Education Policy Outlook 2025

Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

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Foreword

The *Education Policy Outlook*, the OECD's analytical observatory of education policy, is a collaborative effort between OECD countries and economies, the OECD Secretariat, and invited organisations, as well as all actors working within participating education systems, to help students achieve their potential.

This report was prepared by the Education Policy Outlook Team (Diana Toledo Figueroa [Project Leader], Sophia de Berardinis, and Emily Qing). Hugo Marques de Sousa also contributed during the preparatory stages of this work with data analysis and drafting. It was prepared under the responsibility of Paulo Santiago, Head of the Policy Advice and Implementation Division, Lucia Dellagnelo, Deputy Director for Education and Skills, and Andreas Schleicher, Director for Education and Skills and Special Advisor on Education Policy to the OECD Secretary-General. Ameline Besin provided editorial and administrative support, with communications input from Sasha Ramirez-Hughes, Joanne Caddy, Duncan Crawford, Rachel Linden, Anna Wahlgren, and Della Shin.

The preparation of this report was possible thanks to the work undertaken by the Education Policy Outlook (EPO) in its three strands of work – comparative and thematic analysis, country-based work (mainly through the preparation of country policy profiles) and policy dialogue. These act as building blocks to develop, strengthen, and mobilise international knowledge of education policy. The OECD Secretariat is thankful to its EPO National Coordinators and key actors' representative bodies at the OECD – including the Trade Union Advisory Committee (TUAC) and Business at OECD (BIAC) – for their valuable input during the project's activities, which have informed the preparation of this publication.

Grounded on extensive research and data analysis, the EPO comparative reports provide evidence-based insights into international education policy. From 2023, the Education Policy Outlook also supports countries to follow up on the goals established by the ***2022 Declaration on Building Equitable Societies Through Education***. As part of this support, this report continues the Education Policy Outlook's work on responsiveness and resilience since 2020 and provides insights relevant to education actors in 2025 based on priority areas of the *Framework of Responsiveness and Resilience in Education Policy.* The report presents insights from international comparative analysis of relevant and promising policy efforts adopted by participating countries in recent years to support lifelong learning.

The report also builds on responses from 35 education systems to the *Education Policy Outlook (2025) National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation,* collected mainly between June and August 2025 and additional evidence. The education systems participating in this study are: Austria; Belgium (Flemish, French, German-speaking Community); Brazil; Bulgaria; Chile; China; Costa Rica; Croatia; Czechia; Estonia; Finland; France; Germany; Iceland; Japan; Lithuania; Luxembourg; Mexico; the Netherlands; New Zealand; Norway; Peru; Poland; Portugal; Romania; Slovak Republic; Slovenia; Sweden; Thailand; Türkiye; United Kingdom (England, Northern Ireland) and the United States. Information for other education systems was collected through other Education Policy Outlook activities. In total, over 230 policies were retained and analysed.

This report was launched at the *Education Policy Reform Dialogues 2025: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation*, co-hosted with the Ministry of National Education, Children and Youth of Luxembourg in Luxembourg on 28-29 November 2025. The Education Policy Reform Dialogues, organised annually since 2018, are the leading OECD forum on education policy. Outcomes of the discussions inform the future work of the OECD on education and skills, including the Education Policy Outlook.

Editorial

Learning today isn't about how old you are – it's about how empowered you are. The old script of "study hard, get a job, retire quietly" has been shredded. We're living longer, switching careers like apps on a smartphone, and navigating technologies that reinvent what counts as knowledge faster than our education systems can reboot. Education can no longer be only a launchpad for your first job. It has to become the operating system for your whole life – powering every transition, every reinvention, every leap from school to work, between careers, through caregiving spells, layoffs, and life's later chapters.

This is both exhilarating and unnerving. It forces all of us – learners, employers, governments – to rethink what learning really means. It demands more curiosity, more self-discipline, more confidence from individuals who must constantly learn in new ways as life changes around them. It calls for learning environments – schools, workplaces, community centres, online platforms – that meet people where they are at different life stages. And it requires governments to build a trustworthy backbone of funding, recognition, and quality assurance, so that opportunities are real for everyone, not just those already in stable jobs. When these pieces click together, lifelong learning stops being a slogan and starts becoming a lived reality.

The OECD's Education Policy Outlook shows that our readiness to learn isn't fixed – it evolves. Early childhood is where curiosity sparks and self-regulation begins. Adolescence is when identity, motivation, and agency take shape. Mid-career is a crossroads: skills can plateau just when reinvention becomes essential. And later life still matters – connection, contribution, purpose – all of which rely on continued access to learning. Smart policy strengthens these turning points, shaping habits of mind that last a lifetime.

So, are today's education systems preparing people to be lifelong learners? The evidence says: not yet. Too many young people are walking out of school less prepared for modern life – PISA 2022 makes that painfully clear. Adult skills are stagnating or slipping, as shown in the OECD Survey of Adult Skills (PIAAC). Yes, improving schools is vital. But it's no longer sufficient. We need to stop treating adult learning as a series of disconnected pit stops and start building smooth, navigable highways of opportunity. That means coherent learning pathways, portable skills, and recognition systems that value the experience adults already have – whether gained in a classroom, a workplace, or a life lived on the margins.

This challenge isn't just about offering more learning. It's about alignment.

- *Alignment of incentives* – so individuals, institutions, and employers all benefit when learning continues.
- *Alignment of resources* – so time, money, and recognition travel with the learner.
- *Alignment of innovation* – so digital tools amplify human potential, widen access, build trust, and push equity forward rather than backward.

Drawing on more than 230 policies across 35 countries, the 2025 edition of the OECD's Education Policy Outlook shows what this future can look like: parenting programmes that boost early learning at home; curricula that strengthen adolescents' agency and social-emotional superpowers; modular qualifications and micro-credentials that let adults upskill without pressing pause on their lives; and age-friendly training programmes that keep older workers active, valued, and connected. Together, they challenge the outdated myth that the skills you gain in life are the skills you keep for life.

In the end, making lifelong learning real requires an education ecosystem that reflects the world it aims to serve. One that puts learner agency at the centre. One that adapts to people's lives rather than forcing people to contort their lives around it. Because in a world where anyone can learn anything, anywhere, the real currency of progress won't just be what people know – it will be their capacity, and their courage, to keep learning. We used to learn to do our work, now learning is the work.

Andreas Schleicher

Director for Education and Skills,

OECD Special Advisor on Education

Policy to the Secretary-General

Table of contents

Foreword 3

Editorial 4

Reader's guide 9

Abbreviations and acronyms 11

Executive summary 13

1 Overview 15
- In Brief 16
- Introduction 17
- Where do we stand as lifelong learners? Trends, gaps, and opportunities 18
- Key ingredients for lifelong learning: will, skills, and means 23
- Mapping policy approaches reinforcing lifelong learning at these critical moments 30
- References 31

2 Early Childhood 34
- In Brief 35
- Introduction 36
- Relevant insights from international evidence 37
- Policies for strengthening the will, skills and means for lifelong learning in the early years 38
- Considerations for the future 58
- References 61
- Annex 2.A. List of policy approaches 64

3 Early to Mid-Adolescence 67
- In Brief 68
- Introduction 69
- Relevant insights from international evidence 70
- Policies for strengthening the will, skills and means for lifelong learning in early to mid-adolescence 71
- Considerations for the future 92
- References 94
- Annex 3.A. List of policy approaches 97

4 Mid-Career 100
In Brief 101
Introduction 102
Relevant insights from international evidence 103
Policies for strengthening the will, skills and means for lifelong learning or mid-career adults 104
Considerations for the future 124
References 126
Annex 4.A. List of policy approaches 127

5 Approaching retirement 131
In Brief 132
Introduction 133
Relevant insights from international evidence 135
Policies for strengthening the will, skills and means for lifelong learning of individuals approaching retirement 136
Considerations for the future 149
References 151
Annex 5.A. List of policy approaches 152

FIGURES

Figure 1.1. Enrolment and participation in education have stagnated since 2012 19
Figure 1.2. From classroom to career – Mathematics skills are falling behind 20
Figure 1.3. Changes in adults' numeracy proficiency differ among countries 20
Figure 1.4. Incidence of qualification, skills and field of study mismatch 21
Figure 1.5. Change in preparedness for digital learning 22
Figure 1.6. Pre-primary attendants perform better in mathematics than peers who did not attend, or attended for less than a year 24
Figure 1.7. Age difference in socio-emotional skills 26
Figure 1.8. Adult skills are dropping with age 28
Figure 2.1. Pre-primary education is associated with better mathematics performance and self-efficacy in mathematics 36
Figure 2.2. Attending ECEC is associated with a growth mindset 46
Figure 2.3. Frequent home-learning activities are linked to higher mathematics achievement 54
Figure 3.1. Higher performers in mathematics tend to have better self-directed learning 69
Figure 3.2. Students' engagement in digital resources can increase pedagogical effectiveness 77
Figure 3.3. Intrinsic motivation to learn is higher among students with more ambitious aspirations 81
Figure 3.4. Teacher support is an important influence on mathematics performance for adolescents 85
Figure 4.1. Participation in formal and non-formal education has decreased in many countries 102
Figure 4.2. Employers remain the main sponsors of adult learning in many countries 109
Figure 4.3. Continuum of Non-digital to Digital/AI based Training Approaches (examples) 110
Figure 5.1. Older workers are the least likely to participate in adult learning 133
Figure 5.2. Older adults reach the lowest average literacy proficiency scores 134
Figure 5.3. Older adults represent the largest share of low literacy performers 135

INFOGRAPHICS

Infographic 2.1.How policy strategies for early childhood vary according to their aims 39
Infographic 3.1. How policy strategies for early to mid-adolescents vary according to their aims 72
Infographic 4.1. How policy strategies for mid-career adults vary according to their aims 105
Infographic 5.1. How policy strategies for late-career adults vary according to their aims 137

TABLES

Annex Table 2.A.1. List of policies for early childhood 64
Annex Table 3.A.1 List of policies for early to mid-adolescence 97
Annex Table 4.A.1. List of policies for mid-adulthood 127
Annex Table 5.A.1. List of policies for approaching retirement 152

BOXES

Box 2.1. Lithuania – resources generated as part of building digital competencies of educators 45
Box 2.2. Japan – supporting will, skill and means for lifelong learning 46
Box 2.3. Finland – Mechanisms implemented as part of multi-professional teams in ECEC 49
Box 2.4. Thailand – Collaboration with cross-sectoral actors in ECEC 51
Box 2.5. Norway – Digital approaches in early childhood curriculum frameworks 52
Box 2.6. United Kingdom – Targeted entitlements in early childhood 56
Box 3.1. Austria – Curriculum reform in primary and lower secondary education 74
Box 3.2. Estonia – Integrating AI applications into classrooms 75
Box 3.3. Adolescents' digital engagement: balancing opportunities and risks 77
Box 3.4. Portugal – modernising infrastructure of specialised technological centres 79
Box 3.5. Slovenia – Supporting means, skill and will of learners through modernised curricula 82
Box 3.6. Netherlands – Resources generated to support career orientation 90
Box 3.7. Northern Ireland (United Kingdom) – actors contributing to school programme delivery 91
Box 4.1. Sweden – Flexibility of scope to adapt to change 107
Box 4.2. Poland – Engaging actors to implement micro-credentials 110
Box 4.3. Estonia – A digital approach to lifelong learning 111
Box 4.4. Germany – Funding to support employers and workers to upskill 112
Box 4.5. Portugal – Some resources developed to enhance different actors' skills 114
Box 4.6. France – Supporting will, skills and means 117
Box 5.1. China – Mechanisms and actions to support older adults' learning needs 139
Box 5.2. United States – Scope and timeline of employment programmes for older adults 140
Box 5.3. German-speaking Community of Belgium – actors involved in the Digital Strategy 142

Reader's guide

This report serves as a **comparative handbook for policymakers**, analysing how countries are building more coherent lifelong-learning systems. It supports the implementation of the 2022 OECD Education Ministerial Declaration on Building Equitable Societies through Education, by identifying policies that help individuals develop the **will, skills and means** to engage in learning throughout life. It also contributes to policy dialogue across OECD and partner economies by translating international evidence into actionable insights.

Purpose and scope

The Education Policy Outlook 2025 examines how countries can design and sustain lifelong-learning policies across **four critical moments** in the learning journey: **early childhood, early to mid-adolescence, mid-career, and approaching retirement**. These are stages when well-timed policy action can have particularly high and lasting returns for individuals and societies.

Analytical framework

Each chapter applies the Will-Skills-Means framework, which captures key conditions supporting people to become lifelong learners:

- **Will** – learners' motivation, socio-emotional wellbeing, curiosity and agency;
- **Skills** – foundational, transversal and digital competences that sustain learning;
- **Means** – the environments, resources and opportunities that make participation possible.

Chapter structure

Each chapter follows a systematic analytical structure:

Introduction: situates the critical moment in context and highlights its relevance for lifelong learning.

Relevant insights from international evidence: summarises cross-country data and research.

Policies for strengthening the will, skills and means for lifelong learning, organised into:

- *Strategic design choices* – how systems align aims, delivery mechanisms, actors and resources to translate intent into practice;
- *Fostering the will for lifelong learning* – policies that strengthen motivation, wellbeing and learner agency;
- *Developing the skills for lifelong learning* – policies that build foundational, transversal and digital competences;
- *Creating the means for lifelong learning* – policies that improve access, resources and enabling environments.

Considerations for the future: synthesis of key trade-offs, blind spots and lessons for strengthening coherence and resilience.

This structure provides analytical consistency across critical moments while allowing flexibility to reflect each moment's specific context and policy priorities.

How to use the report

Readers can approach the report in two complementary ways:

- **Sequentially**, to follow how lifelong learning evolves from early childhood to later adulthood; or
- **Selectively**, by consulting individual chapters or specific pillars most relevant to their national priorities.

