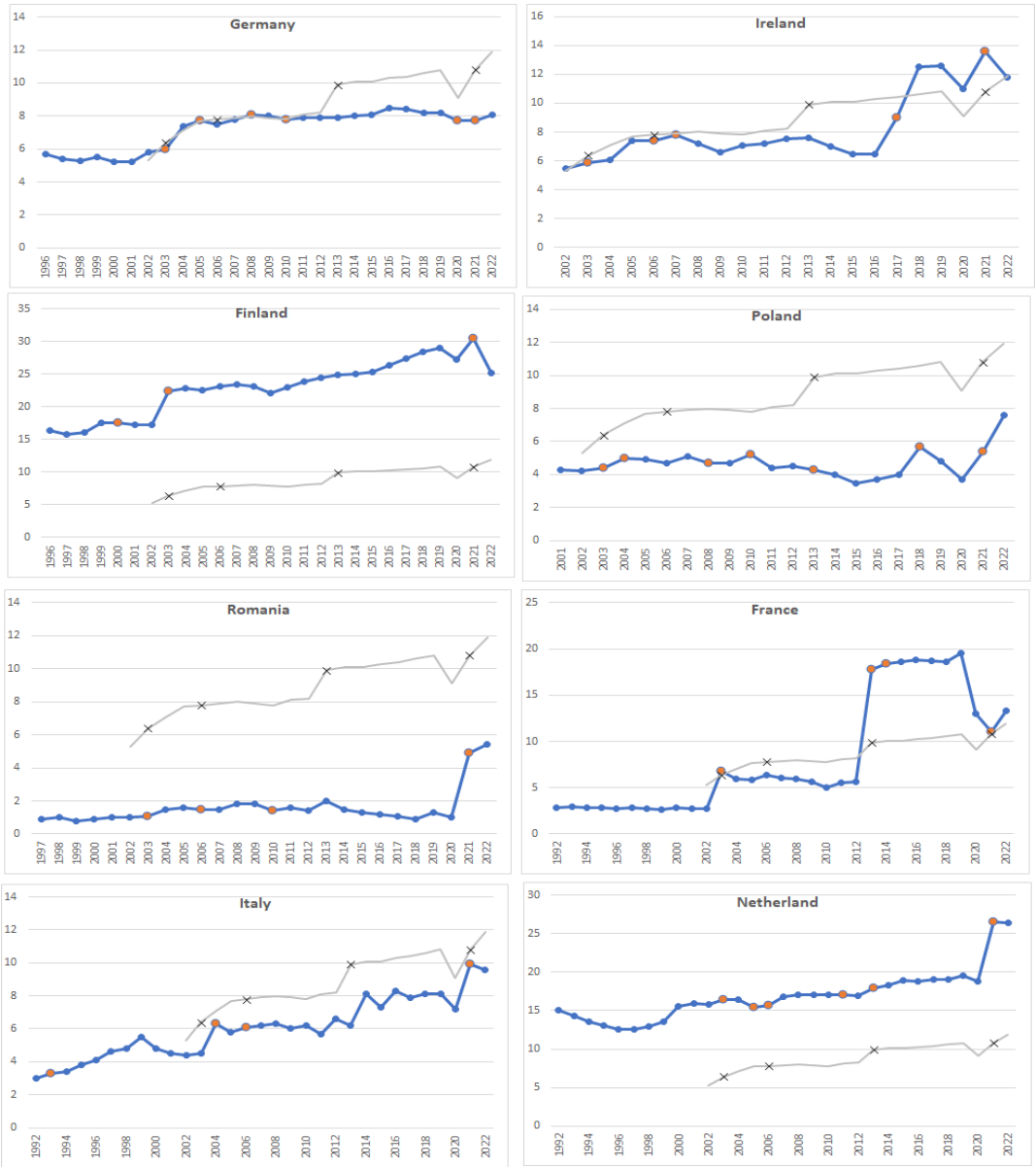
([34]) The main indicator used to measure adult participation in lifelong learning is the participation rate in education and training, covering participation in formal and non-formal education and training.

([35]) For example, in the considered period Lithuania, Hungary and Poland registered a decline in participation in formal education and training among both young people and adults. However, changes observed at the country level should be considered with caution because of several breaks in the data series.

([36]) Although some countries also recorded relatively high participation rates (above 20%) in non-formal learning in 2019 (e.g. Denmark, Greece, France, Cyprus and Sweden).

average. Although these data must be considered with caution, due to breaks in the time series, consistently increasing trends (at least until the outbreak of the COVID-19 pandemic) in participation in formal and non-formal learning can be seen in Ireland, Italy, the Netherlands and Finland, and to a lesser extent in Germany.

Figure 6. **Evolution of participation rates of the adult population (aged 25–64) in education and training (in the four weeks prior to interviews), by country and the EU-27**



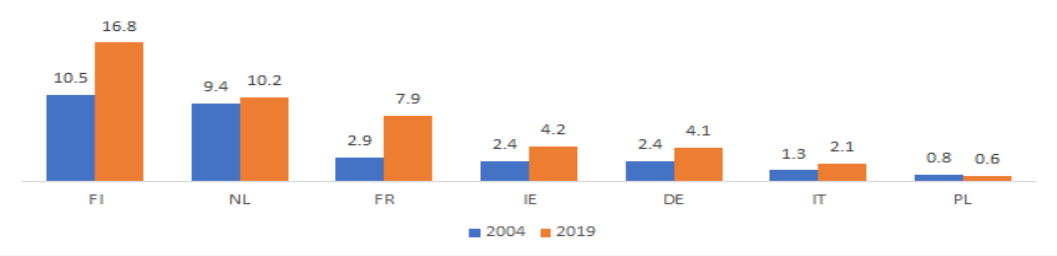
NB: The blue line represents the participation rate in education and training in each country, with breaks in the time series in orange; the grey line represents the EU-27, with breaks in the time series indicated by 'x' (2003, 2006, 2013, 2021). In 2003, participation in any education and training was divided into two variables: participation in formal education and training and in non-formal education and training. In 2006, a code was added to single out people in formal education but on holiday. An

extensive revision of the questionnaire of the French Labour Force Survey (in use from 1 January 2013 onwards) explains the break in time series for France, which also had an impact on the EU-27 aggregate.

Source: Eurostat, 'Participation rate in education and training (last 4 weeks) by sex and age'.

Figure 7 illustrates the changes in participation rates in formal and non-formal education and training among adults educated to lower secondary level or below, between 2004 and 2019 across the country cases. A notable increase in participation rates can be observed in all country cases, although the magnitude of change varies significantly. These national differences can be attributed to the effectiveness of education and training systems in implementing supportive measures for early leavers and low-skilled adults, facilitating their re-entry into education and training through second-chance opportunities. For instance, Finland's strong performance can be linked to its efforts to open up upper secondary education to adult learners and strengthen guidance measures. In contrast, Italy's formal education and training system continues to be characterised by educational segregation and inadequate support measures, as discussed in Section 3.2.1, which may have contributed to its relatively weaker performance.

Figure 7. **Participation rate in all forms of education and training (last four weeks) for adults aged 25–64 with at most lower secondary education (ISCED levels 0–2), 2004 and 2019 (%)**



NB: Data not available for Romania. Unreliable data for Poland in 2019; break in time series for the Netherlands in 2019.

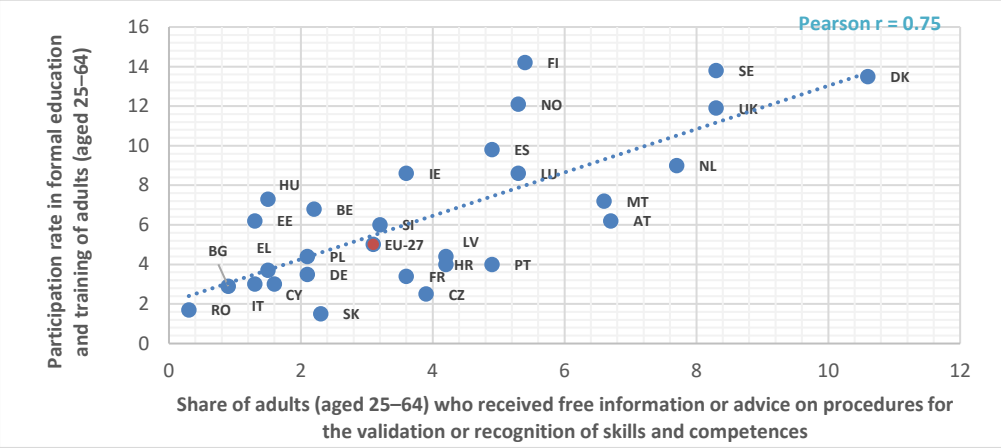
Source: Eurostat (TRNG_LFS_10); data extracted on 14 October 2023.

Finland and the Netherlands also present high participation rates among the unemployed and older adults, thanks to a deep-rooted tradition of adult education in the formal education and training system. For example, in Finland, the share of adults with these characteristics participating in education and training in 2022 was impressive. It reached 23.2% and 17.5% for the unemployed and older people, respectively, compared with average values for the EU-27 of 13.2% and 7.7%, respectively.

Validation arrangements are important drivers for participation in education and training, facilitating the (re)entry into and progression of learners in formal education and training and the combining of different forms of learning. At the same time, as discussed in the previous section, outreach and guidance are important elements to

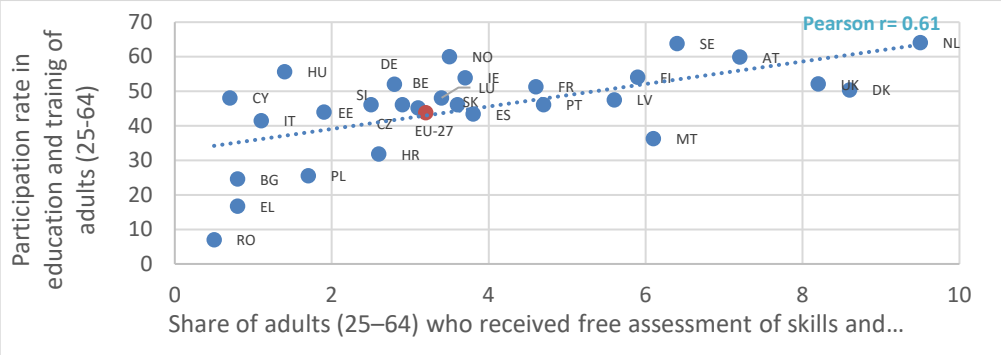
support continuous learning, as well as a functioning system. Figures 8 and 9 show positive and significant cross-country correlations between the participation of adults in education and training and the provision of information, advice and skills assessment services for the skills gained through non-formal and informal learning activities. Countries with a high share of adults who receive free assessments of skills/competences tend to also have a high participation rate in education and training (e.g. Denmark, the Netherlands, Austria). In contrast, countries with a low share of adults with access to free skills assessments tend to also have low adult participation rates in education and training (e.g. Bulgaria, Greece, Romania) (Figure 8).

Figure 8. **Share of adults (aged 25–64) who received free information or advice on procedures for the validation or recognition of skills and competences, and participation rate in formal education and training (last 12 months) (%), 2016**



Source: Core team's calculations based on Eurostat data (TRNG_AES_101); European Commission. EACEA. Eurydice (2021); and Eurostat AES data (data extracted and calculated by Eurostat).

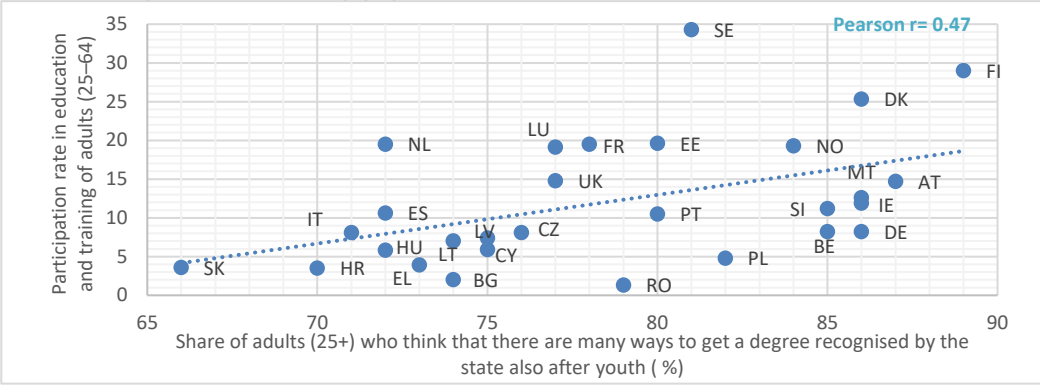
Figure 9. **Share of adults (aged 25–64) who received free assessment of skills and competences by means of tests, skills audits or interviews in the 12 months prior to the survey, and participation rate in education and training (last 12 months) (%), 2016**



Source: Core team's calculations based on Eurostat data (TRNG_AES_101); European Commission. EACEA. Eurydice (2021); and Eurostat AES data (data extracted and calculated by Eurostat).

These findings are confirmed when considering the correlation between adult participation in education and training and adults' perceptions of the availability of different ways to get a degree recognised in Member States. Their perceptions were collected in Cedefop's second opinion survey on adult learning and CVET (Cedefop, 2020e). As shown in Figure 10, the correlation is positive, although moderate. In countries where a large share of adults believe that there are many ways to get a degree recognised after their youth (e.g. in Nordic countries, such as Denmark, Finland, Norway), participation rates in formal and non-formal education and training tend to be higher than in countries where this share is lower (e.g. in some eastern and southern countries such as Croatia, Italy and Slovakia).