The common analytical structure and terminology across chapters enable easy comparison and cross-reference, supporting both whole-system reflection and stage-specific analysis.

Abbreviations and acronyms

AARP	American Association of Retired Persons (United States)
AI	Artificial Intelligence
ALMP	Active Labour Market Policy
AMS	Austria's Public Employment Service (Austria)
Cedefop	European Centre for the Development of Vocational Training
COVID-19	Coronavirus Disease 2019
CPD	Continuing Professional Development
CRED	Relevant Curriculum, Open Education for All (Romania)
ECE	Early Childhood Education
ECEC	Early Childhood Education and Care
ECSET	Early Childhood Special Education Teacher (Finland)
EdTech	Education Technology
ENIC	European Network of Information Centres
EU	European Union
EPO	Education Policy Outlook
ESP	Extended School Programme (Northern Ireland, United Kingdom)
FEST	Formation en Situation de Travail (France)
HE	Higher Education
HEI	Higher Education Institution
HR	Human Resources
IBE-PIB	Instytut Badań Edukacyjnych - Państwowy Instytut Badawczy (Poland)
ICT	Information and Communication Technology
IEA	International Association for the Evaluation of Educational Achievement
IQS	Institute for Quality Assurance of the Federal Government (Austria)
IT	Information Technology
MOOC	Massive Open Online Course
NARIC	National Academic Recognition Information Centres in the European Union
NGO	Non-Governmental Organisation
NIESIS	Northern Ireland Extended Schools Information System (Northern Ireland, United Kingdom)
OECD	Organisation for Economic Co-operation and Development
OUC	Open University of China (China)
PADDE	Development of the Digital Development Plans (Portugal)
PES	Public Employment Service
pHARE	Programme de Lutte Contre Le Harcèlement à l'école (France)
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PRONOEI	Programas No Escolarizados de Educación Inicial (Peru)
QA	Quality Assurance
RPL	Recognition of Prior Learning
SCSEP	Senior Community Service Employment Program (United States)
SEL	Social and Emotional Learning
SeQF	Swedish Qualifications Framework (Sweden)
SSES	Survey on Social and Emotional Skills
SME	Small and Medium-Sized Enterprise
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
UOA	University for Older Adults (China)

VET	Vocational Education and Training
VMBO	*Career Orientation and Guidance For Lower Secondary Vocational Programme* (Netherlands)
VÕTA	*Validation of Prior Learning and Work Experience* (Estonia)

Executive summary

In a world of rapid technological transformation, social change, and longer lives, people must learn, unlearn, and relearn throughout their lives. Yet, despite decades of reform, participation in learning beyond initial education has barely improved. OECD evidence shows that engagement in adult learning remains stagnant and student learning outcomes have declined or plateaued in many countries.

Simply expanding educational opportunities is not enough. What differentiates **lifelong learners** is their ability to direct and sustain their own learning by mobilising three essentials:

- **Will** – the curiosity, confidence and purpose to keep learning.
- **Skills** – the cognitive, social and digital foundations to acquire and apply new knowledge.
- **Means** – the time, resources and networks that make participation possible.

This report analyses how countries can support lifelong learning across four critical life moments: early childhood, early to mid-adolescence, mid-career and late career. These are stages when individuals are especially open to learning or at risk of disengagement. Drawing on over 230 policies from 35 countries and economies, the report identifies strategic choices of policy design, as well as how these support the will, skills and means of learners. The analysis of policies and their results has led to the identification of key policy priorities.

Early childhood (ages 0 to 6): Building curiosity and confidence. Early childhood lays the foundation for lifelong learning. During these formative years, children develop the dispositions that underpin all later learning, such as curiosity, persistence and motivation. Families and educators shape these early experiences, while policies provide coherent frameworks and support access to quality provision. Policies address these elements as follows:

- **Will:** Nurture dispositions and skills for lifelong learning.
- **Skills:** Foster early cognitive and socio-emotional development; enhance quality for all; harness digital tools and delivery.
- **Means:** Strengthen the home learning environment; ensure equitable access; support cross-sectoral collaboration.

Policy priorities include supporting the workforce, so they have dedicated time, support and professional learning opportunities to shape environments that foster curiosity, creativity and socio-emotional growth. Family engagement can also be strengthened through structured outreach, guidance and partnerships. Countries can continue expanding access as well, such as in Czechia and Spain for children aged 0-3 and vulnerable groups.

Early to mid-adolescence (ages 10 to 16): Shaping identity and purpose. Adolescence is when learners start defining who they are and what they value. They need perseverance, self-reflection and the capacity to make informed choices. Yet this stage also carries high risk of disengagement from school. Environments that make learning relevant, relational and purposeful, with effective teacher practices and quality teacher–student relationships, can sustain adolescents' motivation and self-belief, with lasting effects on lifelong learning. Policies address these elements as follows:

- **Will**: Nurture student agency; support social and emotional skills.
- **Skills**: Ensure effective teaching practices; develop transversal competencies.
- **Means**: Harness digitalisation; strengthen career readiness and guidance; support cross-sectoral collaboration.

Policy priorities include investing in continuous, practice-based professional learning. This approach enables teachers to connect new curricula, digital tools and formative assessment in ways that foster students' motivation and agency. For example, Finland is modernising curricula and assessment and Iceland promotes cross-sector collaboration to integrate education, social and health services.

Mid-career (ages 35 to 44): Supporting flexibility and mobility. At mid-career, adults face competing demands, such as from work and family, while needing to upskill or reskill. They are more likely to engage in learning when opportunities align with their lives and when their effort leads to tangible outcomes, such as recognition or career advancement. To empower mid-career adults, policymakers should consider financial support, structural flexibility, and strong engagement mechanisms that remove barriers. Policies address these elements as follows:

- **Will**: Strengthen motivation and agency through learner entitlements; guidance and peer or community networks that rebuild confidence.
- **Skills**: Offer modular and stackable qualifications; support employability and portability; and build digital and transversal skills to participate effectively in technology-enabled learning.
- **Means**: Support access and participation through predictable funding, guidance and digital tools; and strengthen cross-sector partnerships to share costs, align training with labour-market needs and extend reach to Small and Medium Enterprises (SMEs) and non-standard workers.

Policy priorities include creating short, adaptable learning opportunities that fit around personal and professional responsibilities. Policies should also strengthen recognition and quality assurance so that learning – whether digital, modular or workplace-based – leads learners to portable, valued qualifications that support career mobility and resilience. For example, Estonia has developed a system that formally recognises skills acquired outside formal education, including through work, volunteering and informal learning. Similarly, Norway provides employer-based training in foundational and workplace skills backed by government grants. Such approaches can be particularly relevant in labour markets marked by frequent job transitions and career changes.

Approaching retirement (ages 55 to 65): Adapting, contributing and staying connected. As adults approach retirement, lifelong learning takes on new significance as adults prepare for transitions within work and into retirement. Faced with greater risks of disengagement, skill depreciation and labour-market exclusion, older adults benefit from learning opportunities that strengthen adaptability, rebuild purpose and confidence, and enable them to apply their experience and skills in new and meaningful ways. Beyond acquiring new skills, learning in later life helps individuals sustain a sense of fulfilment, social participation and contribution to their communities. Policies address these elements as follows:

- **Will:** Encourage continued engagement and recognise the value of experience.
- **Skills:** Promote upskilling and reskilling, digital inclusion and inter-generational learning.
- **Means:** Expand access through age-friendly workplaces, tailored incentives and coordinated health, labour and education services.

Policy priorities include empowering older adults by recognising their experience and fostering engagement in learning throughout life. Community-based learning initiatives can enable older adults to manage their own learning, share their knowledge and strengthen social cohesion. Workplaces play a key role by valuing experience and embedding age-inclusive practices, such as mentoring, flexible work arrangements and inter-generational knowledge transfer within organisational culture. These can be supported by incentives and thoughtful human-resource design.

Creating a culture of lifelong learning means cultivating both the habits and institutions that make learning expected and valued. Countries need to combine clear standards with individual agency and collaborative delivery, showing that lifelong learning flourishes when motivation, capability and opportunity reinforce one another.

1 Overview

This chapter explores lifelong learning as a strategic priority for OECD countries, highlighting persistent gaps and emerging opportunities. Using data collected by the Education Policy Outlook (EPO) and other OECD datasets, it reviews the limited progress in advancing lifelong learning and identifies key challenges linked to demographic change, digitalisation, and widening inequalities. The chapter underscores the importance of learner agency, focusing on how individuals' will, skills, and means shape their capacity to engage with learning across life stages. It introduces the concept of critical moments in the learning journey, focusing on those of early childhood, early to mid-adolescence, mid-career, and approaching retirement. This analysis sets the stage for policy to move beyond fragmented initiatives and strengthen lifelong-learning systems in increasingly dynamic global contexts.

In Brief

Critical moments for lifelong learning

Lifelong learning is a strategic priority for OECD countries and a foundation for inclusive, resilient and future-ready societies. It underpins economic competitiveness, social cohesion and individual well-being. However, despite decades of policy commitments, progress towards lifelong learning remains uneven and inconsistent across different life stages and learning formats.

This challenging situation is compounded by rapid demographic, economic and technological shifts. People are living and working longer, while career paths have become non-linear, often involving multiple job changes, breaks and transitions. At the same time, technological advances such as artificial intelligence (AI) and automation are reshaping skill demands. These developments mean the traditional path – where people complete education early in life, work for decades and then retire – no longer matches the realities of modern life. Without a shift toward continuous lifelong learning, individuals risk skills obsolescence, and economies risk losing competitiveness. As a result, policymakers need to ensure that people have ongoing opportunities to upskill and reskill throughout their lives. Despite this growing need, current systems are falling short. For example:

- Access to high-quality early childhood education and care (ECEC) remains uneven across and within OECD countries.
- Participation in education and training across life stages has stagnated since 2012.
- Foundational skills such as numeracy and literacy are declining in many OECD countries.

These trends underscore the need for systemic change. Encouragingly, **new opportunities** are emerging to close these gaps. Flexible learning models, such as micro-credentials and modular courses, are expanding access and enabling more tailored, responsive learning pathways. Schools and teachers' improved digital readiness are laying the groundwork for new types of engaging learning experiences.

Looking ahead, to make lifelong learning a reality policymakers could:

- Place **learner agency** at the centre of policy design, ensuring individuals have the motivation, capability, and resources to engage in learning.
- Strengthen learners' **will, skills and means,** enabling them to identify, acquire, and apply new knowledge across varied contexts.
- Target **critical moments** in the learning journey for cost-effective policy impact, in particular:
  - **Early childhood,** where high-quality ECEC fosters foundational cognitive and socio-emotional development.
  - **Early to mid-adolescence**, a key phase for shaping motivation, identity, and digital literacy.
  - **Mid-career**, when balancing personal life can present many challenges, and potential skills decline and a lack of motivation pose major risks.
  - **Approaching retirement,** when skills can further decline; reframing the value of learning can extend working lives and support a smooth transition after retirement.

By investing in these critical moments and empowering individuals with the will, skills, and means to learn, countries can build more equitable, adaptable, and sustainable futures.

Introduction

The 2022 OECD Education Ministerial Declaration on Building Equitable Societies Through Education advocates for a stronger lifelong-learning perspective, promoting the integration of formal, non-formal, and informal learning environments to improve education and training outcomes for everyone (OECD, 2022[1]). It sets out a whole-child, whole-of-society vision, encouraging education systems to leverage spaces, time, technology, and human resources to create more equitable and impactful learning opportunities.

Three years on, the Declaration's messages remain highly relevant. The traditional sequence of education, employment and retirement no longer reflects today's dynamic realities. People live longer, and the pace of social and technological change continues to accelerate. Today, individuals face a markedly different learning journey than they did two decades ago. They must continuously adapt to evolving technologies and contexts, from everyday tasks to complex professional activities.

The expanding role of digital technologies – from early childhood to adulthood – is drawing increasing attention from policymakers. Policy discussions increasingly focus on digital access and capability, the effects on child development, literacy and safety, and implications for learning outcomes and well-being. This change in focus underscores the urgency of preparing learners for a digital future.

Governments must ensure that lifelong learning evolves with technological change and give individuals support to anticipate, adapt and flourish. This means supporting emerging skills, fostering partnerships between public institutions and private sectors, and providing proactive support such as career guidance and reskilling programmes to help people develop themselves. Equally important is addressing the divide between individuals who are well-positioned for ongoing skill development and those at risk of being left behind. This gap often reflects differences in access to education, digital infrastructure, and employer-supported training. Without coordinated policy action, these disparities risk widening over time, reinforcing social disadvantage and limiting opportunities as people age.

To respond effectively, governments need to explore ways to make smart investments. One effective approach is to focus on key moments in an individual's life when targeted support can have the greatest impact. This chapter examines policies during four critical stages of the learning journey, identified through extensive OECD and international evidence as periods when learning potential, life transitions and policy leverage converge most strongly:

- **Early childhood** lays the foundations for curiosity, self-regulation and early learning, with early investment producing the highest lifetime returns.
- **Early to mid-adolescence** is decisive for shaping motivation, identity and engagement before the end of compulsory education in many countries.
- **Mid-career** represents both a risk for skills obsolescence and an opportunity for reinvention and upskilling.
- **Approaching retirement** is gaining importance in ageing societies, where lifelong learning can extend employability, but also professional and social inclusion and well-being.

Evidence from OECD surveys and thematic work, including the *Survey of Adult Skills (PIAAC)*, the *Programme for International Student Assessment (PISA)*, the *Survey on Social and Emotional Skills (SSES)* and *Early Childhood Education and Care (ECEC)* reviews, consistently shows that policy actions taken at these moments can generate amplified benefits across the life course. Early childhood and adolescence are developmental inflection points when cognitive, social and emotional capacities are especially malleable, and inequalities can either widen or narrow. Mid-career and pre-retirement phases are key transitions in working life, when technological change and shifting roles make reskilling and adaptation essential.

Together, these moments provide a comparative framework for strategic resource allocation and design choices. They are not the only points at which learning matters, but they are periods where evidence suggests that well-timed, coherent policies can deliver the greatest cumulative impact on individuals, economies and societies.

This chapter first provides an overview of the global policy context facing lifelong learners today, highlighting emerging challenges and opportunities. It then develops the concept of lifelong learning through critical moments, as an introduction for more detailed analysis in the following chapters.

Where do we stand as lifelong learners? Trends, gaps, and opportunities

Lifelong learning has been a longstanding priority for OECD countries, with commitments reaffirmed in the 1996 and 2022 Education Ministerial (OECD, 2022[1]; OECD, 1996[2]). In line with the international agenda, including the United Nations Educational, Scientific and Cultural Organization (UNESCO)'s vision of lifelong learning (UNESCO, 2025[3]), these declarations emphasise sustaining learners from early years to old age, integrating formal, non-formal and informal learning, and ensuring equitable opportunities across people's lives. Yet, despite these efforts, progress has been uneven across countries and life stages.

Limited progress

In many countries, lifelong learning is still narrowly associated with adult learning or continuing education. This limited interpretation often constrains policy ambition and resource allocation. As a result, investments remain uneven across life stages and lifelong-learning strategies are frequently fragmented or reactive. Shifting political priorities can also further inhibit progress, making it difficult to sustain long-term commitments.

One of the most effective ways to kickstart lifelong learning is by ensuring that all children have access to high-quality early childhood education and care (ECEC). These early years lay the foundation for curiosity, self-regulation and socio-emotional skills – attributes that strongly predict future engagement in learning.

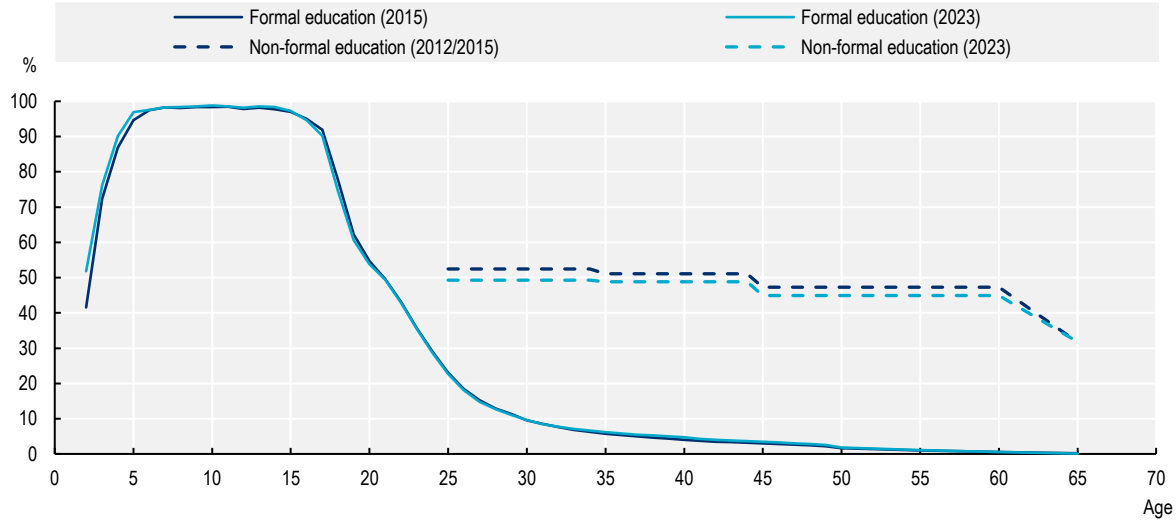
The share of children enrolled in ECEC increased substantially over the last decade in many OECD countries and economies, yet disparities persist (see Figure 1.1). While 85% of children aged 3–5 attend early childhood education, enrolment for those aged 0–2 remains low at 29%, and children from disadvantaged socio-economic backgrounds remain consistently less likely to participate or to access high-quality provision (OECD, 2025[4]). These disparities matter as high-quality ECEC is one of the most cost-effective levers for building early skills, with particularly strong effects for vulnerable children and lasting effects on later academic performance (see Figure 1.1).

After children transition into primary school, most OECD countries have achieved near-universal enrolment for children aged 6 to 14, with enrolment rates exceeding 98% (OECD, 2025[4]). Beyond mandatory schooling, however, formal education enrolment has stagnated and some countries continue to face high drop-out rates in both upper-secondary and tertiary education (OECD, 2025[4]) (see Figure 1.1).

The situation in adulthood is equally concerning. Data show that engagement in formal and non-formal education has not improved among adults in many countries since 2012 (see Figure 1.1). It has stagnated among adults aged 25- 65 and declined for those aged 35–55, with only 43% participating in the past year on average in this latter age group (OECD, 2025[5]). Older adults saw participation drop further, with just 26% of 55-65 year-olds reporting participation in any job-related learning over the previous 12 months (OECD, 2025[5]).

Figure 1.1. Enrolment and participation in education have stagnated since 2012

Enrolment rate in formal education and participation rate in non-formal education between 2012-15 and 2023



Note: Results show OECD average. To maximise comparability across cycles, does not include adults who in PIAAC cycle 2 were only administered the doorstep interview due to a language barrier.
Source: UOE data collection (UNESCO/UIS-OECD-Eurostat) for data on enrolment rate in formal education (age group 2-65), https://data-explorer.oecd.org/s/3eu; PIAAC for data on participation in non-formal education (age group 25-65), https://doi.org/10.1787/b263dc5d-en.

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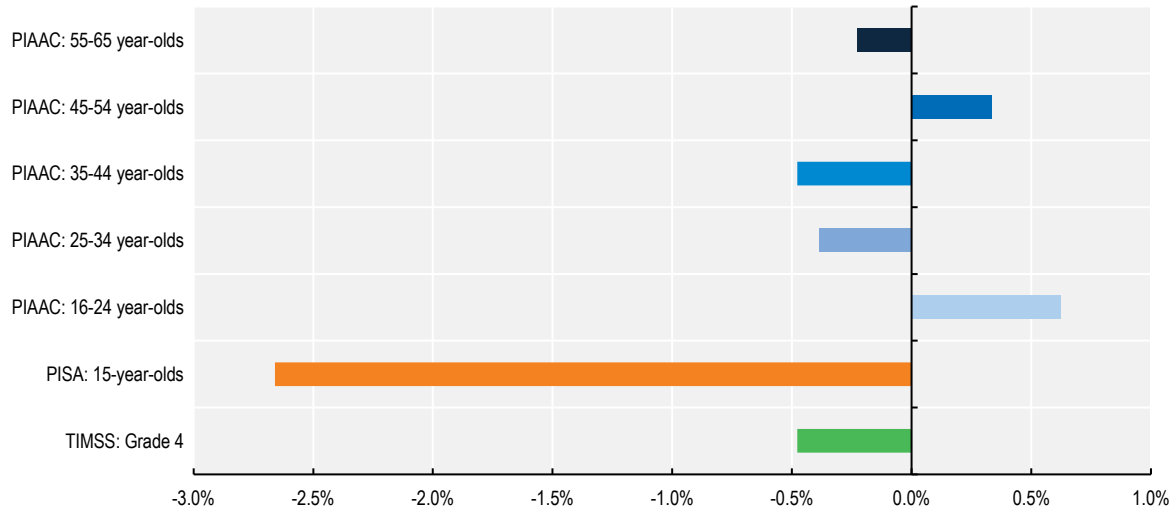
Learning outcomes are also declining. Data for fourth-grade students (ages 8-10 depending on countries policy on age of entry to school), from the Trends in International Mathematics and Science Study (TIMSS 2023) show declines in mathematics performance (see Figure 1.2) (von Davier et al., 2024[6]). For students at the age of 15, PISA 2022 results show a drop of over 3 percentage points in mathematics performance compared to 2012, continuing a downward trend that began before the COVID-19 pandemic (OECD, 2023[7]).

Adult skill performance is also waning. Across most OECD countries, literacy and numeracy proficiency stagnated or declined between 2012 and 2023, with a significant share of adults having low skills (OECD, 2024[8]). Declines in numeracy are most pronounced among those aged 55-65-, 35-44-, and 25–34-year-olds, as measured by the OECD Survey of Adults Skills (PIAAC) (see Figure 1.2). Without sustained engagement in quality learning, adults risk losing critical competencies, particularly in numeracy and mathematics, which are central to succeeding in increasingly digital and data-rich economies. While these skills are conceptualised differently across the surveys analysed, the combined evidence signals faltering skills development across life stages (OECD, 2024[8]).

At the same time, some countries show notable improvements in proficiency levels, with Finland and Singapore leading, followed by Estonia, Norway, Chile, and Denmark (see Figure 1.3). These findings suggest that targeted policy interventions or educational reforms can enhance numeracy skills across different age groups (16-65) and strengthen lifelong learning.

Figure 1.2. From classroom to career – Mathematics skills are falling behind

Percentage change in average numeracy (PIAAC 2012/15-23) and mathematics scores (PISA 2012-22; TIMSS 2015-23)



Note: (1) This analysis considers only countries that participated in both cycles of PIAAC, except for TIMSS, where Austria, Estonia and Israel are not included; (2) PIAAC measures adult numeracy as the ability to access, interpret, and critically use mathematical content, information, and ideas in everyday life, including both traditional and digital contexts. PISA assesses 15-year-olds' capacity to reason mathematically and to formulate, employ, and interpret mathematics to solve real-world problems, encompassing concepts, procedures, facts, and tools to describe, explain, and predict phenomena. TIMSS evaluates fourth-grade students across three mathematics content domains (number, measurement and geometry, data) and cognitive domains (knowing, applying, reasoning).
Source: TIMSS (2024[6]), OECD (2023[7]), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*, https://doi.org/10.1787/53f23881-en; OECD (2024[8]) *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023,* OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

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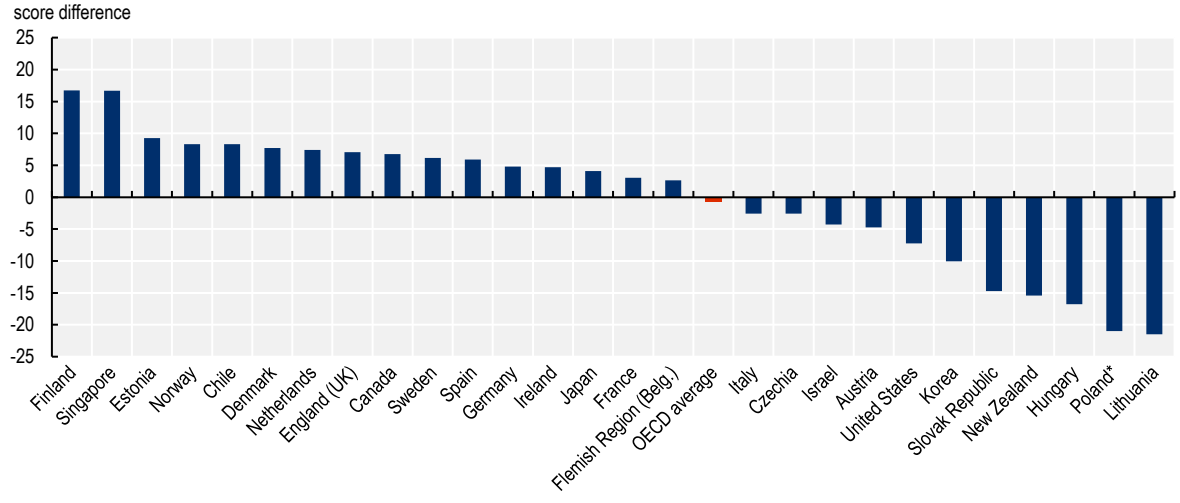
Figure 1.3. Changes in adults' numeracy proficiency differ among countries

Change in average numeracy proficiency scores between 2012 and 2023



Note: Adults aged 16-65. Reference year: 2015 for Chile, Israel, Lithuania, New Zealand, United States, and Singapore; 2017 for Hungary. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns.
Source: OECD (2024[8]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023,* OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

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Rapidly evolving skills needs

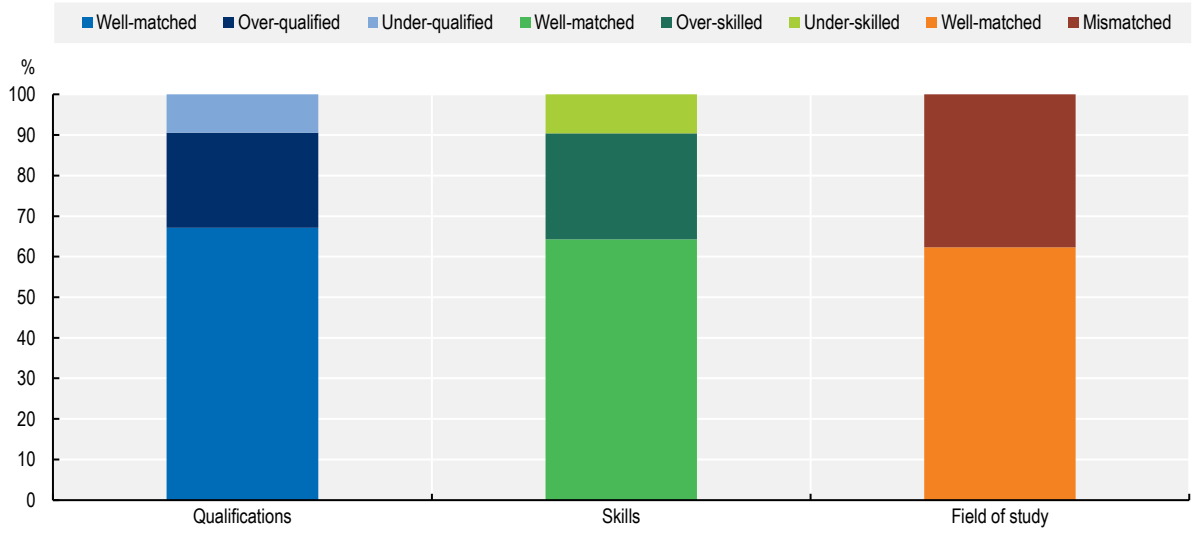
These patterns of skill decline are of particular concern when considering how quickly labour-market requirements are outpacing traditional education cycles. New technologies, the green transition and changing forms of work are reshaping demand at speed (OECD, 2025[9]). Even well-qualified individuals risk falling behind without timely upskilling and reskilling. Demographic shifts, including population ageing and longer working lives, further underscore the importance of supporting mid-career and pre-retirement learners.