Figure 10. **Share of adults (aged 25+) who (totally or tend to) agree with the statement 'There are many ways to get a degree recognised by the state, also after youth', and participation rate in education and training (last four weeks) (%), 2019**



Source: Core team's calculations based on Eurostat (TRNG_LFS_09); and Cedefop (2020f; tables with data are presented in Annex 3).

3.2.3. Concluding remarks

Table 5 provides an overview of the normative and implementation changes that occurred between 2000 and 2020 that enable individual learners to combine formal and non-formal/informal learning over their lifetime in the eight country cases. This assessment is based on evidence gathered through desk research and fieldwork, using the criteria outlined in Section 3.1.3. Over the past two decades, all country cases have made significant progress in reducing barriers to combining different forms of learning that were prevalent at the start of the century. This improvement can be attributed to the expansion and enhancement of non-formal and informal learning opportunities, driven by the implementation of lifelong learning strategies and action plans, the increasing adoption of quality assurance systems and digital tools, and the growing use of validation arrangements.

Table 5. **Changes in opportunities to combine formal, non-formal and informal learning over a lifetime for individual learners**

Country	Increased offer and quality of non-formal and informal learning opportunities	Increased opportunities for validation and RPL
Finland	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
France	Changes in legislation and implementation	Changes in legislation and implementation
Germany	Changes in legislation, but implementation difficulties	Minor changes in legislation
Ireland	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Italy	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Netherlands	Changes in legislation, but implementation difficulties	Changes in legislation and implementation
Poland	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Romania	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties

NB: Red = no or only minor changes in legislation/regulations and/or initiatives/strategies; yellow = changes in legislation/regulations and/or initiatives/strategies in at least in one sector, but implementation difficulties are hindering the full implementation of the changes; and green = changes in legislation/regulations and/or strategies/initiatives in at least two sectors and high/full implementation of the changes in at least two sectors.

Source: National experts and core project team.

3.3. Increased portability of qualifications and learning credentials across countries and opportunities for learning mobility

As discussed in Chapter 2, at the beginning of the century learner mobility across countries was limited by two main barriers: the lack of procedures and frameworks for the mutual recognition of credits and qualifications acquired abroad; and the complexity and costs of recognition procedures.

Between 2000 and 2020, these barriers were largely addressed. Specific international and EU initiatives such as the Lisbon Recognition Convention and the EU directives ([37]) contributed to these changes. The level of attention given to this issue remains high, as shown by the 2018 recommendation on the mutual and automatic recognition of qualifications acquired in other countries. At the same time, other policy developments, such as the widespread adoption of NQFs linked to the EQF, the work on quality assurance and the implementation of common

([37]) Professional Qualifications Directive first issued 2005 and Professional Qualifications Directive amended in 2013.

credit systems, have played a key role. They enhanced the comparability of education and training systems and improved the transparency and transferability of qualifications and their learning outcomes across countries.

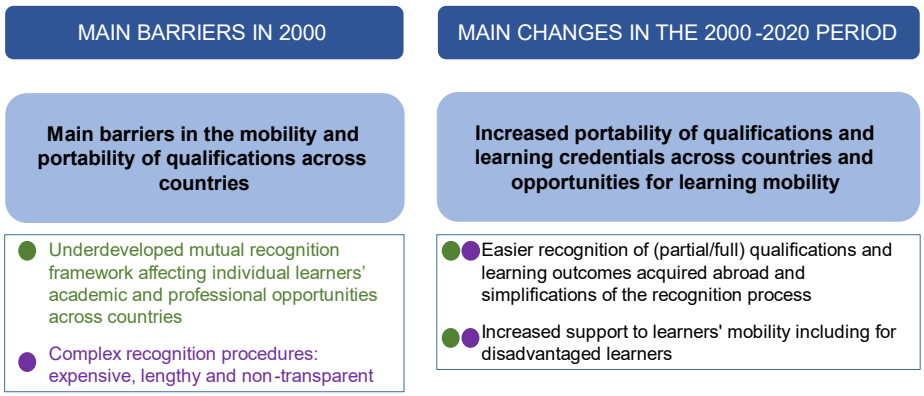
As illustrated in Figure 11 the two main changes that improved learner mobility are as follows.

(a) The development of methodologies and frameworks for the mutual recognition of qualifications eased the recognition and therefore the portability of qualifications and learning outcomes across countries and simplified the recognition process. These developments have addressed the barriers present at the beginning of the century.

(b) The increased (financial and non-financial) support for learner mobility contributed to addressing the second barrier and supported the mobility of learners from disadvantaged backgrounds.

These changes have largely taken place in the higher education sector in the context of the Bologna process, although they are also increasingly visible throughout all education and training subsystems, including in VET.

Figure 11. **Main barriers to the portability of credentials and qualifications across countries and to learners' mobility at the beginning of the century, and main changes between 2000 and 2020**



NB: The coloured dots illustrate the barriers addressed by each change.
Source: Study team.

3.3.1. Key patterns of change for individual learners and the main EU and national policy initiatives supporting these changes

3.3.1.1. *Easier recognition of (partial/full) qualifications and learning outcomes acquired abroad and simplification of the recognition process*

Various initiatives and reforms implemented at the EU and national levels in the period considered facilitated the portability of qualifications and learning credentials across countries. In higher education, the European higher education area (EHEA) and the Lisbon Recognition Convention have prompted substantial developments in learner mobility in three interrelated areas: facilitating degree comparability across countries; improving internal and external quality assurance structures and processes; and improving and simplifying recognition practices (European Commission. EACEA. Eurydice, 2020; Cedefop, 2024a). In VET, the implementation of European common credit principles and a European quality assurance framework has been more complex than in higher education (Cedefop, 2024a). The system of recognition of professional qualifications for access to regulated professions was modernised and renewed in 2005 by Directive 2005/36/EC and was further amended by Directive 2013/55/EU. Other important developments facilitating the recognition of qualifications include:

(a) the development of qualifications frameworks to support the international comparability and recognition of qualifications;
(b) the development of common frameworks for internal and external quality assurance, contributing to building trust between countries;
(c) the development and use of credit systems to support the portability of qualifications and learning credentials across countries;
(d) the promotion of cultural exchange and cooperation in education and training across countries.

At the level of the individual learner, two factors are particularly relevant: the ability to have qualifications obtained abroad recognised and the easing of the administrative burden associated with the recognition process. In many countries, this process remains complex, expensive and time-consuming, with uncertain outcomes (European Commission, 2020c). In higher education, efforts to simplify recognition practices have been underpinned specifically by the 1997 Lisbon Recognition Convention and the 2018 Council recommendation on automatic mutual recognition.

The Mobility Scoreboard ([38]) indicators on the recognition of qualifications in higher education and IVET provide valuable insights into the performance of

([38]) The Mobility Scoreboard was created in 2015 to monitor the progress in implementing the 2011 Council recommendation on the promotion of youth learning mobility, and to serve as a tool for assisting policymaking in both higher education and VET.

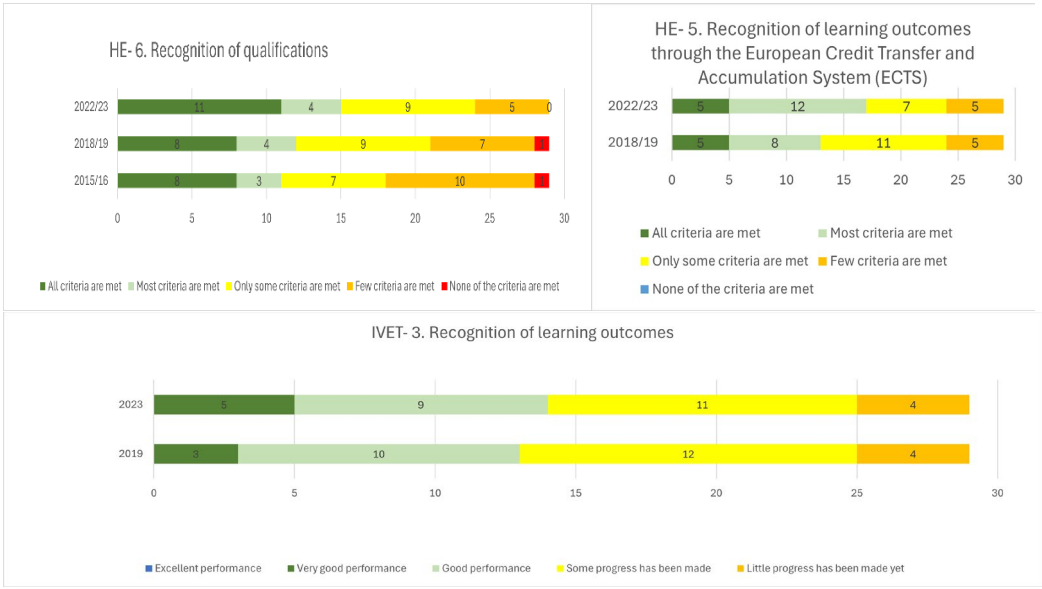
Member States in this area since 2015. As shown in Box 8, these indicators show a general positive trend (especially in higher education) over the years, although there are still obstacles to overcome and further action is required in many Member States.

Box 8. **Evolution of the recognition of qualifications and learning outcomes across Member States**

Figure 12 shows the changes in the level of fulfilment of the three scoreboard indicators related to the recognition of qualifications (for higher education) and learning outcomes (for higher education and IVET) in Member States. The level of fulfilment goes from dark green for countries with high levels of fulfilment to orange and red for countries with low levels or no fulfilment. In higher education, scoreboard indicator HE6, which monitors progress towards the automatic recognition of qualifications, shows an increase in the number of countries with automatic recognition in place for all EHEA countries (going from 8 countries in 2015/2016 to 11 in 2022/2023). The number of countries with no automatic recognition declined from 11 in 2015/2016 to 5 in 2022/2023. This is likely to be the result of Member States' efforts to comply with the 2018 Council recommendation on promoting automatic mutual recognition. Indicator HE5, monitoring advancement in the recognition of learning outcomes in higher education, instead registers very little progress between 2018/2019 and 2022/2023. The number of EU-27 national education systems requiring the use of the 2015 ECTS users' guide by external quality assurance agencies for assessing the implementation of ECTS in all higher education institutions remained stable (dark green, light green and yellow). However, four national education systems have widened the range of aspects to be monitored since 2018/2019. Among the country cases, the best performers for both indicators in the period considered were Finland, France and the Netherlands, followed by Germany, Italy and Poland. Ireland and Romania recorded very little progress on these indicators.

In IVET, the scoreboard indicator IVET3, which monitors the advancement or recognition of learning outcomes in VET, registers only a slight increase in the number of national systems showing an excellent and a very good performance. This number increased from 13 in 2019 to 14 in 2023 thanks to the increase in the number of systems showing an excellent performance from 3 to 5. Among the country cases, very good performances were maintained in Germany and Romania, and there were improved performances in the Netherlands and France. The other countries all recorded low performances and progress. For instance, in Poland, the recognition of learning outcomes acquired by IVET learners involved in international learning mobility towards attaining qualifications is still not possible, making it more difficult to recognise and validate learning outcomes.

Figure 12. **Distribution of education systems by fulfilment level of selected mobility**



NB: The charts show the level of fulfilment of the three Mobility Scoreboard indicators related to the recognition of qualifications and learning outcomes, by number of Member States.
There are 29 systems surveyed in total: the EU-27 and Belgium's three official regions recorded separately. For higher education, the indicator monitors progress towards the automatic recognition of qualifications. Information is provided by the Eurydice Network. For IVET, each country performance is calculated as an average of the indicator's specific criteria. Information is provided by Cedefop.

Source: European Commission (n.d.), 'Mobility Scoreboard'.

The evolution of recognition practices in the country cases provides a comprehensive understanding of the various national initiatives implemented in higher education and VET, their objectives and orientation, and their implementation on the ground. In Germany, Ireland, France and the Netherlands, specific measures have been developed to support the recognition of qualifications and learning outcomes acquired abroad for both higher education and VET.

In Germany and France, specific bilateral programmes also address general upper secondary education, as in the case of the Voltaire programme – a bilateral Franco-German exchange/mobility programme targeted at French and German secondary school pupils aged 15–17. France is investing heavily to attract and retain foreign students in its higher education institutions and to support VET and apprentice mobility. In higher education, recognition procedures are aligned with the Lisbon Recognition Convention, and measures have been taken to simplify the procedures. For example, since 2009 it has been possible to apply online for certificates recognising foreign qualifications or periods of study abroad equivalent to NQF levels. In 2018, a strategy was launched to improve France's attractiveness

to international students, including measures to simplify the student visa policy and increase study grants for non-EU students (Campus France, 2018). A governmental agency, Campus France, has been set up to support mobility in higher education. France also has a tradition of promoting student mobility in upper secondary (general) education and VET and apprentice mobility through legislative and policy initiatives (ReferNet France & Cedefop, 2022), although migrants still experience difficulties in having their skills and qualifications properly recognised due to, inter alia, their lack of awareness of the relevant procedures, the paperwork involved and their expectation that their qualifications will not be recognised (Blanchard & Tirole, 2021; France Education International, 2023). The recognition of refugees' qualifications has now become a priority for the qualifications recognition department of the European Network of Information Centres and National Academic Recognition Information Centres (ENIC-NARIC) in France and its partners (France Education International, 2023).