Recent evidence also indicates that skills acquired early in life are not always being fully used or continuously updated (OECD, 2024[8]; OECD, 2024[10]). Across OECD countries, nearly one in four workers appear over-qualified or over-skilled for their jobs, limiting productivity and underutilising human capital. About one in ten workers are also under-qualified or under-skilled, risking job insecurity and reduced social mobility. Over one-third work in fields unrelated to their formal education, reflecting misalignment between learning and labour-market needs (see Figure 1.4).

In the context of less linear careers, more frequent job changes and rapid technological adoption, systems face persistent pressure to deliver targeted, cost-effective responses. While the pace of change can seem daunting, the same digital transformation that creates new skill demands also offers powerful tools to meet them. Digitalisation, including AI, offers unprecedented opportunities to expand access to learning beyond traditional classrooms, enabling tailored training at scale, and improving alignment with evolving labour-market needs.

Figure 1.4. Incidence of qualification, skills and field of study mismatch

Percentage of workers who are mismatched, by type of mismatch



Note: Adults aged 25-65. Results show OECD countries average.
Source: OECD (2024[8]) *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023,* OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

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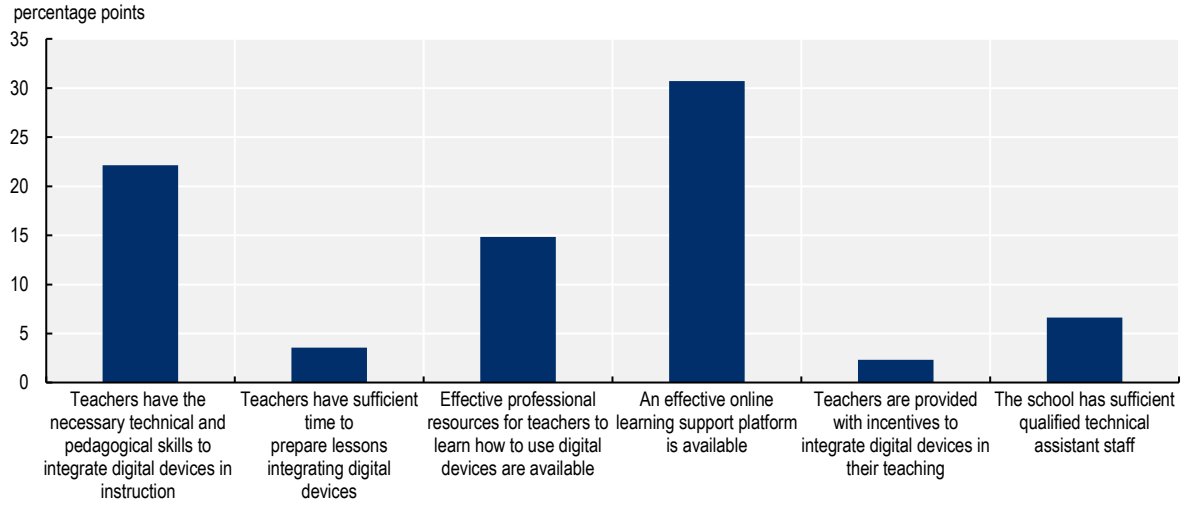
Schools and teachers also report greater preparedness to use digital tools, accelerated by remote learning during COVID-19 (OECD, 2023[7]). According to principals' reports collected by PISA across 68 OECD and partner countries with available information, the share of teachers perceived to have the technical and

pedagogical skills to integrate digital devices in instruction rose from 68% to 90% between 2018 and 2022, a 22 percentage point increase (OECD, 2023[7]) (see Figure 1.5).

Figure 1.5. Change in preparedness for digital learning

Results based on principals' reports, in percentage points



Note: Results show average for OECD and partners and/or accession countries.
Source: OECD (2023[7]), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*, https://doi.org/10.1787/53f23881-en.

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Over the same period, access to online learning platforms increased from 52% to 81%, driven by investments and rapid scaling-up during the pandemic. Professional resources to support teachers in using digital devices also became more widely available, reaching 80% across countries. Smaller, yet meaningful, improvements were observed in the availability of qualified technical support staff and incentives for teachers to integrate digital tools, although the latter remained below 60% (OECD, 2023[7]). While these are perceptions of readiness rather than direct measures, they indicate important progress.

At the same time, systems should assess dispassionately where and how technology can add value to teaching and learning. Despite large financial investment, digital technology is still not transforming teaching and learning at scale. PISA 2022 shows that while a small amount of daily time on digital devices for learning can be beneficial, additional time beyond the first hour is typically associated with lower performance. According to students' reports, the average time spent learning via digital devices per school day exceeds one hour in all OECD education systems, with an average of two hours. Students report an OECD-average of two hours of digital use for learning per school day, and in 21 OECD systems an extra hour is associated with a decline in mathematics performance (about 2 score points per hour) (OECD, 2024[11]). This highlights the need to ensure that teaching and learning processes remain at the centre of any digital innovation.

Flexible learning models, such as micro-credentials and modular courses, allow individuals to acquire skills in more focused and adaptable ways (OECD, 2025[12]). Innovative financing mechanisms, such as individual learning accounts (i.e., virtual accounts where individuals accumulate training rights over time), can empower adults to take greater ownership of their learning pathways (OECD, 2025[13]). Advances in recognising and validating skills acquired outside formal education can also broaden inclusion. Employers,

particularly large firms, are increasingly investing in workforce training, recognising the strategic importance of skills (OECD, 2025[12]).

Policymakers should therefore ensure that digital tools, flexible learning models and financing innovations are not ends in themselves, but actively strengthen learners' agency as effective lifelong learners, so that people of all ages can adapt to evolving contexts and thrive through change.

Key ingredients for lifelong learning: will, skills, and means

In this report, **lifelong learners** are "individuals who proactively engage with learning by mobilising their *will*, *skills*, and *means* to identify, acquire, and apply new knowledge across varied contexts". This places **agency** at the centre of lifelong learning and is grounded in OECD data and previous Education Policy Outlook work, supporting the follow up on the goals set out in the Declaration (OECD, 2021[14]; OECD, 2024[15]). As such:

- ***Will*** refers to the attitudes and dispositions that motivate individuals to learn, including agency, curiosity, growth mindset, persistence, and openness to diverse perspectives. These intrinsic and instrumental attributes are increasingly recognised as key drivers of ongoing learning.
- ***Skills*** encompass both foundational and higher order competencies. Core skills such as literacy and numeracy form the basis for more complex capabilities. These include metacognitive skills, such as the ability to plan, monitor, adapt, and deepen their learning over time (e.g. monitoring one's own learning, adopting proactive strategies, and engaging in critical thinking) (OECD, 2024[15]).
- ***Means*** are the enablers that make participation possible. They include access to appropriate *learning environments* (e.g. families, educational staff, employment centres, and social infrastructures), *tools* (digital and non-digital), recognised *credentials* (e.g. education degrees, professional certifications, or micro-credentials), and key *resources* such as time or financial support. Their quality and accessibility shape effective in lifelong learning.

While lifelong learning is an ongoing process from cradle to grave, education systems can also benefit from adopting a strategic approach that prioritises critical moments in individuals' lives. During these moments of personal, professional or social transitions, education policy can further support individuals' will, skills and means across digital and non-digital environments. By doing this, governments can help individuals shape, enhance, and reaffirm themselves as lifelong learners.

Critical moments for people as lifelong learners

To build resilient, future-ready societies, education policy must pay close attention to **critical moments** in the learning journey. These are points in life when individuals are particularly open to learning – or vulnerable to disengagement – and when targeted policy support can have the greatest impact.

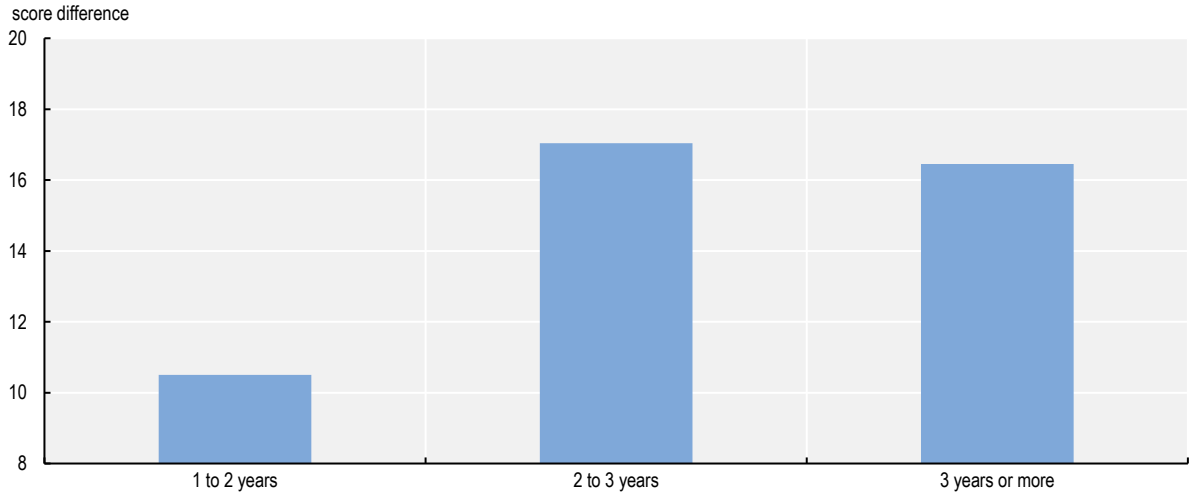
Drawing on insights from OECD data and comparative evidence, four critical moments emerge as policy levers of change for policymakers. These start from the initial years (early childhood and early to mid-adolescence), and span in adulthood (mid-career, and pre-retirement). These critical junctures serve as strategic entry points to engage individuals in lifelong learning.

Early childhood is the foundation of lifelong learning. It is during this period that children begin to develop the dispositions that underpin their capacity to learn throughout life, such as curiosity, persistence, intrinsic motivation and self-regulation (Brooker, 2011[16]). Evidence consistently shows that high-quality ECEC strengthens children's cognitive and socio-emotional skills in both the short and long term, with particularly strong benefits for children from vulnerable backgrounds. All these attributes are strong predictors for future academic success and engagement in learning (Hirsh-Pasek et al., 2008[17]).

Approaches such as play-based and experiential learning, support for emotional regulation, and the intentional development of social, emotional, and cognitive skills all contribute to positive lifelong learning outcomes (OECD, 2025[18]). The OECD's Early Learning and Child Well-being study (2020[19]), conducted in England (United Kingdom), Estonia, and the United States, found that socio-emotional skills (related to learner will) explained up to around one-third of the variation in literacy scores, even after adjusting for socio-economic status. PISA 2022 data also indicate that 15-year-olds who reported attending pre-primary education for at least one year performed better in mathematics compared to peers who did not, even after accounting for students' and schools' socio-economic profile (Figure 1.6).

Figure 1.6. Pre-primary attendants perform better in mathematics than peers who did not attend, or attended for less than a year

Results based on 15-year-old students' reports



Note: Score difference is the change in mathematics performance when students had attended pre-primary school for the following length of time, compared to not having attended, or having attended for less than a year, after accounting for students' and schools' socio-economic profile.
Source: *PISA 2022 Results (Volume II): Learning During – and From – Disruption,* PISA, https://doi.org/10.1787/a97db61c-en.

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Children today are also increasingly immersed in digital environments from the earliest age. Technology can support early learning when used appropriately, offering access to educational content and interactive experiences with appropriate adult supervision. However, risks arise when digital use is excessive or unsupervised, potentially reducing opportunities for social interaction and play, and even affecting children's sleep and emotional regulation. Many so-called "educational" digital resources lack robust evaluation or pedagogical grounding (OECD, 2023[20]). Adult guidance is therefore critical to ensure that technology complements – but does not replace - exploration, play, and human interaction.

Children's "means" for learning are also significantly shaped by their broader environments. This includes ECEC settings, the home environment, parents and caregivers, and broader social contexts (OECD, 2025[18]). Strategic investments in ECEC – particularly for vulnerable groups – can strengthen equity and inclusion from the earliest years. This can narrow achievement gaps before they widen and foster the capacity of individuals to direct their own learning in later life (OECD, 2025[18]; OECD, 2024[15]).

As outlined in Chapter 2, countries are currently promoting policies to strengthen access and participation – for example, through fee abolition, targeted entitlements and outreach – to help ensure all children, particularly those from disadvantaged backgrounds, benefit from high-quality early learning from the start. Enhancing process and structural quality, through curriculum frameworks, workforce development and professional learning, can also support the play-based, inquiry-driven approaches that are important for lifelong learning. Together, these strategic approaches aim to overcome persistent socio-economic disparities in enrolment, quality, and outcomes.

Yet, implementation gaps remain. The policies analysed often lack explicit attention to nurturing dispositions such as curiosity, persistence and self-regulation. Workforce capacity-building efforts appear uneven, and cross-sector coordination tends to be largely project-based. The challenge ahead is not only to broaden access but to ensure that early experiences consistently foster the dispositions, skills and enabling conditions that underpin lifelong learning.

To maximise long-term impact, policymakers must strengthen both what children experience in ECEC and the systems that support those experiences. This begins with embedding the will, skills and means for learning directly into curriculum frameworks, making explicit how social and emotional skills should be nurtured in practice. Sustained professional development for staff, mentoring and time for reflective practice is essential. Supporting families as children's first learning partners also matters; stronger outreach, guidance and cross-sector support can help parents create nurturing home learning environments. As digital tools become more common, policymakers must also set clear expectations and safeguards to ensure technology complements – not replaces – social interaction and exploration. At the same time, expanding access requires a balance between universal provision and targeted measures for those most at risk.

Finally, early childhood policies are most effective when education, health and social services work together. Moving from project-based initiatives to stable coordination mechanisms can ensure coherent support for children and families, especially during transitions to primary school.

Critical moment 2: Early to mid-adolescence

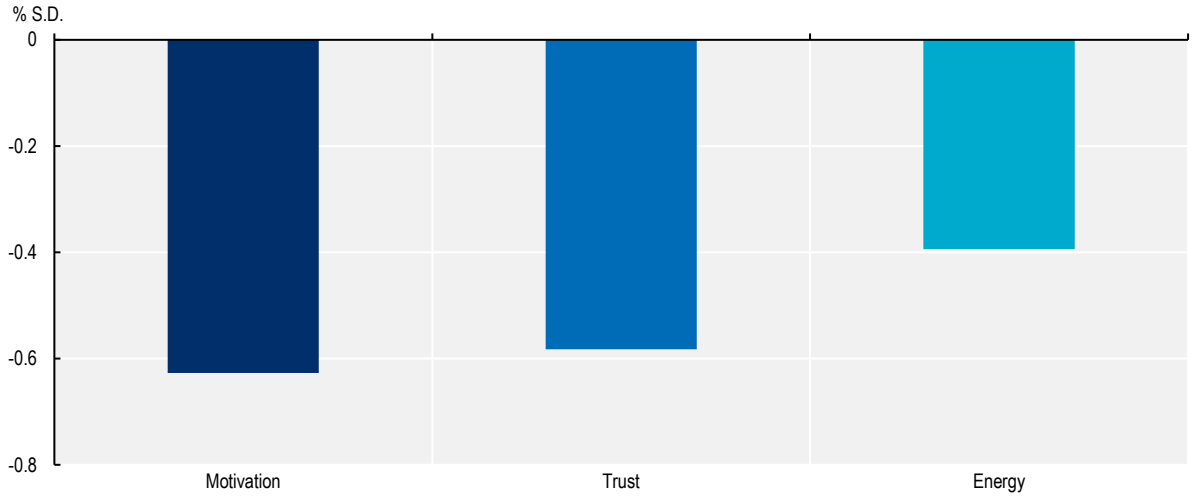
Early to mid-adolescence (ages 10 to 16) represents a final systemic opportunity to equip learners with the will, skills, and means to become resilient, lifelong learners. This period is marked by physical maturation and cognitive, emotional, social and behavioural changes (Pfeifer and Allen, 2021[21]; Dahl et al., 2018[22]). Because compulsory education ends around the age of 16 in most OECD countries (OECD, 2024[10]), these years are the last point at which education systems can reliably reach all learners.

Evidence across cognitive and socio-emotional domains underscores the urgency of intervention. PISA 2022 shows that only 55% of 15-year-olds in OECD countries and economies achieved minimum proficiency in reading, mathematics, and science – down from 69% in 2015. Findings from the OECD Survey on Social and Emotional Skills (SSES) 2023 also show that 15-year-olds score significantly lower than 10-year-olds in nearly all socio-emotional skills assessed, particularly achievement motivation, trust and energy, across participating jurisdictions (Figure 1.7) (OECD, 2024[23]). These skills form the cognitive and socio-emotional infrastructure for self-directed learning later in life (Cunha and Heckman, 2007[24]; Mitchell et al., 2023[25]).

PISA 2022 also highlights the urgent need for OECD education systems to rethink how education systems engage and support adolescents. Only half (50%) of 15-year-olds agreed or strongly agreed that they love learning new things in school, and this percentage varied significantly by socio-economic status (OECD, 2023[7]). These socio-emotional skills, while often underemphasised in curricula, are vital for enabling learners to adapt, grow, and continue learning throughout life.

Figure 1.7. Age difference in socio-emotional skills

Standardised differences in social and emotional skills between the scores of 15- and 10-year-old students



Note: Results show average for the six countries and ten sub-national entities participating in the Survey on Social and Emotional Skills (SSES).
Source: OECD (2024), *Nurturing Social and Emotional Learning Across the Globe: Findings from the OECD Survey on Social and Emotional Skills 2023*, https://doi.org/10.1787/32b647d0-en

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At the same time, while adolescence is a period of exploration and transformation, it also brings an increased risk of disengagement from learning. Students may struggle with motivation, identity or self-esteem, and some withdraw from learning entirely. But vulnerability is uneven: boys more frequently display disruptive behaviours; girls and students with special educational needs more often report low self-esteem; and those from minority or disadvantaged backgrounds experience higher levels of risk (OECD, 2011[26]; Jindal-Snape et al., 2020[27]; Symonds and Galton, 2014[28]; OECD, 2024[29]). PISA 2022 adds that lower prior achievement and weaker teacher-student relationships are associated with increased likelihood of disengagement. These risks can manifest as absenteeism, grade repetition, and early school leaving, with long-term social and economic consequences. Students who missed more school in secondary education scored substantially lower in mathematics than peers with regular attendance (OECD, 2023[30]). Early leavers face higher risks of unemployment, precarious work and social exclusion, with significant costs for individuals and societies (OECD, 2023[31]).

These challenges unfold alongside significant changes in learning environments. As students transition from the generalist structure of primary school to the more specialised and fragmented organisation of secondary education, demands increase and the risk of disconnection can grow. Adolescents also rely more heavily on peer groups and spend more time in digital spaces, often with limited adult oversight. These changes affect both the means and motivation to learn. Their self-regulation tends to decline, increasing susceptibility to risky behaviours both online and offline (Burns and Gottschalk, 2020[32]).

Given that the digital world is now integral to many adolescents' realities, students need guidance, support and empowerment to navigate it effectively. While thoughtful use of digital devices can support engagement – PISA 2022 suggests positive associations with behaviour in mathematics under some conditions – many students lack the ability to critically assess online information. Furthermore, although most feel confident searching for information, far fewer feel confident evaluating accuracy or credibility (OECD, 2024[15]). Without these skills, learners may not fully benefit from digital resources, limiting their development as informed, autonomous lifelong learners.

As outlined in Chapter 3, countries are increasingly recognising this moment as a strategic opportunity to strengthen learner agency, socio-emotional development and transversal skills. Across systems, reforms are updating curricula to emphasise problem solving, digital literacy and self-management; expanding support for student well-being; and strengthening guidance to help students navigate complex educational and vocational choices.

Yet, as with early childhood, implementation gaps remain. Motivation, engagement and socio-emotional learning are widely acknowledged as essential, but these aims may not always be translated into everyday classroom practice. Teachers often need more sustained professional learning to adopt more inclusive, reflective and inquiry-driven pedagogies. There is a need to support them to develop metacognitive strategies and self-directed learning, which can further strengthen students' ability to manage their own learning and apply knowledge across contexts. Digital reforms also require greater coherence and should prioritise safe, purposeful and pedagogically grounded use of technology. Similarly, although supports for well-being and guidance are expanding, coordination across education, health and social services appears fragmented or dependent on short-term initiatives.

To make adolescence a stronger bridge toward lifelong learning, systems must reinforce both classroom practice and the surrounding support structures. This involves embedding socio-emotional learning, agency and metacognitive strategies into curriculum and assessment; providing teachers with continuous, practice-focused professional development to translate curriculum aims into an everyday classroom practice; ensuring safe and purposeful digitalisation; strengthening high-quality guidance and exposure to diverse pathways; and moving toward stable, cross-sector coordination so adolescents, especially those at risk of exclusion, receive coherent and continuous support.

Critical moment 3: Mid-career

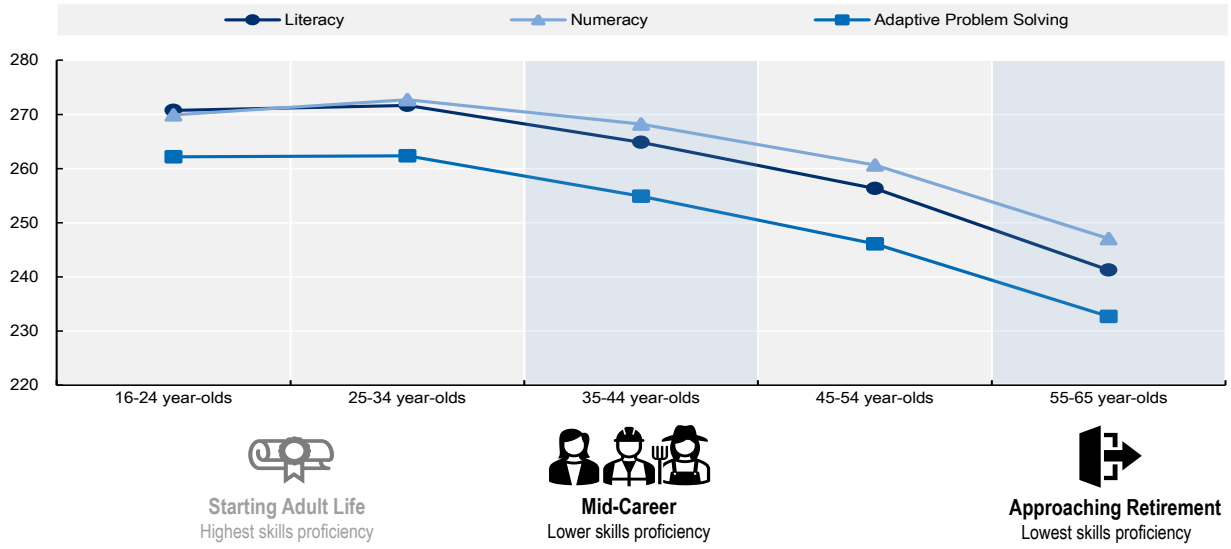
As societies age and the nature of work and civic participation evolves, mid-to-late adulthood has become a strategic phase for lifelong learning. Adults navigate changing professional demands, with transitions between jobs, shifting personal circumstances, and longer lives, making continuous learning essential for resilience and inclusion. Evidence from the OECD Survey of Adult Skills (PIAAC) – covering adults aged 16-65 – provides insights into these critical moments.

During this stage, mid-career (typically from ages 35 to 44) is marked by a growing need for professional reinvention. As adults move beyond formal education into more non-linear careers, often with longer transitions between employments, they require new knowledge, skills, and confidence to remain active participants in evolving labour markets (OECD, 2024[8]; OECD, 2022[33]). Rapid technological change – especially due to digitalisation and AI – adds further urgency to enabling people to learn in contexts where new jobs emerge and tasks in existing jobs transform (Achoki, 2023[34]).

At this stage, adults' *will* to learn often declines, with time pressures, financial constraints, and social attitudes limiting motivation and opportunity to re-engage. At the same time, evidence shows that participation in adult learning also tends to decline with age (Paccagnella, 2016[35]). Adaptability might decrease as well. PIAAC shows that proficiency in literacy, numeracy and adaptive problem-solving skills tended to be highest among 25-34 year-olds, although these results vary by jurisdictions and personal circumstances. However, 35-44 year-old adults, which typically corresponds to the mid-career stage, performed lower compared to the younger cohort (see Figure 1.8), signalling risks of skill erosion and mismatch, despite accumulated skills and knowledge.

Figure 1.8. Adult skills are dropping with age

Scores of different age groups in the OECD Survey of Adult Skills



Note: Adults aged 16-65; includes adults who in PIAAC cycle 2 were only administered the doorstep interview due to a language barrier.
Source: OECD (2024[8]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023,* OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

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Yet, this stage also offers unique potential. Skills acquired earlier in life can be consolidated, extended, and complemented with new capabilities, especially digital and transversal skills that enable adaptation. In addition, other attributes such as experience and judgment can help protect older workers from labour-market vulnerability (Paccagnella, 2016[35]).

The *means* for learning at this stage are often shaped by employer practices, financial incentives, and access to flexible, relevant opportunities (See Chapter 4). Yet, too often, mid-career workers face multi-dimensional barriers: economic pressure, limited training offers, lack of recognition of prior learning, and employer reluctance to invest in workers perceived as less adaptable. These obstacles can make reskilling feel unattainable.

As identified in Chapter 4, a key challenge facing education systems is ensuring that education pathways at mid-career are flexible, coherent, and connected enough to support adults in undertaking learning opportunities. Targeted interventions can transform mid-career into a moment of renewal rather than decline. Many countries are promoting policies that expand flexible learning pathways, incentivise employer investment, and strengthen recognition of informal and non-formal learning to empower individuals to update skills and sustain employability.

To reduce cost and time barriers and reach those least likely to engage, systems are scaling modular, blended and online formats, paired with financial supports such as paid training leave, vouchers, tax relief and subsidies. Learner-centred entitlements, including individual learning accounts and statutory rights to training, give adults greater control over when, how and what they learn (OECD, 2025[9]). Equally important, as shown in Chapter 4, are policies that support the stackability and portability of credentials across sectors and employers. These measures make skills and qualifications more meaningful over time, allowing individuals to build credentials progressively as careers evolve. In doing so, systems can turn mid-career into a systemic opportunity for resilience and adaptability in lifelong learning.