Intra-EU VET mobility was introduced to the French Education Code in 2014 as part of the vocational baccalaureate, with recognition arrangements based on learning agreements between VET schools prior to mobility. An optional 'mobility unit' has also been created to validate professional achievements during a period abroad, leading to a so-called *MobilitéPro* certificate being attached to the learner's diploma (European Commission, 2023a). A renewed focus on international VET mobility was also enshrined in the 2018 reform of upper secondary IVET and in a 2019 decree regulating international mobility periods in all IVET programmes in line with ECVET principles (Cedefop, 2022a). Apprentice mobility was enshrined in the Labour Code in 2017, and new legal provisions came into force in 2018 to simplify processes for short mobility periods (less than four weeks); increase flexibility in the content of training courses abroad; and create a new, more generous funding mechanism managed by operators ([39]) in charge of developing apprenticeship and professionalisation contract schemes (Cedefop, 2023g).

Germany, besides increasing the use of ECTS to facilitate mobility in higher education, also introduced specific measures to facilitate recognition of VET and professional qualifications. The 2012 Recognition Act simplified and unified the previous assessment and recognition procedures for foreign vocational qualifications and provided a legal entitlement to a procedure for the recognition of foreign professional qualifications, regardless of nationality, place of education, residency status or place of residence (Netzwerk-IQ, 2019). Skills analysis and integrative courses can be offered if documents are missing or if training integration is needed to gain formal recognition. In IVET, a stay abroad is increasingly

([39]) Operational providers of continuous training, known as OPCOs, can now compensate companies for all or part of the loss of resources that can result from outward apprentice mobility.

considered an integral part of training, and the use of ECVET principles in learning agreements is considered an important target for VET providers (Germany. Federal Ministry of Education and Research (BMBF), 2019; Huismann, 2019; Cedefop, 2024c). Amendments to the Vocational Training Act in early 2020 tasked the Federal Institute for Vocational Education and Training with creating a modular qualification kit to test how international competences can be incorporated into VET training regulations in the future ([40]). A support structure was also created, with the 'Recognition in Germany' portal, a hotline and advisory centres providing individual support during the recognition process ([41]) as part of the Integration through Qualification funding programme. Applicants may also get financial support. A 2011 assessment of Europass Mobility found that 86% of IVET participants and 69% of participants in the workplace considered Europass Mobility important for furthering their professional career (Vock & Balschun, 2011).

The drive towards facilitating the cross-national portability of qualifications and learning credentials has also been supported by the establishment of the EQF in 2008, setting out a common frame of reference across countries. In an increasing number of European countries, the EQF has also facilitated recognition procedures for mobile learners and education and training providers (Cedefop, 2020g). These developments have also supported the recognition of VET qualifications and study periods abroad for non-regulated professions, characterised by very different recognition schemes across countries.

In the Netherlands, foreign qualifications are evaluated against comparable Dutch VET and higher education qualifications by the international credential evaluation system under the Ministries of Education and Employment. Recently, a national system for integration into the Dutch labour market was established to ensure that every citizen integrating into Dutch society can request a recognition statement free of charge for one qualification acquired in secondary education, VET and higher education. With this statement, foreigners can apply for jobs or further studies.

Finland shows strong interlinkages between the mutual recognition of qualifications and referencing to the NQFs and EQF, the ability to validate non-formal and informal learning, and reference to a common credit system. However, according to the stakeholders interviewed, the government is cutting student benefits, which may limit interest in studying abroad. In addition, decisions on the recognition of learning undertaken abroad in upper secondary education are made

([40]) From 2012 to 2015, over 40 700 qualifications obtained abroad were recognised as fully equivalent to the German reference occupation, while only around 1 900 applications were rejected (BMBF, 2017).

([41]) Information portal of the German government for the recognition of foreign professional qualifications.

by each school, with EDUFI providing specific guidelines for vocational qualifications. There is some evidence of a growing trend towards VET students benefiting from mobility experiences, with estimates suggesting that around one in seven IVET students spend at least some time abroad as part of their training. However, according to interviewees from the VET sector, encouragement to learn and study abroad is more prevalent in the higher education sector than in VET. Conversely, in higher education, Finland has 'almost fully' implemented the automatic recognition principles of the 2018 EU recommendation (European Commission, 2023d), although higher education institutions have autonomy in recognition decisions, so that the requirements and procedures for identification and recognition may vary significantly for the same degree and even at the individual learner level (Finland. Government, 2021). Recognition was perceived by stakeholders as difficult for specific professions such as teaching, early childhood education, law, medicine and social work. For medicine, the Professional Qualifications Directive guarantees automatic recognition for Member States, but the process is much more complicated for applicants from non-EU countries.

Ireland has a long-standing tradition of learner mobility both inwards and outwards and has developed tools over time to facilitate the recognition process. The Irish National Academic Recognition Information Centre (NARIC) has supported the recognition of foreign qualifications since 2003, aligning international upper secondary and higher education qualifications with Irish standards in the Irish NQF and providing guidance for those not listed. Several initiatives have also been implemented to assist Irish citizens studying abroad, with each university appointing a fully funded Erasmus officer. A diploma supplement is issued to all higher education graduates, overcoming early implementation challenges, due to technological issues or lack of awareness, through guidelines and templates issued in 2009 and 2014.

Italy, Poland and Romania present relevant implementation challenges that hinder learner mobility across countries, largely due to the absence of a national system for recognition with clear guidelines, and decisions left to the individual educational institution.

In Italy, automatic recognition of higher education and upper secondary qualifications is supported by the Academic Equivalence Mobility Information Centre (Centro di Informazione sulla Mobilità e le Equivalenze Accademiche (CIMEA)), the Italian NARIC, which also coordinates the Q-Entry project (an international database of higher education entry qualifications) launched in 2018 with Erasmus+ funding and available to the public. There are also specific initiatives in place to bridge possible gaps in achieving recognition. However, there is still a wide discretionary space for each university and upper secondary school

to accept or decline foreign applications and request additional documentation, tests or integrations. This can make the process quite cumbersome, costly and uncertain for applicants, as illustrated in some learners' experiences reported in Section 4.2.7.

In Poland, complex recognition procedures still significantly hinder international mobility for students, academics and professionals, although in higher education the recognition procedures are more advanced than in VET. A 2018 law is the current legal basis for the automatic recognition of higher education qualifications from Member States and other countries, and guarantees that the recognition decision is made at the system level and is legally binding (European Commission, 2023d). The NARIC's 'Kwalifikator' online database automatically generates a statement of comparability of qualifications and provides information on how a given qualification is recognised for accessing further studies. It can be used by holders of foreign qualifications to appeal a decision of a higher education institution if it does not comply with what is indicated in the Kwalificator (European Commission, 2023d). In VET, learners who have obtained VET qualifications abroad and wish to have them recognised in Poland must take an extramural exam (European Commission, 2023d). In addition, long-term VET and apprenticeship mobility in Poland is practically non-existent, but there is high uptake of short-term mobility lasting between two and four weeks (Pierwieniecka & Wasilewska, 2020).

Romania improved its recognition procedures in the period considered, with online information and guidance services available to support the adoption of standardised practices among higher education institutions (European Commission, 2023e). The creation of the Romanian Agency for Quality Assurance in Higher Education (Agenţia Română pentru Asigurarea Calităţii în Învăţământul Superior, ARACIS) has contributed to improving trust in the Romanian university system, and the use of ECVET principles in VET since 2008 has also triggered an increase in opportunities for VET mobility. However, challenges persist for both Romanians who have studied abroad and foreign students facing language and/or cost barriers, as well as a lengthy bureaucratic process, as illustrated in the learners' experiences reported in Section 4.2.7. In addition, admission to higher education remains a separate process to recognition – with the National Centre for the Recognition and Equivalence of Diplomas (Centrul Național de Recunoaștere și Echivalare a Diplomelor (CNRED)) (the Romanian NARIC) responsible for the automatic recognition of upper secondary qualifications, while higher education institutions are responsible for admission processes and decisions. In the case of regulated professions, the recognition system is highly fragmented, with more than 40 public institutions and professional associations in charge of it, depending on the type of qualification to be recognised.

3.3.1.2. *Increased support for learner mobility, including for disadvantaged learners*

The improved implementation, simplification and transparency of mutual recognition procedures have been a key factor in facilitating international learner mobility, although this has not been sufficient. From the individual learner's perspective, another important factor is the extent to which they can access guidance, support and funding for mobility, including the portability of domestic funding in the form of grants and/or loans to pursue a degree abroad.

The Mobility Scoreboard indicators (European Commission, n.d.) provide some evidence on how Member States performed in supporting international learner mobility in higher education and VET and progress made between 2016 and 2023. Among the six composite indicators reported in the 2023 edition of the Higher Education Mobility Scoreboard, three are related to the provision of support to learners:

(a) HE1 on information and guidance services for learner mobility;
(b) HE3 on the portability of public grants and publicly subsidised loans;
(c) HE4 on support provided to disadvantaged learners.

As shown in Figure 13, these indicators highlight some progress in developing and implementing policies favourable to learning mobility and removing obstacles to participation between 2016 and 2023, although with considerable differences between countries.

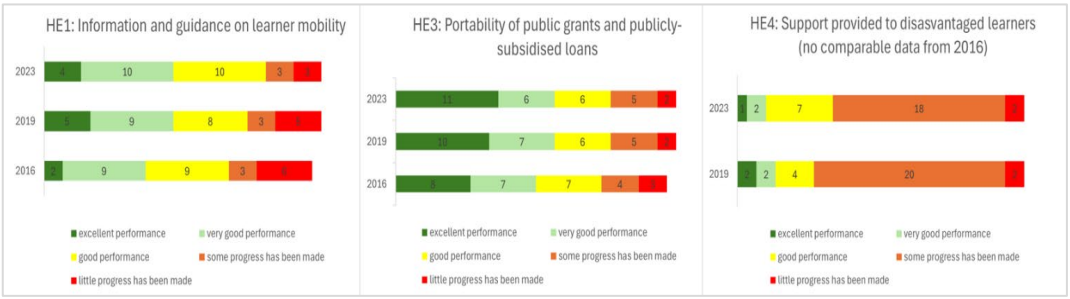
The number of Member States with an excellent or very good performance increased from 11 to 14 for information and guidance (HE1) and from 15 to 17 for the portability of grants and loans (HE3). In contrast, few Member States show an excellent or very good performance in supporting disadvantaged learners (HE4). Moreover, between 2019 ([42]) and 2023, the number of these countries declined from four to three, and the only increase was registered in countries with a good performance, increasing from four to seven.

Among the country cases, France maintains the best performance on the three indicators considered, followed by Finland and Germany, although support for disadvantaged learners shows very little progress in Finland and only some progress in Germany. As for the other country cases, the Netherlands maintains an excellent or very good performance in the first two indicators, but a very low performance in supporting disadvantaged learners. Ireland has a very good performance on the portability of grants and loans, but its performance is poor in the provision of information, guidance and support to disadvantaged learners. Italy, in contrast, has a very good performance on support for disadvantaged learners, but performs poorly on

([42]) No information is available for 2016 for this indicator.

the other two indicators. Poland shows poor performance on all three indicators, while Romania registers a very good performance only in information and guidance.

Figure 13. **Mobility Scoreboard indicators for higher education**



NB: The United Kingdom is not considered in the analysis. There are no data for Switzerland for the year 2016.

Source: European Commission (n.d.), 'Mobility Scoreboard'.

The 10 IVET indicators in the Mobility Scoreboard ([43]) show less progress overall in national performances between 2016, 2019 and 2023 than the higher education indicators, as well as very different outcomes across them. Figure 14 shows that improvements in national performance over the years occurred in the indicators related to partnerships and funding, long-term preparation for mobility, information and guidance, and quality of mobility. For instance, in partnership and funding, only Greece made no progress over the years, and the number of countries with excellent and very good performances increased from 7 in 2016 to 9 in 2019 and 14 in 2023.

Other (smaller) improvements are registered in indicators on the provision of information and guidance (with the number countries with excellent and very good performances increasing from 6 to 10 between 2016 and 2023), addressing administrative and institutional issues (from 1 to 3), portability of grants and loans (from 1 to 3) and, to a lesser extent, support for disadvantaged learners (from 5 in 2019 to 6 in 2023).

Among the country cases, France and Germany are performing better (with 'excellent' results') in 2023. France has indeed taken measures to facilitate mobility through specific funding for VET mobility, with the dedicated budget growing by 23% between 2018 and 2019 (Cedefop, 2023g) to double the number of apprentices on the Erasmus+ programme by 2022. Individual funding support is also available, including grants and internship remuneration, to cover travel and accommodation costs abroad. For example, 12% of young people who have been

([43]) VET indicators are (1) information and guidance on opportunities; (2) motivating learners for mobility; (3) preparing learners for mobility; (4) removing obstacles to mobility; (5) portability of grants and loans; (6) ensuring mobility quality; (7) recognition of learning outcomes; (8) support to disadvantaged learners; and (9) partnership and funding.