Efforts to strengthen the long-term impact of mid-career policies require systems to reinforce both the supports adults receive and the conditions that help them persist in learning. This includes ensuring that flexibility is combined with clear progression routes, and that short learning offers are linked to recognised, portable qualifications. Guidance, outreach and targeted support can help adults who feel distant from learning to re-enter pathways with confidence. Similarly, digital tools can expand access when used safely, purposefully and with strong quality oversight. Stronger cross-sector partnerships between governments, employers, unions, training providers and community actors can also help widen reach and relevance, especially for small and medium-sized enterprises (SME) and vulnerable groups.

Critical moment 4: Approaching retirement

The pre-retirement phase (typically ages 55 to 64) is a fourth decisive juncture for lifelong learning. As societies age and working lives extend due to delayed retirement, this phase is gaining renewed policy relevance (OECD, 2024[11]). Nurturing the skills of adults at this age and beyond is essential to support the resilience of individuals, societies, and economies. By 2030, on OECD average, 25% of the population will be 65+ (up from 18% in 2021) (OECD, 2024[11]).

An ageing population with low skill levels poses a significant challenge for societies. Over the past decade, adult skill levels have either declined or stagnated in many participating countries and economies. According to PIAAC, adults approaching retirement, aged 55-65, record the lowest average proficiency in literacy, numeracy and adaptive problem solving out of all age groups (see Figure 1.8). After decades outside formal education, many face barriers to reengaging with learning (OECD, 2024[8]). But skills decline is neither inevitable nor uniform. For example, additional analysis of PIAAC results for Germany shows that white-collar and higher educated workers continue developing skills into later life, especially when their working environments stimulate regular use (Hanushek et al., 2025[36]).

However, a major barrier to tackling skills decline is the perceived lack of need for further training, which discourages engagement (OECD, 2024[10]). Employers and individuals may also see limited returns on investment due to the shorter time horizon of this age group before retirement, thus impacting the *will* to learn (Picchio, 2015[37]). Reframing the value of learning later in life – alongside longer, healthier lives – and cultivating age-inclusive norms is therefore essential (OECD, 2024[10]). Supporting adults at this stage also sustains learning and agency into retirement.

As shown in Chapter 5, countries are combining financial incentives and paid training leave with short, modular and stackable courses tailored to older adults. They are also embedding lifelong learning within age-inclusive workplaces through mentoring, intergenerational learning and phased retirement. In parallel, governments are attempting to strengthen guidance and recognition mechanisms that value accumulated experience and transferable skills. To improve access, many policies provide vouchers, subsidies and modular short-cycle courses, while promoting digital inclusion through community hubs and tailored digital training. These approaches appear to recognise the diverse needs of older adults and the importance of confidence, relevance and flexibility as enablers of engagement.

However, implementation remains an issue. Motivation is rarely an explicit policy aim, despite evidence that confidence, perceived relevance and organisational culture strongly shape late-career engagement. Recognition of prior learning also appears limited, age bias persists in training and recruitment, and links between learning, health and well-being remain underdeveloped.

To strengthen impact, policy efforts should focus on valuing experience, reinforcing age-inclusive workplaces, expanding guidance and community provision, and institutionalising recognition systems to support smoother transitions into retirement and beyond.

Mapping policy approaches reinforcing lifelong learning at these critical moments

While OECD data highlight where countries stand and what priorities emerge from international evidence, their real impact depends on how effectively these insights are embedded in coherent policy design and implementation.

The following chapters apply this will-skills-means framework across four critical moments in the learning journey – early childhood, early adolescence, mid-career and approaching retirement. Each chapter analyses how countries nurture learners' motivation (**will**), strengthen their competencies (**skills**), and provide the enabling conditions (**means**) that make participation possible.

Policy examples are organised under key policy aims within each pillar. A dedicated section on **Strategic design choices** examines how countries align aims, mechanisms, actors, resources and tools to translate policy intent into practice. Each chapter concludes with **Considerations for the future**, summarising lessons, trade-offs and priorities for improvement to help countries strengthen the coherence and sustainability of their lifelong-learning systems.

Taken together, these analyses show how governments are working to move beyond fragmented initiatives to build stronger ecosystems for lifelong learning – where design choices made at key life moments can multiply learning outcomes and social inclusion across generations.

Methodology

The analysis draws on evidence from 35 education systems cross OECD and partner economies. Data were collected through the *Education Policy Outlook 2025 Short National Pre-Filled Questionnaire for Comparative Policy Analysis (EPO Questionnaire 2025)*, complemented by OECD datasets (*PIAAC, PISA, SSES, Education at a Glance, Skills Outlook*) and Education Policy Outlook thematic and country reviews. In total, more than **230 policies** were reviewed and validated across the four critical moments.

To ensure analytical rigour, information provided by countries was complemented with desk research and cross-referenced against OECD evidence bases. Submissions were reviewed for relevance, comparability and alignment with the report's scope.

Policies were then analysed using a comparative qualitative approach, identifying common patterns, complementarities and trade-offs across systems and life stages. Preliminary findings were discussed with Education Policy Outlook National Co-ordinators during a focus-group consultation in March 2025, which supported validation, contextual interpretation and refinement of results.

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2 Early Childhood

Learning in early childhood begins long before formal education. Through play, exploration and relationships, children develop the curiosity, persistence and confidence that shape how they learn throughout life. This chapter examines how families, educators and communities create environments that nurture these dispositions, and how policy design can enable them through coherent frameworks, inclusion and sustained professional support. Drawing on international evidence, OECD data and policy approaches from 29 education systems, this chapter analyses the strategic design choices that support learners at this critical life moment and offers practical insights for policymakers. It then explores how education systems can nurture children's will, skills and means for lifelong learning.

In Brief

Supporting learners in early childhood

Early childhood is where lifelong learning begins. During these formative years, children's curiosity, persistence and ability to self-regulate start to take shape through play and interaction. The quality of their experiences at home, in early-learning settings and within communities profoundly influences how they approach learning, relationships and challenges later in life.

Learning at this stage demands from children the freedom to explore, from families the time and confidence to engage, and from educators the capability to translate play into purposeful learning. Policies are most effective when they empower these actors, creating equitable, high-quality environments that strengthen daily interactions between children, families and educators. Across 29 education systems, common trends emerge in how countries support the will, skills and means for lifelong learning:

- **Will:** Nurturing dispositions and skills that underpin lifelong learning (such as curiosity, persistence and motivation) through inclusive, play-based environments (e.g. Costa Rica, New Zealand).
- **Skills:** Fostering early cognitive and socio-emotional development (e.g. Flemish Community (Belgium), Slovenia); enhancing quality for all (e.g. Austria, Norway); harnessing digital tools and delivery (e.g. Estonia, Iceland, Lithuania).
- **Means:** Ensuring equitable access (e.g. Bulgaria, Luxembourg, England (United Kingdom)); strengthening the home-learning environment (e.g. New Zealand, Northern Ireland (United Kingdom)); supporting cross-sectoral collaboration (e.g. Bulgaria, Iceland).

Recent policies reflect growing recognition that learning quality depends on relationships. Many systems now align curriculum frameworks, workforce development and inclusion measures to ensure every child benefits from stimulating and supportive environments. Fee abolition, subsidies and outreach programmes have expanded participation, while professional learning, mentoring and coaching help educators strengthen the quality of daily interactions with children and families. Family engagement initiatives increasingly position parents as active co-educators, and digital tools are increasingly used to complement, rather than replace, play, exploration and connection.

Despite these advances, challenges remain. Access to high-quality early childhood education and care (ECEC) remains uneven, particularly for disadvantaged families. While many curricula often prioritise cognitive development, socio-emotional, metacognitive and self-regulation skills appear to be less explicitly defined or supported through guidance for educators and families. Workforce capacity and professional support remain stretched, and co-ordination across education, health and social services can be fragmented.

Looking ahead, the priority is to empower the people who make learning happen: children, families and educators. Sustained investment in professional capability, inclusive pedagogy, and strong family partnerships can help every child enter school confident and motivated to learn. Cross-sector co-ordination and responsible, age-appropriate digitalisation should serve these human connections, not replace them. Monitoring and evaluation frameworks can then help track how early childhood interventions contribute to a range of short, medium and long-term development outcomes.

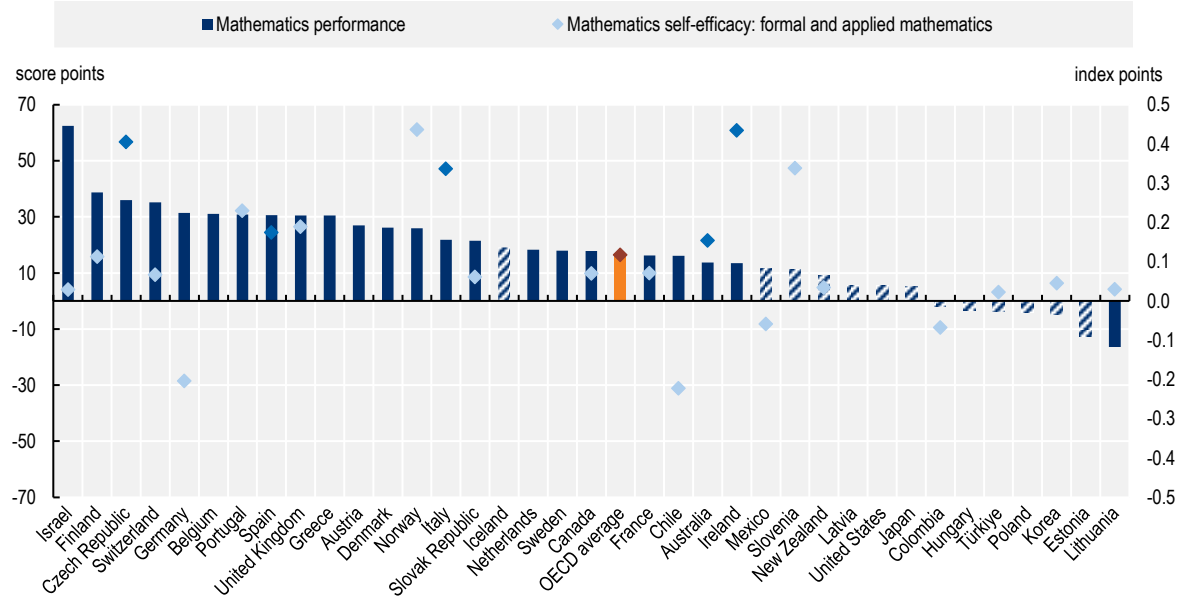
Introduction

Early childhood is where learning dispositions take root. It is during this period that children begin to explore, persist and make sense of the world around them, developing curiosity, persistence and motivation, as well as early cognitive, social and emotional skills that enable them to keep learning throughout life (Cvijanović and Mojić, 2021[1]; Shonkoff and Phillips, 2000[2]). Evidence shows that these capabilities compound over time: early gains in self-regulation, language and numeracy increase the returns to education across life (Cunha et al., 2006[3]; Heckman, Pinto and Savelyev, 2013[4]).

OECD data support these findings. PISA 2022 shows that attending at least two years of pre-primary education is associated with higher mathematics performance and greater self-efficacy in mathematics on average across the OECD (see Figure 2.1). The relationship is particularly strong in countries such as Czechia and Spain. These findings point to the lasting effects of high-quality early learning on confidence and competence in mathematical reasoning. Such outcomes are not only academic: they help learners develop the flexibility, problem-solving and self-direction required to participate responsibly in an evolving digital and social landscape.

Figure 2.1. Pre-primary education is associated with better mathematics performance and self-efficacy in mathematics

Change in mean mathematics performance score and in the index of mathematics self-efficacy associated with attending at least two but less than three years of pre-primary education (2012-22)



Note: Results are controlled for student and school socioeconomic characteristics. Mathematics self-efficacy indicates students' self-reported confidence in performing a range of formal and applied mathematics tasks. Dashed columns represent statistically non-significant changes. Diamond markers in darker shades represent statistically significant changes.
Source: OECD (2023[5]), *PISA 2022 Results (Volume II): Learning During – and From – Disruption,* PISA, https://doi.org/10.1787/a97db61c-en.

StatLink https://stat.link/bfz02k

This chapter examines how, during this critical window for lifelong learning, children can benefit from policies that enable the conditions for curiosity, exploration, and belonging, and through supportive environments that connect families, educators and communities. Building on OECD evidence, literature

and policy questionnaire responses collected by the Education Policy Outlook from 29 education systems and over 56 policy approaches analysed (see Annex 2.A), the chapter identifies practical strategies that link early investment to long-term social and economic benefits. It reviews approaches that seek to expand access to quality early childhood and care (ECEC), enhance learner agency, deepen family engagement and promote responsible digitalisation. By identifying emerging trends, differences and blind spots, the chapter provides policy insights into how policy can support early childhood as the first step of a coherent lifelong learning continuum.

Relevant insights from international evidence

Early childhood education and care provides the environments where children begin developing the curiosity, motivation, persistence, and other attributes that sustain learning throughout life. Investment in these experiences can help close equity gaps early and generate long-term returns for individuals and societies. Yet, recent OECD evidence shows that access to high-quality ECEC remains uneven, with children from disadvantaged backgrounds still facing barriers of affordability, availability and quality (OECD, 2025[6]).

A review of international evidence points to two complementary areas of priority for action: supporting learners and their home environments, and building coherent, inclusive, and future-oriented system conditions. Together, these can support children's early experiences to better transform into dispositions for lifelong learning.

Focusing on learners and the home

From the earliest years, children begin to exercise agency developing autonomy, confidence and social belonging as they explore and learn (OECD, 2017[7]; Shonkoff and Phillips, 2000[2]). Socio-emotional capacities formed in early childhood contribute to this agency, as they can support positive learning and development and ability to maintain a positive learning trajectories and resilience throughout life (Cunha et al., 2006[3]). Early skills in language, literacy, and numeracy, are also part of this agency and are important predictors of later school success, resilience and employability (Heckman, Pinto and Savelyev, 2013[4]; Huffman, Mehlinger and Kerivan, 2001[8]).