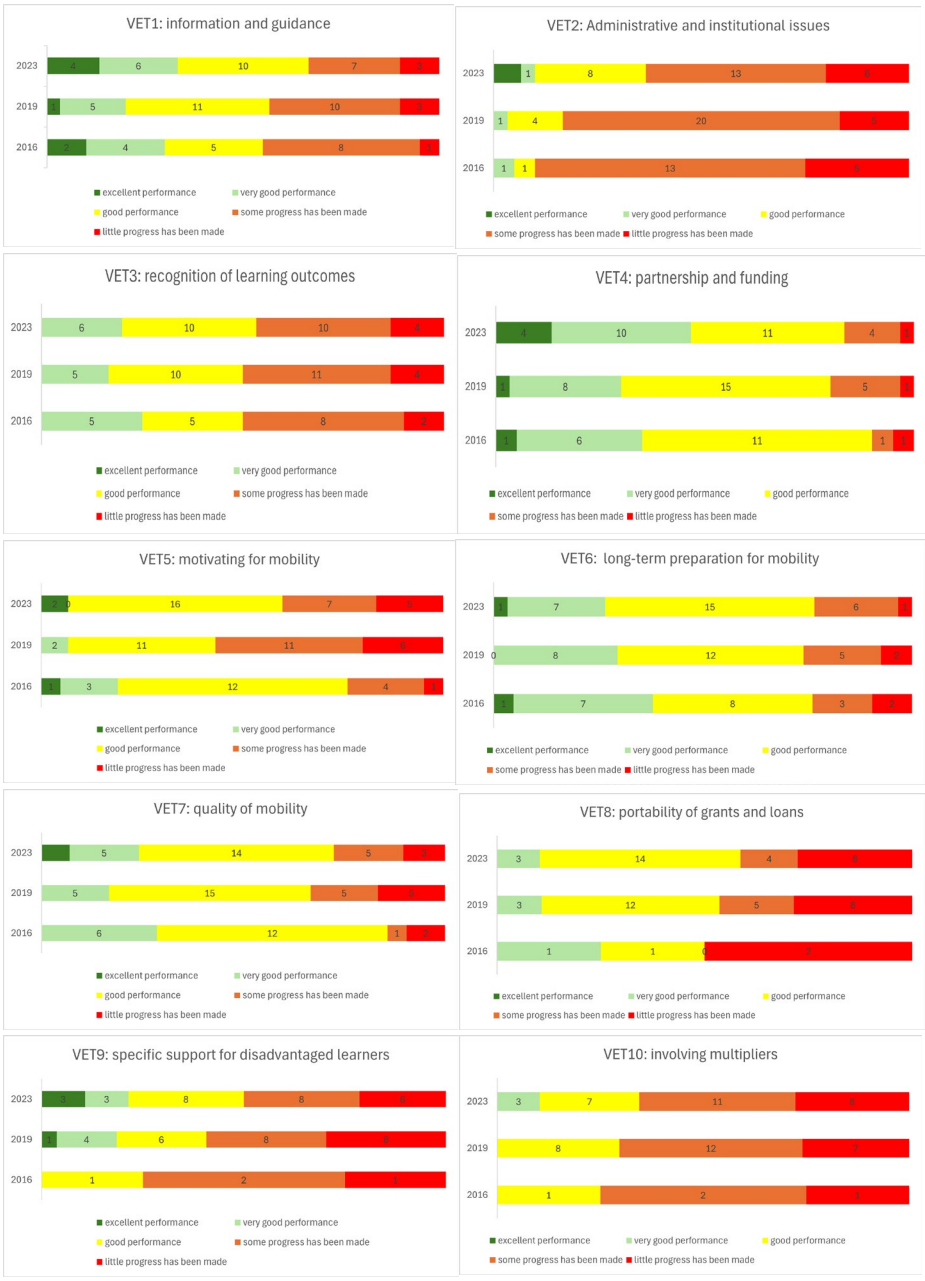
abroad have benefited from grants offered by regional councils (Cedefop, 2021b). The administrative burdens have also been alleviated, and general objectives have been set to remove obstacles to mobility (Cedefop, 2021c). Conversely, Ireland, Italy and Poland did not show progress in measures aimed at facilitating the mobility of IVET learners between 2016 and 2023 and have not yet set policy targets in terms of removing the administrative and institutional obstacles to such mobility. In addition, in Italy, the fragmentation of the education and training governance system, with shared competences across two ministries and regions for VET, makes the process particularly complex. Non-governmental organisations and migrants' associations are the main providers of information and guidance services to support individuals in navigating the complexities of the mutual recognition process.

Measures to support the participation of students from disadvantaged backgrounds in international mobility are present in many countries; however, they are often limited to students with disabilities, and most Member States apply geographical or scheme-based restrictions. In all Member States except for Bulgaria, targeted needs-based or universal portable grants are available to disadvantaged students (European Commission, 2020b). Other measures include top-level recommendations and/or incentives for higher education institutions to implement targeted measures (as in Belgium's Flemish Region, Greece, France, Italy, Austria and Slovenia), as well as guidelines on existing provisions (Belgium and Greece). Other countries adopt a more general approach, such as awareness-raising campaigns (as in Belgium's Flemish Region) or ministry circulars (as in France).

The country cases illustrate this situation well. In all the countries considered there are measures to support the mobility of disadvantaged students, although these are still limited and take-up is low, particularly in VET, where only Germany and Finland registered an excellent and improved performance for this indicator between 2019 and 2023. France and Romania also performed well, while some progress was registered in Italy, the Netherlands and Poland, and little progress was registered in Ireland.

Collecting information to monitor the participation of students from different backgrounds in learning mobility is also key to providing adequate support. Beyond the obligation to monitor participation in the context of the Erasmus+ programme, only six regions and countries (French and Flemish communities of Belgium, Germany, France, Italy and Austria) had comprehensive monitoring practices across all major programmes in 2015/2016 (European Commission, 2020b).

Figure 14. **Mobility Scoreboard indicators for VET**



NB: CH data included. VET1, VET2, VET4, VET5, VET6: no data for 2016 for AT, BE, BG, IS, IE, LV, MT, NL, PT and RO. VET6: no data for 2019 for BE, EL and NL. VET7: no data for the year 2016 for AT, BE, BG, IS, IE, MT, NL, PT and RO. Data for UK not available for 2023. VET8: data for 2016 available only for DK, HR, CY, and SI. No data for 2019 for RO and UK. No data for UK for 2023. VET9: data for 2016 available only for DK, HR, CY and SI. No data for 2019 for RO, SE and UK. No data for SE and UK for 2023.

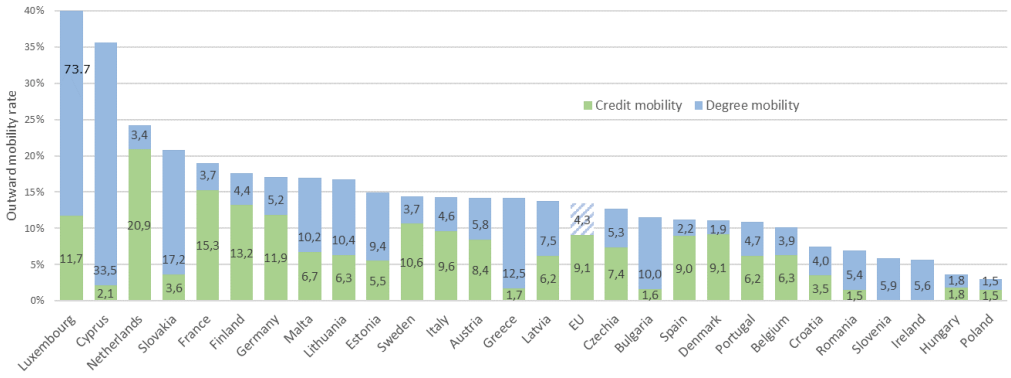
Source: European Commission (n.d.), 'Mobility Scoreboard'.

3.3.2. Changes in learner cross-country mobility

According to a recent Eurostudent publication (Eurostudent, 2024), since the inception of the Bologna process, international higher education student mobility within the EHEA has been characterised by its variability. For example, enrolment abroad peaked between 2012 and 2018 but then stagnated.

Educational background influences participation in international learning mobility, revealing consistent gaps favouring learners with academic backgrounds, who generally have higher participation rates. In higher education, international mobility did indeed grow considerably between 2000 and 2020, although the EU target of 20% of graduates experiencing a period of study abroad by 2020 was not met (Figure 15).

Figure 15. **Learning mobility rate in higher education (ISCED levels 5–8) by type of mobility and country, 2020**



NB: Calculations are based on available data from ISCED levels 5–8. Degree mobility is reported by the country of destination. Credit mobility is reported by the country of departure and excludes credit-mobile graduates who were also degree mobile. For additional information, see Chapter 5 of the European Commission Education and Training Monitor 2024 comparative report.

Source: European Commission (2022c, p. 43, figure 20).

In 2020, approximately 550 000 out of the almost 4.1 million tertiary education graduates in the EU completed part or all their studies abroad, with a graduate mobility rate of 13.5%, similar to the trend in recent years (European Commission, 2022d). A temporary stay abroad has been the favoured option for most mobile graduates. In 2020, at the EU level, the credit mobility rate (9.1%) was more than double the degree mobility rate (4.3%) ([44]), with Luxembourg (85.4%), Cyprus (35.5%), the Netherlands (24.3%) and Slovakia (20.8%) being the only countries exceeding the EU 20 % target set in 2009. Degree mobility is much higher at the

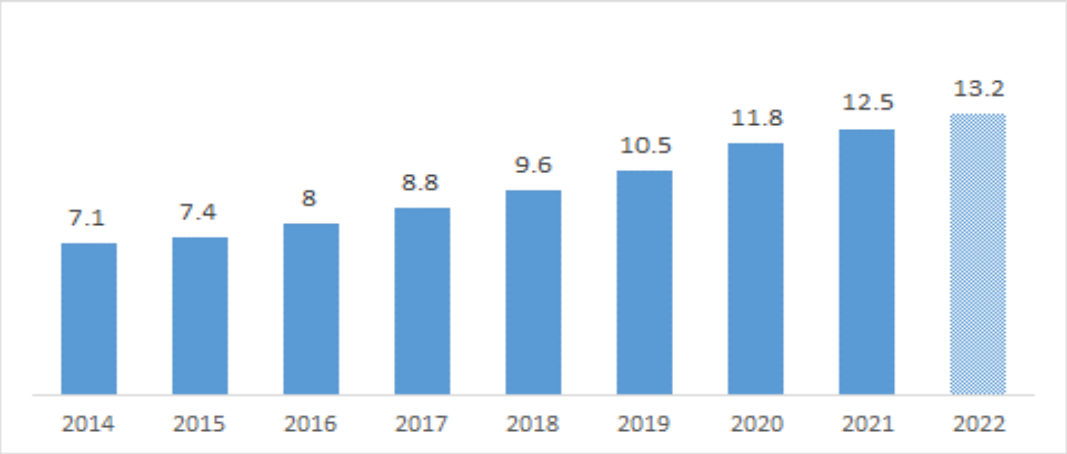
([44]) Credit-mobile graduates are those who have had a temporary study period and/or work placement abroad and return to their home institution to complete their degree. Degree-mobile graduates are those whose country of origin (i.e. the country where their upper secondary diploma was obtained) is different from the country in which they graduated (Eurostat, 2024b).

master and doctoral levels than for bachelor and short tertiary cycles, reaching 16% and 17%, respectively.

An upward trend is also emerging in VET mobility, although still with very low numbers of learners involved. According to Cedefop indicators based on Erasmus+ data and Eurostat data, in 2021 the share of IVET (ISCED levels 3 and 4) learners benefiting from a period of learning mobility abroad of at least 10 days was only 2% of all ISCED graduates in the same year. However, data show a growing number of applications to Erasmus+ in VET, gradually moving closer to the EU 2025 target of 8%.

The Erasmus+ programme has been very important in supporting learners' and staff mobility in the EU. Data reported in the Erasmus+ 2021 annual report (Figure 16) show that, since 2014, the number of mobile individuals supported by Erasmus+ increased every year, from 300 000 in 2014 to 1 million in 2019 (with a temporary decline in 2020–2021 due to the COVID-19 restrictions). From the start of the programme in 1987 until 2022, 13.2 million people benefited from the programme. In 2022, out of 1.2 million learners and staff that carried out a supported mobility activity, 77% were learners and 13.3% were participants with few opportunities, that is, participants with special needs, from a disadvantaged background or from outermost regions. Disaggregation by education subsystem shows that 35% were higher education learners, followed by group mobility in school education (28%) and VET learners (18%). However, adult learners were only 2% of the total (European Commission, 2023c, p. 37).

Figure 16. **Cumulative Erasmus+ mobility periods – all actions, learners and staff (total started per year in millions since 1987)**



NB: The 2022 value is an estimate.

Source: European Commission (2023c), Erasmus+ annual report 2022, Concluding remarks

Table 6 summarises the changes in the recognition of foreign qualifications and in measures supporting learner mobility in the eight country cases, according to the evidence collected through desk research and fieldwork, presented in the sections above.

As illustrated in the previous sections, strong progress has been made in the recognition and portability of qualifications and learning credentials across countries, particularly in higher education, with Germany, Ireland, and France showing the most progress in addressing the barriers present at the beginning of the century, while Italy, the Netherlands, Poland, Romania, and Finland are still recording implementation difficulties.

There has been less progress in supporting learner mobility, particularly among disadvantaged learners, with most countries showing progress only in higher education and recording implementation difficulties. Only France implemented specific programmes to support learner mobility in both higher education and VET (including apprenticeships), while no or little changes were registered in Ireland and Poland.

Table 6. **Changes in opportunities for learning mobility and the portability of qualifications and learning credentials across countries**

Country	Easier recognition of (partial/full) qualifications and learning outcomes from learning abroad	Increased support for learner mobility, including disadvantaged learners
Finland	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
France	Changes in legislation and implementation	Changes in legislation and implementation
Germany	Changes in legislation and implementation	Changes in legislation and implementation
Ireland	Changes in legislation and implementation	Minor changes in legislation
Italy	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Netherlands	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties
Poland	Changes in legislation, but implementation difficulties	Minor changes in legislation
Romania	Changes in legislation, but implementation difficulties	Changes in legislation, but implementation difficulties

NB: Red = no or only minor changes in legislation/regulations and/or initiatives/strategies; yellow = changes in legislation/regulations and/or initiatives/strategies in at least one sector, but implementation difficulties are hindering the full implementation of the changes; and green = changes in legislation/regulation and/or strategies/initiatives in at least two sectors and high/full implementation of the changes in at least in two sectors.