The home-learning environment plays a decisive role in this process. Positive parent–child interactions, stimulating activities, and access to learning materials, have lasting effects well into adolescence (Lehrl, Evangelou and Sammons, 2020[9]). Strengthening parental engagement and capacity extend the reach of ECEC and reinforces children's motivation to learn. The OECD has recommended helping parents through clear and accessible information, simplified enrolment, and strong parent–staff partnerships. Flexible schedules and supportive services can also help ensure that families with fewer resources also benefit fully from ECEC (OECD, 2025[6]).

Focusing on the system

At the same time, high-quality ECEC depends on both structure and relationships. Research identifies that curriculum frameworks should balance foundational skills with play-based and inclusive approaches and reflect diverse backgrounds. While structural factors, such as class size and staff-to-child ratios, can help set the stage, it is the quality of daily interactions between educators and children that drives outcomes (von Suchodoletz et al., 2023[10]; OECD, 2021[11]; OECD, 2017[12]). Sustained professional learning is therefore key to strengthen practice and ensure that every interaction builds children's curiosity, confidence and well-being (Muir, Howard and Kervin, 2024[13]; OECD, 2021[11]).

Coherence across sectors is also important. Co-ordination between ECEC, health, and social services can help ensure continuous support for children and families, as well as smoother transitions to school. OECD

evidence identifies integrated hubs, shared quality frameworks, whole-of-government strategies, and local networks as effective strategies to reduce service fragmentation (OECD, 2025[6]).

Equitable and efficient funding models are another priority. Increasing public investment and regulating private provision can also help enhance quality while reducing family costs. Funding mechanisms should reward quality improvements and target resources to disadvantaged areas (OECD, 2025[6]).

Finally, digitalisation offers both opportunities and responsibilities. Age-appropriate, creative and exploratory activities can help children to build the dispositions and skills required to navigate future learning and work environments (OECD, 2025[6]). At the same time, technology must be used responsibly and equitably, complementing rather than replacing the relational dimension of early learning (OECD, 2023[14]).

While these priorities are well established in international evidence, their impact depends on how they are translated into practice. The next sections explore how different countries and economies are implementing these approaches. They can offer inspiration to policymakers seeking to create environments where every child can develop the will, skills and means to keep learning.

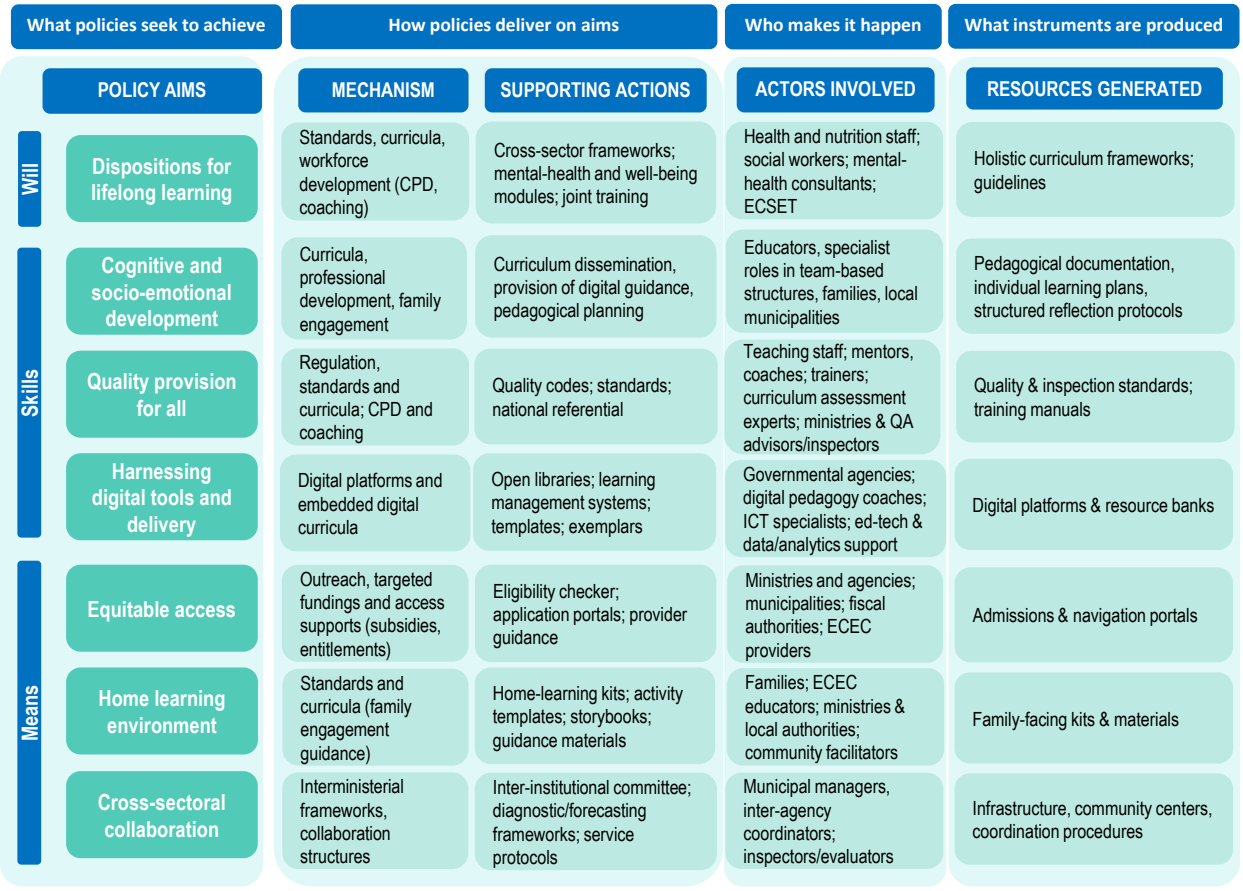
Policies for strengthening the will, skills and means for lifelong learning in the early years

The examples collected for this report show how participating countries and economies are creating conditions that help children, families and educators bring learning to life. These approaches align with international evidence on supporting children as lifelong learners from the earliest years. Emerging patterns show how these strategies strive to connect individual learners with wider system supports through a range of mechanisms and actions. For example, measures to expand access and participation often combine universal and targeted supports, while strategies to improve process and structural quality rely on curriculum frameworks, standards and professional guidance that help educators create rich learning environments.

To support policymakers in strengthening their approaches, this chapter explores how strategic design choices (e.g. mechanisms, scope, actors, resources and tools) can help shape the environments where children learn and educators work. It then provides a system-level view of how design and delivery influence implementation capacity. Initiatives are organised by **policy aims** under will, skills and means, showing how different strategies can motivate learners, strengthen foundational competencies and expand equitable opportunities. This can help policymakers identify where improved co-ordination across these dimensions can make lifelong learning more coherent and effective. These elements are summarised in Infographic 2.1.

Infographic 2.1.How policy strategies for early childhood vary according to their aims

Most common approaches identified according to policy aim (selected categories)



Note: See Annex 2.A for a more complete view on the policies included in this chapter.
Source: Education Policy Outlook (2025): National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Strategic design choices in lifelong-learning policies in early childhood education and care

This section analyses how countries design ECEC policies to enable the relationships and experiences that build the foundations for lifelong learning. It examines how policy aims, mechanisms, scope and actors shape quality, access and equity, and how these choices can nurture the dispositions, skills and environments that sustain learning from the earliest years. Most initiatives collected for this analysis pursue immediate objectives, such as improving access, quality or equity. However, many also show potential to nurture the will, skills and means that sustain learning throughout life.

Aims

Aims describe what systems seek to achieve for learners in their early years. Most policies focus on strengthening quality and access for all, but an important evolution is under way: growing attention to children's agency, responsible digitalisation that enriches practice, and stronger home-learning environments that connect school and family life. However, few strategies define how early dispositions and competencies connect to later learning or outcomes later in life.

Mechanisms and actions

Education systems employ a diverse set of mechanisms, often combined, to translate early childhood policy aims into practice. These mechanisms matter when they help educators and families create emotionally secure, stimulating and inclusive environments for children.

- *Curriculum frameworks and quality standards.* The cornerstones of ECEC, these set shared expectations for learning, inclusion and pedagogy. These specify the goals for nurturing curiosity, language, socio-emotional development and quality interactions. For example, Sweden's curriculum positions the child's interests, experiences and agency at the centre of pedagogical work. Such frameworks are also used to align structure and practice, as in Austria's 15a Agreement, which couples federal transfers with workforce training and language support, and Norway's Framework Plan, which integrates digital literacy and play-based learning.
- *Professional development and workforce supports.* Continuous, practice-based professional learning (e.g. through coaching, mentoring and peer networks) helps educators translate curriculum goals into meaningful daily practice. Examples include Estonia's ProgeTiger, embedding digital competence in teacher training; Sweden and Iceland's pedagogical coaching and career incentives; and the U.S. Educare model, which uses master teachers to mentor colleagues. Evidence suggests that designs combining breadth (broad training access) with depth (context-specific support) strengthen educators' ability to connect curriculum aims with daily practice (Hamre, Partee and Mulcahy, 2017[15]; Deding and Minnaert, 2024[16]).
- *Digitalisation*. Countries combine device provision, training and professional networks to enrich pedagogy and extend access. Estonia's ProgeTiger and Lithuania's Innovations in Kindergarten link digital content with teacher development; Thailand and Lithuania pair digital tools with peer networks; and Norway and Iceland emphasise safe, interactive use of technology. These mechanisms seek to balance innovation with responsible, age-appropriate digital practices, while addressing divides and safeguarding concerns.
- *Targeted financial and outreach measures.* To ensure equitable access, countries combine universal and targeted financial supports, including fee abolition, subsidies and integrated services. Entitlement models also layer universal and targeted offers, seeking both broad coverage and focus on disadvantaged groups. Bulgaria's removal of preschool fees eliminated direct financial barriers to enrolment, while England and Northern Ireland (United Kingdom) provide direct entitlements to low-income families. Brazil's intersectoral programmes link education, health and social protection to reach children in poverty. This reflects a need for high levels of quality for all children, alongside targeted, additional support for some children to compensate for the uneven distribution of resources and experiences by family background (OECD, 2025[6]).
- *Cross-sectoral co-ordination and integration*. Cooperation across education, health and social services helps provide continuous, holistic support for children and families. Examples include Iceland's Act on the Integration of Services, which mandates co-ordination across sectors through formal structures linking national and local authorities. Bulgaria's Integrated Early Childhood Development Services use EU co-funding to promote municipal cooperation across health, education and social sectors, while Brazil aligns early learning with health and social protection through intersectoral programming. These mechanisms are key to providing holistic, continuous support for children and families.

Takeaway

Education systems can deepen efforts by investing in the time, support and professional capacity that help educators and families turn policy aims into high-quality interactions in daily practice. Continuous, job-embedded professional learning, including pedagogical guidance, coaching and mentoring – appropriate and aligned to context – is among the most effective ways to connect curriculum goals with children's experiences and improve quality over time.

Scope and timeline

The reach and duration of initiatives determine who benefits and for how long. The policy initiatives analysed reveal how scope and timelines are closely connected design choices for policies aimed at this age range.

Universal frameworks, often formalised through curricula, guidelines, standards or legislative acts, tend to provide broad entitlements across age groups. They offer stability, continuity and shared rights, embedding consistent expectations for quality and participation.

Alongside these, targeted or time-bound initiatives provide more adaptable layers of support. These are often designed as renewable, multi-year programmes or pilot phases to allow systems to test and refine approaches before scaling. This design may also facilitate greater responsiveness to changing needs but can also create uncertainty for providers and families. Examples include Croatia's ECEC reform pilot (2017–27), Austria's federal–state agreements (2022–27), and England (United Kingdom)'s targeted entitlement for disadvantaged two-year-olds. Embedded monitoring, data use and evaluation within these models can allow policymakers to understand the impact of changes to curriculum frameworks and pedagogical approaches on ECEC quality and impact on learning, and adapt as needs evolve (OECD, 2023[14]).

Scope and timeline decisions matter in early childhood because many desired outcomes, such as resilience, self-regulation, or digital readiness, may only materialise later in schooling or adulthood. Choices made today establish enabling conditions for sustained learning and adaptability across life.

Takeaway

Countries are combining a universal foundation of rights and quality with targeted and adaptive measures to increase effectiveness and better support children and families at risk of exclusion. Achieving this balance is essential for ensuring that policy reforms not only expand participation and quality today, but also build secure relationships, curiosity and early-learning dispositions that sustain lifelong learning.

Main actors

Strengthening lifelong learning from the early years begins with the people closest to children – families, communities and educators – supported by local authorities and cross-government structures. Their interactions reflect the multi-level governance of ECEC, where responsibilities are often shared across national, regional and local levels, and often across sectors. Actor configurations in ECEC do more than enable service delivery: they shape the governance culture and relational foundations that can help to sustain outcomes and equitable lifelong-learning pathways (Burns and Köster, 2016[17]; OECD, 2021[11]).

Effectiveness also depends less on who is involved than on how roles are coordinated, resourced and held to account (Burns and Köster, 2016[17]; OECD, 2021[11]).