Source: Study team.

Chapter 4.

Barriers addressed, persisting challenges and policy implications

The previous chapters of this report describe the barriers to transitions across education and training subsystems and countries that individuals faced at the beginning of the century (Chapter 2) and how these barriers were addressed between 2000 and 2020 (Chapter 3), with a focus on the eight country cases. This concluding chapter, following a summing up of the barriers that have been addressed and the key contributing policy initiatives, highlights the remaining challenges and presents some policy implications.

4.1. Barriers addressed and main contributing policies

As illustrated in Figure 17, all the barriers identified as impeding individuals' learning progression at the beginning of the century were addressed in the period considered, although to different extents in the country cases analysed for this report. Compared with the beginning of the century, in 2020 all the country cases demonstrated progress towards:

(a) increased personalisation of learning experiences and flexible learning pathways;
(b) expansion and diversification of education and training routes available to individual learners, particularly in VET and higher education, and the increased attractiveness of VET;
(c) easier horizontal and vertical transitions for individual learners across formal vocational and education pathways and between formal, non-formal and informal learning;
(d) development of targeted measures to provide better opportunities for disadvantaged groups like early leavers from education and training, adults returning to education and NEETs;
(e) easier portability of qualifications and learning outcomes across countries and increased learner support to facilitate cross-country mobility.

From the individual learner's perspective, these changes have contributed to reducing the separation between learning pathways and tailoring learning to learners' needs, interests and circumstances. These changes have been underpinned by cross-sectoral EU and national measures acting in synergy with sector-specific national policy developments in each education and training sector.

While there is very limited empirical evidence on how EU and national measures directly influenced individuals' learning pathways and their impact on lifelong and life-wide learning, they shaped policy developments and practice in the period considered and continue to do so.

The growing use of learning outcomes and credit-based systems in higher education and VET contributed to the modularisation of education and training programmes and the attainment of credits for units of learning or microcredentials that can be recognised and accumulated to obtain partial or full qualifications. Credit-based modular programmes represent a key development towards greater flexibility and personalisation of learning, offering learners a greater choice in the content of courses or programmes according to their changing circumstances and needs over the life cycle.

The development of comparable and comprehensive qualifications frameworks has given more visibility to quality learning opportunities from different systems, increased the comparability of different types of qualifications and improved the visibility of learning pathways. NQFs can include qualifications issued in all formal education and training sectors and at all levels, and increasingly cover qualifications issued outside the formal system. By making qualifications achieved through different education and training pathways more easily comparable at the national and international levels and promoting their quality assurance, these frameworks can facilitate individuals' transition opportunities. Together with more flexible admission requirements and bridging programmes, these developments also contributed to making it easier for people to move between general, vocational and higher education. The development of comprehensive qualifications frameworks has also contributed to increasing the visibility, status and attractiveness of VET, particularly HVET programmes and qualifications, although it is not possible to establish causal linkages between this improved visibility and status and changes in horizontal and vertical permeability.

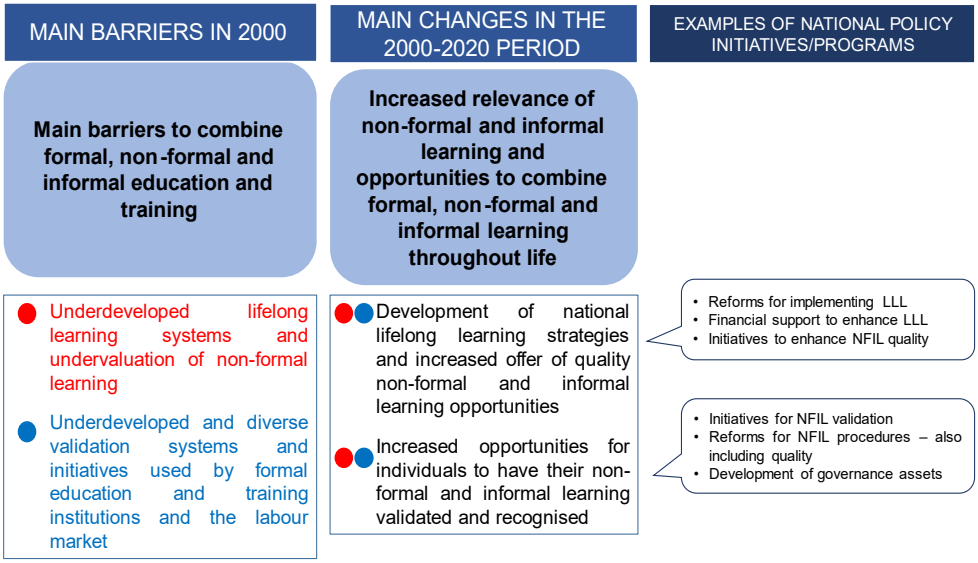
Overall, there is an increased variety and quality of learning offers across all subsectors. The broadening of curricula in VET to cover not only professional but also general and transversal skills, and the broadening of curricula in general and higher education, with a greater emphasis on work-based learning, together with more flexible admission requirements, have facilitated transitions across sectors, making educational pathways more accessible and inclusive for all learners. VET has become more appealing thanks to these developments, along with the development and implementation of stronger quality assurance frameworks, which also enhance trust between systems facilitating the acceptance of diverse types of learning.

The development of lifelong learning strategies and a more qualified offer of non-formal and informal learning contributed to greater awareness among education and training stakeholders and learners of learning opportunities outside the formal system. Progress in the validation of skills, knowledge and competences acquired through non-formal and informal learning supported their recognition and therefore assisted learners in accessing and progressing in both the formal education and training system and the labour market. The development of an increasingly comprehensive EQF and NQFs, and the growing use of credit systems also supported more widespread adoption of validation arrangements for learning outcomes obtained in non-formal and informal contexts for professional and education purposes. The modularisation of programmes and validation can facilitate learners' transitions within and between education and training subsectors and the combining of formal, non-formal and informal learning in a lifelong learning perspective. The strengthening of quality assurance systems contributed to trust building and recognition of (full and/or partial) qualifications obtained in different sectors and forms of learning and across countries.

In addition, the development of second-chance, upskilling/reskilling and targeted programmes to prevent and support early leaving from education and training, as well as targeted measures to reduce educational segregation, have improved learning opportunities for disadvantaged learners (e.g. the low skilled, people from migrant backgrounds, ethnic minorities, people living in rural areas, NEETs and learners with physical or intellectual disabilities), increasing their ability to remain in or re-enter formal education and training.

Improved mutual recognition methodologies and common work on qualification frameworks, credit systems and quality assurance arrangements supported the mutual recognition and portability of foreign qualifications and learning outcomes across countries. Mutual recognition procedures, although still presenting challenges in some countries, have been simplified, and financial and non-financial support is increasingly provided for learner mobility, contributing to the mobility of VET learners and those from disadvantaged backgrounds.

Figure 17. **Main barriers in 2000 and main changes between 2000 and 2020**



NB: The coloured dots illustrate the barriers addressed by each change. GE, general education; LLL, lifelong learning; NFIL, non-formal and informal learning; WBL, work-based learning.

Source: Study team.

4.2. Persisting barriers and challenges in 2020

Despite notable improvements in the flexibility and permeability of education and training systems for individual learners, significant barriers and challenges remain when it comes to entering, re-entering and accumulating learning across institutions, systems and countries. The full practical implementation of the measures adopted continues to face difficulties, and a lack of coordinated approaches has led to fragmentation of efforts. Bureaucratic hurdles can impede the seamless integration of learning pathways.

To keep pace with the changing learning landscape and learners' needs, tools and initiatives promoting transparency must adapt and evolve. Technological innovations offer opportunities to enhance learning flexibility and support transferability; however, they also pose challenges for education and training providers, trainers and teachers, who must continuously adapt to new tools, pedagogies and digital competences. Awareness and uptake of available opportunities among citizens remain low, and the evolving learning landscape – characterised by an increasing variety of learning opportunities offered by diverse actors – raises important questions about relevance, integration with other learning options and equitable access for all. Equity concerns persist, as individuals from different backgrounds do not appear to benefit equally from the available opportunities, and educational segregation remains significant in all the country cases considered.

As noted in Section 3.1, transitions from VET to general education are still uncommon, with only a minority of VET graduates proceeding to higher education. Furthermore, as discussed in Section 3.2, the proportion of adults engaged in lifelong learning remains low, particularly among those with a low level of qualifications. The validation of non-formal and informal learning has improved but not to the extent expected (Cedefop 2017a, 2020a; European Commission, 2020a). Additionally, mutual recognition procedures remain cumbersome in some countries, and mobility for VET learners is still limited. The following sections illustrate the main challenges that persist, as identified in the literature, statistical analyses and country case studies.

4.2.1. Challenges in implementing personalised, relevant and attractive learning

The proliferation of training and education offers, programmes and providers raises concerns about the efficiency, quality and equity of education and training systems (OECD, 2018b), as well the capacity of governance systems to monitor and ensure their quality. It also presents challenges for individuals in assessing alternative learning pathways and finding the right programmes for their needs and abilities in the absence of effective information and guidance services. For example, a student in the Netherlands can choose from 736 courses at secondary VET level (MBO) and 1 129 at higher professional education level (HBO). There is also a multitude of modules for workers providing training for many career options (van der Meer et al., 2023). According to the Dutch stakeholders interviewed, in practice students generally follow standardised learning routes, in part because of a lack of guidance on study choices, which may result in high dropout rates.

Other challenges affect teachers and training providers. They are related to the increasingly diverse student population and technological innovation. An increasingly heterogeneous learner population, with a growing share of students from migrant backgrounds, students with disabilities, and adult and older learners, demands new ways of teaching and learning based more on personalised guidance. Technological innovation is offering advanced technology solutions for teaching and learning, including the possibility of distance and blended learning, and the use of virtual reality, extended reality and artificial intelligence. However, teachers and education and training institutions are often not prepared for these new teaching and learning tools and approaches. Such developments therefore require a revision of teaching and learning methods, as well as a reconsideration of the role of teachers and their training, and adequate funding.

The Italian, Dutch, Romanian and Finnish stakeholders interviewed during fieldwork underlined the need to prepare teachers and education institutions to

ensure more guidance-based and personalised teaching, using the new tools and approaches available, working in multidisciplinary teams, providing effective guidance, and interacting with education and training institutions in other countries, to support international learner mobility.

As reported in Section 3.1.1, a current development is also related to the blurring of the boundaries between VET and general education programmes, with an academic drift in vocational upper secondary and tertiary programmes. On the one hand, the increasing focus in VET curricula on better developing general subjects and transversal/soft skills enables a more successful progression into both academic higher education and the labour market, and supports the pursuit of lifelong learning. On the other hand, there is concern that excessive 'academisation' of VET curricula may feed perceptions about vocational programmes being a lesser version of the general curriculum and even lose the close VET links with labour market requirements. It may also cause students to become disaffected due to the repetition of the general curriculum from which they opted out when choosing the VET pathway (OECD, 2018b). Some have the view that VET schools and UASs may be better able to distinguish themselves from general education institutions by having specialised curricula and infrastructure, making themselves more attractive to potential VET students. This was underlined by a Dutch private stakeholder, who said on the risk of the 'academisation' of UASs in the Netherlands: 'It becomes a strong barrier, if it goes too far. That is my daily experience. You see people drop out during their studies and you see it reflected in the graduation assignments, which have become too difficult.' Including a balance of both job-related and general skills in VET programmes can lead to increases in programme length, which can affect their attractiveness to learners.

In addition, the increasing role of dual systems and workplace learning in all education and training programmes requires teachers and education institutions to be prepared to interact effectively with local employers and institutions to ensure safe workplace conditions for trainees and apprentices. They should guide and support students and companies (especially small ones) during workplace learning. This is even more relevant in a European context characterised by increasing mismatches between the skills demanded by companies and those provided in the education and training system, as underlined by the stakeholders interviewed.

Another issue is the large number of financial resources needed to support an effective and increasingly complex education and training system, in a context of continuous and rapid technological, demographic and socioeconomic changes, and increasing budget constraints. Lack of funding is also a difficulty in many countries when it comes to providing tailored guidance and support for

disadvantaged groups. For example, the French country case study highlighted the difficult financial situation of France Compétences, which, according to the stakeholders interviewed, is already having an adverse impact on young apprentices and CVET. According to some of the stakeholders interviewed, the lack of adequate financial support that has characterised the current VET reform is likely to jeopardise its likelihood of success, including that of apprenticeships.

4.2.2. Continued limited use of credit transfers and accumulation

While the modularisation of education programmes and the use of credit systems have been increasing in higher education and, to a lesser extent, in VET, these are still underdeveloped in upper secondary general education at EQF levels 3 and 4 (European Commission. EACEA. Eurydice, 2021), limiting the potential for horizontal permeability between education and training subsectors at these levels, and for vertical permeability at higher levels.

There is also a limited use of credits in programmes up to and including EQF level 4 that are open to adults (European Commission. EACEA. Eurydice , 2021). These programmes were all or almost all credit-based in only seven of the EU countries surveyed in the European Commission. EACEA. Eurydice (2021) report: Finland, Iceland, Ireland, Portugal, Slovenia, Sweden and the United Kingdom (Scotland). In 12 countries, only some of these programmes used a credit-based approach, most commonly in VET. However, even in countries where almost all programmes use credits, basic skills programmes are still rarely credit based.

Even within the higher education and VET subsectors, where credits are more widely used, the stakeholders in some country cases (e.g. Italy and Romania) revealed that that their use can be limited in practice by lengthy and bureaucratic procedures, and the strong autonomy of institutions in the recognition of credits. In Romania**,** challenges in the use and transferability of credits persist in both higher education and IVET, while credits are not used in upper secondary higher education. In higher education, university autonomy results in differences in credit recognition from one university to another. Challenges in the use of credits also persist in the IVET system, despite the implementation of the ECVET principles in the period analysed. For example, not all qualifications at NQF level 5 have been fully revised according to ECVET principles. The partial acquisition of a qualification / units of learning outcomes and recognition in other IVET programmes or in other learning contexts is still not possible.

The growing popularity of microcredentials in higher education and VET, while ‘hav[ing] the potential to make education more reactive to labour market needs and individual interests, allowing for flexibility and potentially also supporting learning among under-represented groups’ (European Commission. EACEA. Eurydice,

2020, p. 161), also poses new challenges, especially around quality assurance and alignment with existing degrees.

In Germany, the introduction of credit systems in VET has been considered incompatible with the nature of its long-standing VET system, although changes have been introduced in recent years to align the system with other European countries. Resistance came in particular from small enterprises and social partners and is related to the fear that 'splitting up' vocational pathways into modules could affect the completeness and effectiveness of the longer, structured VET paths that Germany had developed over time (Powell & Trampusch, 2011; Ante, 2016).

Similarly in Poland, scepticism of modularisation, credit systems and microcredentials stems from concerns about educational standards, robust quality assurance, integration with the formal system and equitable access. Critics fear that flexible learning pathways based on microcredentials could dilute educational quality for learners by promoting a disjointed 'pick-and-mix' approach, lacking in-depth understanding and coherence. Integration with formal education frameworks is also challenging, as administrative and regulatory complexities hinder credit recognition across institutions and borders.

In the Irish country case, the stakeholders interviewed pinpointed an issue related to the misalignment of minor and special awards included in the Irish NQF and microcredentials used in universities. According to an interviewee, universities do not integrate these NQF awards into their microcredential programmes, leading to confusion among learners, who believe that their microcredentials contribute to NQF awards. According to an interviewee, there is a need to redesign the NQF awards to fit the microcredentials system better.

4.2.3. Challenges in understanding and using learning outcomes and quality assurance frameworks

Learning outcomes are a crucial element of qualification frameworks, credit transfer systems and the validation of informal and non-formal learning, enabling the comparability of qualifications and competences across education and training subsectors. However, despite their popularity, the understanding and use of learning outcomes in education and training systems is still a developing process, which varies across subsectors and countries. Inconsistencies and differences in the descriptions of learning outcomes across education and training sectors is a key challenge that undermines their comparability and transferability (Cedefop, 2020a). There are considerable differences in how learning outcomes are defined in general and higher education, where the focus is on academic knowledge, and in VET, where the focus is on practical skills.

The Polish country case study revealed that this variability hampers the creation of a cohesive and transparent education and training system, as it leads to confusion about the value and comparability of various qualifications. The lack of standardised language and quality benchmarks complicates the assessment and comparison of education quality, hindering learner mobility across vocational and academic paths and countries. In Romania, evidence from the country case study shows that the use of learning outcomes is still underdeveloped in upper secondary education and not fully applied in IVET and higher education, in particular due to the limited preparation of teachers. The Finnish country case study underlined the difficulty experienced by teachers and trainers in assessing learning outcomes in workplace learning using competence testing. This has created challenges in terms of not being clear about what is being evaluated.

Stakeholders in Italy and the Netherlands also highlighted difficulties in defining and using learning outcomes. For example, an Italian training provider noted that shifting from training to learning and learning outcomes based on skills requires a different approach and attitude from teachers and education institutions. Dutch training providers pointed out that there has been a misunderstanding about what is meant by learning outcomes, and that the qualification structure in VET is relatively inflexible and not very adaptable to new employment practices in companies.

Furthermore, defining and comparing learning outcomes based on acquired competences is more difficult in countries where the governance of VET is decentralised at the regional level. Italian stakeholders, for instance, underlined the presence of regional discrepancies in competence systems, particularly in the case of CVET. Additionally, persisting differences in quality assurance frameworks and practices across education and training sectors and countries hinder the reliability of and trust in learning opportunities and qualifications, especially in the case of VET. The diversity of quality assurance frameworks in Poland, for example, is considered to hinder the comparability and recognition of qualifications, creating confusion and reducing trust among students, educators, employers and policymakers.

The use of learning outcomes in the context of quality assurance also raises conceptual issues related to the difference between linking learning outcomes to the labour market and professional contexts (as in the case of VET and non-formal and informal learning), and for academic knowledge and disciplinary traditions (as in the case of general and academic higher education). This issue extends to how competences can be standardised and assessed to be recognised in higher education, leading to tension between the contextualisation of competences and

the need to find a commonly agreed reference for the development of quality standards.

4.2.4. Uneven implementation and comprehensiveness of national qualifications frameworks

Countries vary in the extent to which NQFs cover all types and levels of formal education and training qualifications and include qualifications awarded outside the formal system. This is due to the different time frames in which the NQFs were developed and the different legislative/regulatory and institutional frameworks across European countries (Cedefop, 2017b; European Commission, 2018; European Commission. EACEA. Eurydice, 2021; Cedefop, 2024b). In Ireland, an interviewee suggested that the country's long experience with the NQF may lead to it being taken for granted, with some issues remaining unresolved, such as the coexistence of two major awards at NQF level 6 (equivalent to EQF level 5), which has been identified as a barrier to progression for learners and is being considered for revision or replacement with a single major award.

Although countries are increasingly opening their frameworks to qualifications awarded outside formal education and training, there are still some Member States that have not yet fully included such qualifications in NQFs, hindering their comparability and formal recognition. In Germany, for example, the NQF operates on a voluntary basis, following its formal establishment in a joint resolution in 2013 ([45]). While this facilitated its implementation and defined stakeholders' responsibilities, it is not a legally binding instrument, such as an act of parliament. However, discussions have started on potentially creating a binding legal basis for the framework in the future, although no concrete steps have been taken yet.

In addition, in several countries, knowledge and understanding of NQFs is still developing among guidance and counselling practitioners, small businesses and citizens (learners, workers and jobseekers) (Cedefop, 2024b). Guidance and counselling practitioners are reported to be aware of the NQF/EQF and use it in their work in only 17 countries. The involvement of labour market stakeholders in developing and implementing NQFs is an area for further growth, as their participation is crucial for updating qualifications and effectively recognising learning credits or qualifications obtained through non-formal and informal learning (Cedefop, 2020d, 2021a). This limited awareness and engagement is also evident among citizens, although it is gradually increasing, particularly in countries where qualification certificates indicate the NQF/EQF level. Efforts to promote NQFs

([45]) Joint resolution of the Standing Conference of the Ministers of Education and Cultural Affairs, Federal Ministry of Education and Research, Conference of Ministers of Economics of the Länder and German Federal Ministry of Economics and Technology, which entered into force on 1 May 2013.

through social media, videos and other means have made uneven progress across countries, with more visible results in VET than in general education (Cedefop, 2024b). However, there are examples of successful initiatives, such as in France, where efforts to increase awareness of the NQF among all stakeholders, including citizens and learners, have been notable. In contrast, in some countries, such as Romania, stakeholders reported that citizens and students rarely consult the NQF or qualification registers when making education choices. Nevertheless, there is interest from the public in having qualifications recognised and registered, as seen in countries like France, where registration in the RNCP is regarded as proof of state recognition (Cedefop, 2023a).

4.2.5. Persisting fragmentation of validation arrangements

Despite progress, arrangements for the validation of non-formal and informal learning and RPL are unevenly spread across Europe. Initially, validation efforts were project based, but in the last decade they have gradually become more integrated into national skills strategies and legislation (European Commission & Cedefop, 2024). However, most Member States do not take a comprehensive approach. Although in recent years validation arrangements in the labour market have increased, initiatives remain more common in education and training. However, they do not exist in all subsectors or cover all qualifications available in those subsectors (European Commission & Cedefop, 2024). Initiatives may focus on VET or develop different validation frameworks for entering the labour market or education, or for different education and training subsectors, as in Spain and Lithuania (European Commission, 2020a). Limitations are also often present, such as the requirement to have work experience to access validation arrangements, as in France and Luxembourg.

Tools and mechanisms for validation also vary considerably across education and training sectors and institutions. Assessors usually have complete autonomy in the format and content of the tools used, and several countries have no clear guidelines and procedures for validation practitioners and candidates nor adequate coordination mechanisms to support comprehensive national validation strategies and approaches (OECD, 2021c). This is coupled with the challenges of significant variability in the outcomes of validation and RPL processes (ILO, 2018).

As reported by interviewees in all the country cases, general and higher education institutions are often reluctant to use validation systems for qualifications acquired in non-formal and informal settings, hindering adults' re-entry into and progression in formal education and training. The 2023 European inventory on validation of non-formal and informal learning shows that, while most validation arrangements allow for some form of certification (in the form of qualifications,

partial qualifications, credits or modules), access to formal programmes is less common, challenging their role in supporting lifelong learning. Furthermore, obtaining a component of qualifications or non-formal qualifications typically focuses on professional and technical competences, with the recognition of adults' general competences necessary for further studies being less common (OECD, 2021c).

In higher education, less than half of all EHEA countries consider RPL for access to higher education programmes, while around half allow it to be used for study progression (European Commission. EACEA. Eurydice, 2020). As described in the Finnish, French and Irish country cases, higher education institutions often prioritise formal education credentials over skills acquired outside formal pathways. While most countries permitting RPL for study progression have a top-level framework for this, the established procedures are not always mandatory for all higher education institutions. In 15 countries, there are no procedures in place for higher education at either the national or institutional level.

Despite the 2012 EU recommendation, there is still an insufficient shared understanding of validation and associated terms, both within countries and sectors and across countries (European Commission, 2020a). A further issue is finding a balance between a too-narrow and too-wide definition of learning outcomes for validation in non-formal and informal learning (Cedefop, ETF & UNESCO, 2024).

These challenges were shown to affect validation arrangements in the country cases. For example, validation of prior learning is still an ongoing challenge in Germany. According to the Federal Institute for Vocational Education and Training's expert monitor, although 70% of German education experts consider the recognition of non-formal and informal competences very important, the work on this is still in its early stages: there is no common legal framework (BIBB, 2020), and only pilot projects (e.g. Valikom) were implemented in the period considered.

In the Netherlands, two different validation frameworks have been developed, one for accessing education and training and one for accessing the labour market (Smulders et al., 2019). According to some of the stakeholders interviewed during fieldwork, more stringent preconditions have been adopted recently for entering particular study programmes and professions (e.g. in the healthcare sector) that do not provide for the validation of skills or prior learning.

The Italy country case demonstrated implementation challenges due to the difficulties experienced by general and higher education institutions in accepting and using validation systems for full or partial qualifications acquired in non-formal and informal settings. The Italian country case is also an example of the difficulties encountered in defining and implementing a national validation system when

competences in VET are decentralised to the regional level and fragmented across many stakeholders.

In Romania, validation and certification arrangements for learning acquired in non-formal and informal learning is still limited, with certifications being available only up to EQF level 3.

Poland presents a wide variety of validation arrangements in different subsystems, with many projects carried out by different organisations and institutions, and the stakeholders interviewed pointed to the lack of a well-structured quality assurance system.

Overall, the take-up of validation opportunities remains limited. From the individual learner's perspective, a key issue is also the complexity of validation arrangements, contributing to the low take-up of validation across many countries. Many individuals who initiate validation drop out before completion due to the high level of commitment required and unclear procedures (OECD, 2018a). Additionally, a lack of support results in inequalities in access. According to an external study, only 11% of validation beneficiaries received incentives or support (European Commission, 2020a, p. 55).

The evidence from the country cases demonstrates that validation and RPL arrangements frequently pose accessibility challenges, particularly for disadvantaged groups, due to the expense, procedural complexity, lengthy duration, fragmented delivery and uncertain outcomes. In Poland, the absence of uniform frameworks and the variety of assessment methods contribute to underutilisation by learners who may be discouraged by the uncertainty and perceived subjectivity of evaluations and by training providers who may have concerns about the rigour, reliability and integration of outcomes into existing curricula. Low uptake is also an ongoing issue in Ireland, where each educational institution bears responsibility for validation, and awareness raising and guidance and support remain scarce. Based on stakeholder interviews, seamless transfer of RPL between higher education institutions does not yet exist. Although advancements have been made outside higher education, a standardised approach is lacking nationally, with a focus on short courses for specific cohorts. Even in France, considered a pioneer in validation, formidable challenges persist, such as procedural complexity, bureaucracy and lengthy duration. French policy stakeholders, learning providers, learning associations and learners that were interviewed emphasised that, despite ambitious and long-standing policies, the uptake and success rate of validation among adult learners remain relatively low. Some interviewees attributed these challenges to the need for a change in policy, and the validation system was reformed in late 2022. This reform involved

simplifying procedures and introducing an online platform to increase validation uptake.

Support measures are crucial for disadvantaged learners. Although skills audits are available in most countries, they are not always accessible to those who are unemployed, or at risk of unemployment, and rarely identify gaps in basic skills (European Commission, 2019b). Skills audits for the unemployed or those at risk of unemployment have increased over time and are present in 26 countries, but only six provide them within six months of unemployment. Other disadvantaged groups receive less attention, particularly migrants and refugees (European Commission, 2019b).

4.2.6. Persisting barriers to adult participation in learning

Adult participation in learning remains limited. Data presented in Section 3.2.2 show that, in most European countries, unemployed or inactive adults and those with low educational levels still have very low rates of participation in all forms of learning. In addition, there are still considerable differences across countries, reflecting national differences in pre-existing conditions and in the policies adopted in the period considered to reduce barriers to participation.

For example, in France, a survey by the Centre for Studies and Research on Qualifications (Centre d'études et de recherches sur les qualifications (Céreq)) (2019) showed that, while 21% of workers with a higher education diploma have not participated in training since graduation, this figure is over double (51%) for workers without a diploma (Cedefop, 2023h). As was pointed out by a French representative of learning providers and learning associations, the difficulty that low-skilled people face in accessing further education remained a challenge in 2020.

Among the country cases, Ireland, France, the Netherlands and Finland recorded high participation rates in formal and non-formal learning among adults with a low level of education, the unemployed and inactive, and older adults due to a deep-rooted tradition of adult education in the formal system and the presence of well-developed lifelong learning systems, supporting re-entry into formal education and training, including in adult life, and a wide application of validation and RPL systems.

Respondents to the Eurostat Adult Education Survey in 2016 reported the presence of many barriers to participation in education and training. These included high costs (mentioned especially by young adults and adults with low levels of formal education), work schedule (for men), family commitments (for women), and a lack of motivation and low awareness of learning needs and opportunities, especially among individuals with low levels of education. In addition, the share of adults with

unsatisfied demand for training (i.e. those who wanted to participate but could not or wanted to participate more than they did) also increased until 2016, reaching 24% on average in the EU-27, due to barriers related to the costs of training, work schedules and family commitments.

In the more recent Cedefop 2020 Opinion Survey on Adult Learning and CVET in Europe, lack of motivation ('see no need for it') was the most frequently given reason for not taking part in organised training in most Member States. This is despite the largely positive views of respondents on the value of CVET for labour market entry and progression, and the recognition by almost 9 out of 10 employed adults that they need to constantly update their skills. This evidence therefore suggests that individuals see limited incentive to take part in training (Cedefop, 2020f). Other obstacles to participation reported by respondents related to the lack of opportunities and difficulties of gaining access, particularly in Greece, Spain, France and Italy, and the perceived low quality of training, indicated by respondents in Italy, Latvia and Lithuania (Cedefop, 2020f). The survey also confirmed that reasons for not taking part in adult learning and CVET differ according to individual and family circumstances (Cedefop, 2020c). For example, women are more likely to cite other commitments (often family commitments) and financial constraints, while men lack motivation. Adults working in elementary occupations are more likely to state that training is too expensive, that they lack the necessary support, or that they do not have the necessary skills or qualifications (Cedefop, 2020c).

Other barriers identified in the country cases relate to the specificities of national systems. For example, the Irish stakeholders interviewed underlined the persistence of supply-side barriers, such as VET teachers' limited flexibility in terms of working hours, hindering the delivery of courses in the summer holidays and evenings, and the limited involvement of businesses in training. In Romania, the low participation rate of adults in learning is related to the still limited validation of learning acquired in informal and non-formal training; the lack of permeability between CVET and higher education and of mechanisms to incentivise participation; the limited engagement of the private sector in CVET promotion; and the high administrative burden and costs for training providers and learners.

Among the difficulties faced by workers in progressing in formal higher education and VET, besides the non-recognition of prior VET qualifications and work experience is a lack of time. The limited trust of education and labour market actors in the quality of non-formal and informal training was brought up by both Polish and Romanian stakeholders. French stakeholders underlined the lack of adequate financial support for non-formal learning, while Italian stakeholders pointed to the fragmentation of the adult education and CVET systems due to the

large number of actors involved, the lack of coordination mechanisms and the difficulty of reaching and involving the most vulnerable adults.

4.2.7. Persisting educational segregation and inequalities in learning access and progression

Inequalities in accessing and progressing through different education and training sectors persist across countries, leading to educational segregation and unequal participation in various pathways (Cedefop, 2020c; European Commission. EACEA. Eurydice, 2020). This is evident in access to higher education, adult learning and VET, with students from disadvantaged backgrounds often attending programmes of lower status and value. Socioeconomic inequalities impact access to higher education, reflecting earlier disparities in upper secondary education participation (European Commission. EACEA. Eurydice, 2020). Students from disadvantaged backgrounds are overrepresented in IVET programmes at EQF level 3, which have lower progress and achievement rates in further learning and academic higher education (Cedefop, 2020a). These qualifications typically have a lower share of theoretical knowledge and transversal competences than EQF level 4 qualifications (Cedefop, 2020a).

Horizontal and vertical transitions from IVET to upper secondary general education and higher education increased in the period considered but remain uncommon (OECD, 2018a; Cedefop, 2020a). More common are transitions from upper secondary general education to IVET. Students transitioning from IVET to higher education generally achieve lower outcomes than those with a general education background (OECD, 2018a; Banerjee & Myhill, 2019; Cedefop, 2020a). There are also socioeconomic inequalities in adult participation in learning, despite an increase in targeted measures (Cedefop, 2020a; European Commission, 2020b). The overrepresentation of disadvantaged students in education and training routes that lead to qualifications of lower status and value can perpetuate social segregation and the reproduction of socioeconomic inequalities across generations. In addition to financial barriers, the lower status of VET compared with general education presents a challenge to achieving more equitable participation in education and training and in transitions between IVET and general and higher education.

In France, for example, 87% of VET students have parents without higher education degrees, compared with 51% of general education students (OECD, 2020a). Although efforts have been made to improve VET's status and increase its attractiveness, and achieve parity of esteem with general education, vocational education continues to suffer from a poor image and low social esteem (OECD, 2020a). In France, pupils are separated into general, technological and vocational

tracks based on school performance and parental choice (Blanchard & Tirole, 2021; European Commission, 2023a; OECD, 2020a). Parental choice accounts for 37–49% of observed segregation in French schools (Boutchenik et al., 2021). This segregation also explains inequalities in academic performance and learning trajectories, with urban segregation and social and ethnic segregation as aggravating factors.

In Germany, even though there has been some progress, transition between the vocational and higher education system is still limited. Both subsystems still have their own distinct structure and stakeholders, although there is some overlap. Despite the fact that the *Abitur* is no longer needed for accessing higher education, there still appears to be a preference for it, which reflects the autonomy of higher education institutions in admissions decisions and the persisting higher reputation of general education compared with VET.

In Finland, less than 1% of students admitted to academic universities immediately after completing an upper secondary qualification have a VET background, compared with around 25% of vocational students admitted to UASs ([46]). Pupils' socioeconomic background, prevailing perceptions about VET and upper secondary general education, and actual opportunities for progress influence decisions about education and training routes. Studies show that students from migrant backgrounds are often guided towards VET instead of upper secondary general education, despite their educational performance (Ehviläinen & Souto, 2022). In addition, higher education institutions have significant discretion in the recognition of prior learning and skills/qualifications, which results in considerable variation in requirements and procedures (Finland. Government, 2021). According to Statistics Finland's education statistics, early school leaving rates are higher in IVET than in general upper secondary education (13.3% compared with 3.6% in 2022).

Similarly, in Italy, country case study interviewees underlined the common perception of IVET as a pathway for students with learning difficulties and students from disadvantaged backgrounds. Moreover, students' backgrounds and parental education levels often influence the guidance provided in lower secondary school, as well as horizontal and vertical transitions throughout their academic careers. The autonomy of educational institutions in admissions decisions hinders students' horizontal transitions from IVET and HVET to general education due to a lack of preparation in general subjects. IVET and HVET programmes and apprenticeship schemes introduced in recent decades remain relatively unknown to both learners and school guidance counsellors.

([46]) National implementation plan of Finland, 30 May 2022.

In Ireland, targeted access schemes like Disability Access Route to Education and Higher Education Access Route, which offer lower entry requirements for people with disabilities and/or from lower socioeconomic backgrounds, are optional for higher education institutions. Some universities do not utilise these schemes, despite the availability of government funding. Additionally, according to an education counsellor who was interviewed, student financial support is often insufficient due to high accommodation costs and the inability to switch courses without losing your grant. This compels many students to choose courses based on location and to stay in their initial choice of programme to avoid financial risks.

Socioeconomic disparities in participation in various educational and training routes and levels are partly attributed to unequal learning outcomes achieved. Young people from disadvantaged backgrounds consistently have worse outcomes on average, being almost six times more likely to underachieve at age 15 compared with their advantaged counterparts (European Commission, 2022b). For example, in France, there are significant differences in the OECD's Programme for International Student Assessment scores among 15-year-olds, with five times more students from low socioeconomic backgrounds not meeting the minimum reading level, and social class being the most important factor influencing educational attainment (Blanchard & Tirole, 2021). In Finland, despite the emphasis on equal opportunities and inclusivity in education and training, a VET teacher interviewed highlighted the growing differences in learning outcomes achieved associated with social circumstances, particularly in relation to learners from migrant backgrounds.

In Romania, the participation rate in upper secondary general education and higher education is lower among students with low-income backgrounds, disabilities, migrant backgrounds and Roma origins, students from rural areas, and girls / young women with children (Dalu et al. 2023; Apostu & Goia, 2023; Romania. Presidency, 2021). Similarly, in Poland, high levels of educational segregation are related to high costs and potential income loss during studies; programmes' design and delivery neglecting the needs of learners with family or work responsibilities; access for those living in remote areas; and a lack of information, preventing potential learners from understanding the available options and accessing support (PBS Spółka, 2018; Bankier.Pl, 2022; SOF, 2021).

Insufficient and inconsistent funding for programmes supporting the access and participation of learners from disadvantaged groups is a significant challenge. In Italy, Poland and Romania, these programmes are funded primarily by external financial resources that do not guarantee continuity, such as the European Social Fund and, in the case of Romania, the World Bank. In the Netherlands, the reduction in financial support for higher education students has been an issue in

recent years, as underlined by the students who participated in a focus group for the country case.

Insufficient provision and take-up of access programmes and remedial education, as well as inadequate guidance services and support for students undergoing education transitions, are other factors leading to educational segregation. While in Nordic countries such as Finland more than 80% of students have consulted career advisors at school, less than 30% have accessed these services in Belgium, Hungary, Austria and Slovakia (OECD, 2023).

4.2.8. Persisting challenges in the recognition of qualifications/credits across countries and learner mobility

Despite the progress illustrated in Section 3.3, challenges persist in promoting learner mobility across countries in both general education and VET. These difficulties also stem from the lack of a consistent approach to learning outcomes and of reliable quality assurance measures and workload assessment (European Commission. EACEA. Eurydice, 2020). In higher education, the main issues are related to degree structures, quality assurance and mutual recognition (European Higher Education Area, 2018). Some aspects of degree structures remain unclear, and new challenges have emerged, particularly regarding employment and further study prospects for first-cycle degrees, comparability and recognition of short-cycle degrees, and the increasing variety of master degrees (European Commission. EACEA. Eurydice, 2020). Concerning quality assurance systems, not all countries permit external quality assurance (European Commission. EACEA. Eurydice, 2020), and progress has been limited in aligning external quality assurance with the European Standards and Guidelines, with many countries applying additional national criteria.

There are also ongoing challenges in ensuring the automatic recognition of credits and qualifications obtained across EHEA countries, enabling seamless access to all higher education systems for qualified learners. In 2020, only about half of EHEA countries provided automatic recognition of qualifications from some other EHEA systems, and only eight Member States (Denmark, Germany, France, Italy, Malta, Poland, Finland and Sweden) granted recognition of qualifications from all systems (European Commission. EACEA. Eurydice, 2020; European Commission, 2020a). The recognition of qualifications obtained outside the EHEA continues to be challenging due to the discretionary power of each university to accept or reject qualifications and request additional documents or tests. Furthermore, only a minority of countries have introduced a legal requirement to assess whether refugees and displaced people meet the criteria for access to

higher education, as outlined by the Lisbon Recognition Convention (European Commission. EACEA. Eurydice, 2020; Cedefop, 2024a).

According to a recent European Commission study on the implementation of the 2018 Council recommendation (European Commission, 2023d), progress in this area has been greater in higher education than in upper secondary education and VET. This is mainly because stakeholders, including educational institutions, remain unclear about the definition of automatic mutual recognition and the differences between automatic and non-automatic recognition (European Commission, 2023d, p. 27). Other barriers to mobility, particularly for vulnerable groups, include a lack of funding/financial support, a lack of affordable accommodation, psychological and language barriers, and a lack of knowledge about the Erasmus+ programme (Observatoire Erasmus+, 2021). The absence of monitoring and evaluation of recognition decisions also hampers recognition and international learner mobility (European Commission, 2023d).

The evolution of mutual recognition practices in the country cases illustrates the very different national initiatives implemented for qualifications obtained in higher education and VET, their objectives and orientation, and the challenges in their practical implementation. The German and Romanian cases provide examples of the different extents to which automatic recognition has been implemented in higher education and for professional qualifications, and in the VET system.

In Poland, limited automatic recognition and complex national procedures for recognising foreign qualifications in higher education and VET, exacerbated by diverse quality assurance frameworks, was considered by stakeholders to hinder international mobility for learners, academics and professionals.

One of the primary obstacles to learning mobility for individuals is the high level of bureaucracy involved in recognition and mobility procedures. Interviewees in the Italian and Romanian case studies highlighted the high costs, length and uncertainty of recognition procedures, as illustrated by the experiences of mobile learners in these countries. This is particularly problematic when decisions are left to individual educational institutions without clear national guidelines. In Romania, recognition procedures remain cumbersome for foreign students, especially those from non-EU countries, due to language barriers and the lack of authorised translators, time-consuming procedures and difficulties related to obtaining legal residency in Romania. These challenges also affect Romanian students returning home after studying abroad, who sometimes have to repeat a year in Romania. In the Italian case, the complexity of recognition procedures is compounded by the different objectives of mutual recognition of qualifications and implementation

difficulties related to multilevel governance in VET and the lack of guidance services.

Non-EU migrants and refugees often experience difficulties in having their skills and qualifications properly recognised in different countries. For example, in France, these difficulties are due to, inter alia, their lack of awareness of the relevant procedures, the paperwork involved and their expectation that their qualifications will not be recognised. Migrants who do have their qualifications at least partly recognised often end up working in positions they are overqualified for (Blanchard & Tirole, 2021). One of the main challenges is the fact that the system of recognition is still based on formal education. Although there are some agreements between France and non-EU countries regarding access to the labour market for migrants with skills that are lacking in the country, this recognition does not always apply outside the labour market (i.e. within education). This, in turn, can have adverse effects on the learning progression of these learners. A similar situation is present in Italy, where the decentralised VET governance systems make the situation even more complex for migrants, due to a lack of harmonised standards across Italian regions, leading to inconsistencies in recognition practices.

Mobility data highlight significant inequalities in access to international learning mobility opportunities in both higher education and VET, with students from low socioeconomic backgrounds and those with disabilities being less likely to participate (DZHW, 2018; European Commission, 2019c; 2023c). Learner mobility in VET is still limited, although it has been increasing in recent years.

4.3. Policy implications

The comprehensive review of changes in learning systems within the EU from 2000 to 2020 highlights the need for targeted policies to further advance these developments. The study highlights significant progress in facilitating entry and re-entry to learning systems and lifelong learning opportunities for individuals. It stresses the importance of ongoing policy, legislative and strategic reforms in education and training, advocating for a cohesive strategy that operates at both the EU and national levels. As societies evolve and encounter new challenges, learning systems must not only keep pace but also proactively address these changes. This requires policy tools and developments to continuously adapt, ensuring that they remain aligned with societal needs and the evolving educational landscape.

Promoting lifelong learning necessitates a collaborative approach involving various stakeholders, including governments, educational institutions and labour

market participants. This collaboration ensures that reforms are comprehensive and effective. The study emphasises strengthening the capacity of institutions, educators, trainers, practitioners and stakeholders to exchange best practices and discuss implementation challenges. Such capacity building and partnerships foster communication, promote a common understanding, enhance cooperation, increase trust and reduce bureaucracy. Additionally, this collaborative effort can effectively address challenges arising from technological innovations, particularly digitalisation and artificial intelligence, an increasingly diverse learning population, and rapidly changing labour markets and skill requirements.

The study also highlights the need to improve data collection and monitoring and evaluation systems. Understanding why transitions remain uncommon, despite transition being possible, and assessing the outcomes of legislative reforms and new policy initiatives is crucial. Enhanced data collection is necessary to gather detailed information on transitions in education and training systems that considers individual characteristics and prior learning or work experience. Clear and common monitoring indicators for individual learners can support the assessment of adopted measures' impact on participation in learning and learner mobility.

From the individual learner's perspective, the experiences in the country cases show that to encourage individual participation in lifelong and life-wide learning it is necessary to:

(a) ensure that learning offers are of high quality, relevant and aligned with labour market and societal needs;
(b) offer personalisation of learning opportunities, including targeted measures for disadvantaged groups;
(c) facilitate easier access to programmes and qualifications within and across countries, avoiding educational segregation;
(d) enable the easy accumulation and stackability of all types of learning within and across countries;
(e) ensure accessible, flexible and learner-centred procedures for validation of non-formal and informal learning, alongside simple, rapid procedures for recognising foreign qualifications and their learning outcomes;
(f) provide accessible information, lifelong guidance and mentoring services to support individuals in navigating learning pathways;
(g) offer incentives, including financial incentives, and targeted measures to help with learners' other commitments during training (e.g. work and family responsibilities, transport).

To ensure that learning opportunities are high quality and relevant to both labour market and societal needs, it is crucial to focus on making the knowledge

and skills acquired both useful and applicable. This approach not only motivates learners but also promotes their active participation. The use of learning outcomes is instrumental in facilitating discussions between various stakeholders, including education and training providers and labour market actors. By doing so, education and training providers can design and deliver programmes that are specifically tailored to meet the demands of the labour market and society. To fully leverage the potential of learning outcomes, it is vital to support practitioners in their implementation and application. This includes fostering the exchange of best practices and providing training and capacity-building opportunities for teachers, trainers and education providers. Such support will enable them to engage more effectively with labour market stakeholders and create learning offers that are relevant, of high quality and aligned with labour market needs.

Developments in quality assurance are also essential to ensure that a learning outcomes approach is consistently applied, from the design phase through to the assessment of qualifications. This focus on transparency ensures that education remains accountable and effective. Additionally, it is important to further explore the role of NQFs, which act as gatekeepers of quality qualifications. These frameworks can enhance understanding of quality assurance mechanisms, particularly for learning that occurs outside formal education and training systems. By implementing these measures, we can create a robust learning environment that not only equips individuals with the skills they need but also supports ongoing dialogue and collaboration between educational institutions and the labour market.

Learners benefit from education and training systems that recognise their unique needs, past accomplishments and future aspirations. By adopting a learning outcomes approach, these systems can more effectively concentrate on what is learned, enabling the customisation of educational opportunities to suit individual learners. This approach facilitates building on previous achievements and the creation of a coherent, relevant and personalised learning journey. To advance in this area, policymakers should provide support for teachers, trainers, employers and institutions in adopting innovative teaching methods that enable personalisation. The rapid pace of technological advancements, especially in digitalisation and artificial intelligence, offers both opportunities and challenges. Educators require adequate training and resources to design and implement personalised learning pathways efficiently, ensuring that technology is applied appropriately to meet learning objectives. Targeted initiatives, including tailored educational resources, are essential to support disadvantaged learners, particularly those at risk of ESL or who face educational segregation. Offering diverse, high-quality training modalities – such as blended and online learning and part-time study – can assist adults with various commitments to return to education

and training. Personalisation should extend beyond learning opportunities to include validation procedures. To improve uptake, validation processes should be tailored to meet the specific learning needs, preferences and circumstances of each learner within an overarching individual lifelong learning plan (Cedefop, ETF & UNESCO, 2024).

Easy access to programmes and qualifications is a crucial aspect of promoting lifelong learning. Although admission requirements have become more flexible, this is not universally the case, and greater consideration should be given to past learning achievements, whether obtained outside formal education or in other countries. The fragmentation of validation initiatives, including tools and procedures, is evident and can undermine their effectiveness. Progress in recognising foreign qualifications has been more pronounced in higher education than in VET and general education, highlighting the need to enhance the focus on these areas, particularly by expanding mobility initiatives in VET. The study underscores that procedures for both the validation of non-formal and informal learning and the recognition of foreign qualifications should be accessible, swift and reliable. Complex and lengthy processes and uncertainty about procedures and outcomes have emerged as significant obstacles for learners. Increased cooperation and engagement among relevant stakeholders, especially regarding conceptual and methodological aspects, can mitigate these risks and build trust. The European Commission's study on the implementation of the 2018 recommendation on automatic recognition (European Commission, 2023d) suggests that establishing a national coordination and monitoring body could reduce fragmentation in decision-making and improve implementation. To enhance efficiency, the use of digital tools for recognition, as well as for the validation of non-formal and informal learning, should be optimised. This includes further development of the Europass platform and the creation of efficient and rapid systems for verifying the authenticity of qualifications, credentials and learning outcomes. Bridging courses and second-chance education programmes can support early school leavers and low-skilled individuals in re-entering formal education and training.

In addition to ensuring easier access to programmes and qualifications, enhancing the stackability of learning is vital for enabling learners to accumulate and combine learning experiences and qualifications in a flexible, modular manner. This approach allows learners to build their educational pathways based on their individual circumstances and needs, rather than starting from scratch each time. Achieving this requires the development of supportive and integrated frameworks that recognise the value of learning outside formal systems, such as work-based learning, apprenticeships and community programmes. Efforts must be made to

ensure that the validation and recognition of prior learning is accepted and applied across all educational subsectors, with particular focus on higher education, where resistance still exists. The integration of qualifications obtained outside formal systems into national qualification frameworks should continue, backed by robust quality assurance processes to enhance the transparency and transferability of learning outcomes. Improved coordination and cross-sectoral collaboration among key stakeholders – including learning providers, awarding bodies, quality assurance agencies and policymakers – is essential to refine quality assurance processes. Investing in the quality and accessibility of non-formal and informal learning opportunities can bridge the gap between formal education and alternative learning pathways effectively. Efforts to enhance the compatibility of credit systems should be prioritised to facilitate the transfer of qualification components and enable transitions between different types of learning. Additionally, the integration of credits resulting from validation procedures into institutional practices must be strengthened.

Improving the recognition of qualifications and microcredentials across countries is crucial for enabling their accumulation and stackability across borders. Achieving this requires increased engagement from education and training stakeholders on recognition issues, along with enhanced support for mobility initiatives to foster mutual trust. This includes better integration of international experiences within curricula, more intensive guidance on the use of learning outcomes, and capacity building for teachers and training managers on recognition procedures.

Ensuring easier access to information empowers learners to make informed decisions about their educational paths and navigate the complex landscape of available learning opportunities. Developing clear registers of quality-assured qualifications within NQFs can help individuals understand the connections between different qualifications and navigate the learning landscape more effectively. NQFs can be designed to showcase available opportunities and learning paths, providing clarity on how small units of learning outcomes, such as microcredentials, align with broader qualifications. Digital tools and platforms, such as online portals and mobile apps, can be leveraged to better connect information and ensure that it reaches learners.

Providing detailed information on validation opportunities and access requirements can further support learners in making informed decisions about their educational journeys. Guidance and counselling services play a crucial role in supporting learning pathways and career development. These services should accompany learners throughout their educational journey, empowering them to take ownership of their learning paths and fostering a culture of continuous

learning. This necessitates increased investment in guidance and comprehensive, integrated support services that address individuals' holistic needs (e.g. language courses, transport, childcare), enabling them to engage in learning. Targeted initiatives are essential to support disadvantaged learners by providing mentorship programmes and customised support services that facilitate reintegration into formal education systems and address socioeconomic barriers to equitable access. Additionally, financial incentives and measures to accommodate other commitments during training (e.g. work and family responsibilities, transport) can play a key role in promoting participation in learning.

The report highlights the existing segmentation within the education and training system that limits individuals' ability to access, transfer and accumulate learning outcomes. Addressing the 'siloed' operation of its subsectors requires greater investment in promoting coordination and cross-sectoral collaboration at various levels. This collaboration should involve key stakeholders, including learning providers, awarding bodies, quality assurance agencies, guidance services, learners, policymakers, employers and social partners. A consistent and integrated policy approach across education and training sectors is crucial for promoting lifelong learning and necessitates stronger synergy between national and European initiatives on transparency and the transferability of learning outcomes. Although implementing these comprehensive and coordinated strategies demands significant resources, the socioeconomic costs of inaction are far greater. By addressing individuals' needs and adopting the corresponding policy recommendations, the EU can foster an effective, inclusive and learner-centred education and training space that promotes lifelong learning. This will facilitate the seamless transfer of learning across institutions, systems and countries, promote individuals' development and equip people with the skills essential for the 21st century.

Abbreviations

BTS	*brevet de technicien supérieur* (higher technician certificate)
CPF	*compte personnel de formation* (personal training account)
CVET	continuing vocational education and training
ECTS	European credit transfer and accumulation system
ECVET	European credit system for vocational education and training
EDUFI	Finnish National Agency for Education
EHEA	European higher education area
EQF	European qualifications framework
ESL	early school leaving
EU	European Union
EU-LFS	EU Labour Force Survey
FET	further education and training
HBO	*hoger beroepsonderwijs* (higher vocational education)
HVET	higher vocational education and training
IQS	Integrated Qualifications System
ISCED	International Standard Classification of Education
ITS	*istituto tecnico superiore* (higher technological institute)
IVET	initial vocational education and training
LLL	lifelong learning
MBO	*middelbaar beroepsonderwijs* (upper secondary vocational education)
NARIC	National Academic Recognition Information Centre
NEET	person not in education, employment or training
NFIL	non-formal and informal learning
NQF	national qualifications framework
OECD	Organisation for Economic Co-operation and Development
PES	public employment service
pp	percentage point
RPL	recognition of prior learning
RQ	research question
UAS	university of applied sciences
VAE	*validation des acquis de l'expérience* (validation of learning)
VAP	*validation des acquis professionnels* (validation of professional learning)
VET	vocational education and training
VNFIL	validation of non-formal and informal learning
WBL	work based learning

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Lifelong learning in 2000 and 2020

What has changed for the individual citizen?

This report examines the progress made over two decades (2000-2020) in transforming lifelong learning into a reality for individuals in Europe. The study finds that, while significant progress has been made in promoting flexible and inclusive education and training systems, barriers and challenges remain.

Key changes include increased opportunities for personalisation of learning experiences, expansion of quality education and training pathways with improved accessibility, and easier portability of qualifications across countries. However, challenges persist. These include fragmented strategies and limited coordination between sectors, implementation hurdles, underuse and underdevelopment of credit systems and quality assurance frameworks, low uptake of validation of non-formal and informal learning, and variations in the recognition of qualifications.

The report provides policy recommendations to address these challenges, including promoting a cohesive strategy with stronger cross-system stakeholder collaboration, integrating non-formal and informal learning, and strengthening the capacity of institutions and stakeholders to further support their implementation.

5613 EN - TI-01-25-090-EN-N - doi:10.2801/0797591

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