- *National governments and ministries* provide leadership, regulation and funding. They set curricula, quality standards and entitlements, and lead inter-ministerial co-ordination. Examples include Iceland's Act on the Integration of Services in the Interest of Children's Prosperity, which legislates cooperation duties across ministries to improve service coherence.
- *Municipal and local authorities* play a prominent role, organising and delivering services within national frameworks. National governments set entitlements, quality standards and funding rules, while municipalities organise and deliver services within those frameworks, as in Sweden's municipal outreach mandate, Luxembourg's Subsidy Funding Scheme *(Chèque-Service Accueil),* and Poland's Integrated Skills Strategy Decentralisation can enhance responsiveness to local contexts, but OECD work on multi-level governance shows that it also risks widening inequalities where fiscal capacity or administrative expertise differ. Clear steering, funding equalisation and professional support mechanisms are therefore essential to mitigate local disparities (OECD, 2017[18]).
- *Families and communities* are formal actors in just under one-third of analysed policies, reflecting the centrality of the home-learning environment as a key driver of early learning and later outcomes (OECD, 2017[12]; OECD, 2018[19]). Structured family partnerships, such as those developed in New Zealand, Mexico and Norway, can help sustain learning continuity between home and early education settings. These approaches align with efforts to move towards embedding families as co-constructors of learning, an approach aligned with research syntheses on process quality and early dispositions relevant to lifelong learning (OECD, 2018[19]).
- *Cross-sectoral collaboration* (i.e. education working with health, social protection and other ministries) appear in about one-quarter of policies collected for this report. This reflects the multi-dimensional nature of child development and the need to reduce service fragmentation. Iceland's Act on the Integration of Services in the Interest of Children's Prosperity (Prosperity Act) is a concrete example: it legislates cooperation duties and shared responsibilities to ensure integrated services, thereby seeking to address fragmentation risks (OECD, 2025[6]; Iceland Ministry of Education and Children, 2021[20]).

By contrast, children's agency and participation are named explicitly in a minority of cases. While developmental considerations partly explain this, international rights frameworks stress that children capable of forming views should be heard in matters affecting them, with approaches calibrated to age and maturity (UN CRC, 2009[21]). OECD analyses of transitions and pedagogy underline the value of child-centred, agency-rich practices for motivation and self-regulation. These are dispositions linked to later adaptability (OECD, 2017[12]; OECD, 2018[19]).

Takeaway

Effective ECEC systems start with strong relationships and depend on clear co-ordination among national, local, and institutional actors. Aligning national guidance with local delivery through shared accountability, funding balance, and quality assurance helps maintain flexibility while ensuring equity and coherence across settings.

Digital and blended approaches

Digital environments in early childhood can expand opportunities for exploration when they are purposeful and age-appropriate. Interactive e-books and educational apps can foster language, literacy, and creative

problem-solving, nurturing curiosity and self-reflection. These dispositions are essential for lifelong learning (OECD, 2025[22]). Yet excessive or passive screen time can displace social and physical experiences, delay language development and reduce attention spans. The challenge, therefore, is not *whether* to use digital tools, but *how* to integrate them within play-based, relational learning frameworks. Equally, guidance and support for parents are essential to manage screen time, promote shared activities and connect digital experiences to children's well-being and learning at home (OECD, 2023[14]).

Digital technologies should reinforce, not substitute, the relational and experiential foundations of learning. Educators play a critical role in mediating these experiences and in selecting tools that align with pedagogical aims. Effective practice depends on guided use, intentional design and continuous feedback. Strengthening data collection on how children engage with digital tools can also enrich understanding of their impact on learning, development and well-being (OECD, 2025[22]).

Policies increasingly include integrated digital components, most often as platforms for access, coaching, or resilience. Examples include Estonia's Opiq platform, and Portugal's Digital Transition Plan, which seek to expand professional support and learning resources at scale. These initiatives have potential for reach and innovation but, as international evidence shows, their success depends on key policy levers including curriculum and pedagogy, workforce development, underpinned by inclusion and equity (Burns and Gottschalk, 2020[23]; OECD, 2021[11]). Blended approaches, by contrast, tend to focus on workforce strengthening, engaging families and the quality of daily interactions, which are process factors that research consistently links to learning outcomes.

Equity remains a cross-cutting challenge across all critical moments analysed in this report. While digital tools can widen access and enrich learning environments, they can also exacerbate divides where connectivity, affordability or digital literacy are limited, deepening early learning gaps that can grow over time (OECD, 2025[6]).

Takeaway

The central challenge for early childhood systems is to integrate digital tools in ways that complement, rather than replace, high-quality and play-based interactions between children and educators. Purposeful use can foster pedagogical innovation, flexibility and inclusion but requires attention to digital and geographic divides, and ongoing monitoring of children's experiences and well-being.

Resources required

Countries mobilise a mix of resources to sustain quality early-learning environments – particularly funding, infrastructure and human resources. This section examines these enabling conditions, while the next considers the resources and tools generated through the policies themselves.

- *Funding* arrangements in early childhood policies generally come from public budget allocations. These are complemented by targeted subsidies to lower family costs as well as grants to enhance quality improvements and workforce development, such as in Luxembourg and Northern Ireland (United Kingdom). In some systems, subnational allocations play a key role in ensuring equitable access by supporting municipal delivery, while others diversify sources, combining tax incentives, EU Recovery funds, loan financing, or philanthropic contributions alongside national budgets. Only a minority of policies report multiple funding streams, and in several cases, funding details remain unspecified.
- *Infrastructure* investments typically focus on optimising existing facilities and strengthening established networks, complemented by targeted expansion in underserved areas. Digital

infrastructure is mentioned in only a few cases, in connection with innovation strategies, such as in Estonia. Integration between digital and physical infrastructure, such as preschools complemented by Information and communication technology (ICT) platforms, appears limited, though likely more common in practice. Examples include policy efforts in Norway and Ireland, which combine physical expansion with digital connectivity to reduce regional disparities, and Bulgaria, where fee abolition is tied to municipal delivery capacity.

- *Human resources* are central to the effective implementation of early childhood reforms, depending not only on the role of educators but also on how systems define and resource complementary roles. Most policies place teachers at the centre of delivery, supported increasingly by pedagogical coaches, ICT specialists, family outreach workers, and evaluators. Where these roles are explicitly defined, resourced and supported through training and time allocation, reforms are more likely to be sustained and aligned with broader policy objectives; where they remain implicit or absorbed into existing teaching workloads, systems risk uneven uptake of reforms.

Overall, resource strategies are central to sustaining the quality interactions that drive early development and form the foundations for lifelong learning. Evidence shows that children from disadvantaged backgrounds gain the most from high-quality ECEC but face the greatest cost-related barriers (Cunha and Heckman, 2007[24]; OECD, 2017[7]). Under-investment in public ECEC can shift costs to families and weaken inclusion, particularly where affordability measures are weak.

Takeaway

Sustained investment in funding, infrastructure and human resources is essential to deliver high-quality early learning. Targeted expansion in underserved areas, combined with workforce development and digital connectivity, can help close geographic and digital divides and ensure equitable access for all children.

Resources generated

To translate policy aims into practice, countries are creating a wide range of tools and resources that support educators, families and communities. Several patterns stand out:

- *Curricula and standards* are structural resources noted by most education systems, and fewer note process-oriented supports (e.g. coaching templates, reflective practice guides), despite links between process quality and child outcomes (von Suchodoletz et al., 2023[10]). Frameworks and standards could be further complemented by job-embedded tools that guide everyday practice.
- *Digital platforms* are increasingly integral to national education ecosystems, serving not only assessment and management functions but also enabling new forms of peer exchange, feedback, and co-design of learning resources (OECD, 2023[25]). For example, Estonia's ProgeTiger not only provides materials but also seek to connect educators through professional networks, showing how digital resources can strive to evolve from static repositories into collaborative ecosystems.
- *Family and community-facing resources* can amplify programme impact of ECEC, especially where staff are supported in their roles and provided with resources for early learning experiences (Lehrl, Evangelou and Sammons, 2020[9]; OECD, 2025[6])..

Taken together, these examples show that the main challenge is not producing new tools but ensuring existing ones are coherent, accessible and used effectively by educators and families. Across critical moments, success depends on whether resources improve the quality of interactions and learning experiences.

Box 2.1. Lithuania – resources generated as part of building digital competencies of educators

In Lithuania, the Innovations in Kindergarten (2018-22) project aimed to improve practices in ECEC settings, specifically the use of digital tools, as part of efforts to respond to identified challenges that highlighted that uptake and application of digital tools are uneven. To maximise limited resources, Lithuania built specialised competencies among 89 lecturers, who then mentored and trained other educators across Lithuania. Training sessions for ECEC staff were delivered in blended in-person and online formats, allowing staff to freely explore digital tools (e.g. applications and recommended software) while also having access to all materials and rapid feedback through an open-source digital learning management system.

The resources generated include curated digital resources, training content, instructional guides, classroom toolkits, and a digital platform for open access learning. Digital tools include recommended educational apps, software for classroom use, and a learning management system for professional development and practice sharing.

Source: Lithuania's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, *Nacionalinė švietimo agentūra* [National Education Agency], https://www.nsa.smsm.lt/projektai/vykdomi-projektai/projektas-inovacijos-vaiku-darzelyje, accessed 15 September 2025.

Takeaway

A key priority is to ensure that tools and resources – including curricula, guidance materials and digital platforms – strengthen the daily interactions between children, educators and families, the processes that most directly shape curiosity, motivation and early learning (OECD, 2021[11]).

The following sections show how policy components align under the aims of will, skills and means. Policies nurture the *will* to learn by strengthening dispositions and socio-emotional skills; develop *skills* through quality-focused reforms and digital innovation; and expand *means* by enhancing equity, family engagement and cross-sector co-ordination, including transitions to primary education.

Overall, ECEC systems tend to be strongest in providing structural supports and developing children's skills. However, motivational dimensions, such as fostering the *will* to learn, remain less systematically embedded in curricula and quality frameworks. Building lifelong-learning foundations requires balancing all three pillars: will, skills and means. It is also important to note that these findings are based on how the education systems responded to specific questionnaire items related to the fields of will, skills and means. As a result, they may not capture all relevant dimensions of each policy.

Fostering will for lifelong learning

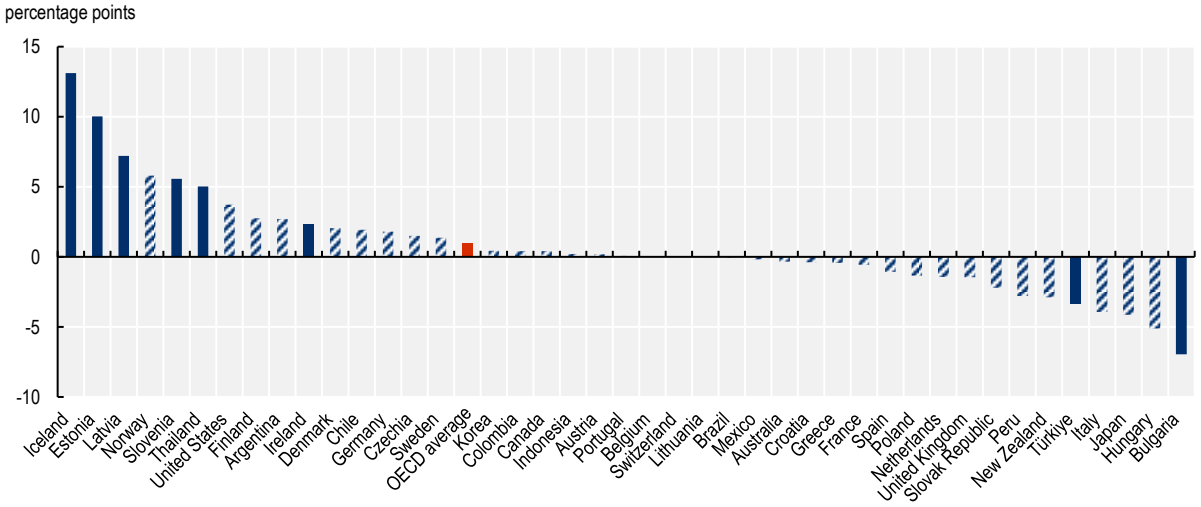
Developing the will to learn begins in early childhood. Many encourage curiosity, exploration, and self-expression through child-centred or play-based approaches, for example in New Zealand's Te Whāriki, and Japan's pre-primary framework (see Box 2.2). Only a few, however, make persistence, resilience, or growth mindset an explicit objective. Few policies also specify how these aims should be, or are, operationalised in practice.

This gap is notable given that PISA 2022 data show that students who attended ECEC for two years or more are more likely to report a growth mindset, with particularly strong associations in Iceland and Estonia

(see Figure 2.2). Evidence shows that students with a growth mindset are also more likely to persevere, adopt positive learning behaviours, and achieve higher performance, including in mathematics.

Figure 2.2. Attending ECEC is associated with a growth mindset

Change in the probability of having a growth mindset when attending two or more years of ECEC



Note: Having a growth mindset is defined as disagreeing or strongly disagreeing with the statement "Your intelligence is something about you that you cannot change very much". Results control for student and school socioeconomic characteristics. Dashed columns represent statistically non-significant changes.
Source: OECD (2024), *PISA 2022 Results (Volume V): Learning Strategies and Attitudes for Life*, *PISA*, , https://doi.org/10.1787/c2e44201-en.

StatLink https://stat.link/jyh6z1

Box 2.2. Japan – supporting will, skill and means for lifelong learning

Japan's curriculum framework for pre-primary education emphasises education during early childhood is extremely important cultivating a foundation for lifelong character building. In its design, the curriculum encourages will by fostering children's sense of agency, engagement, and curiosity through proactive interaction with their environment. It supports the development of attitudes necessary for lifelong learning, including responsibility, creativity, and care for sustainability. The curriculum also seeks to strengthen foundational competencies such as communication, inquiry, physical co-ordination, and problem-solving. It places emphasis on experiential learning, helping children develop metacognitive awareness and early critical thinking. Means are also addressed in this policy design by encouraging settings to create supportive daily routines and environments. While not heavily reliant on digital tools, it provides guidance on using them to enhance, not replace, real-world experiences. Local settings adapt implementation to fit their context and capacities.

Source: Japan's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, Ministry of Education, Culture, Sports, Science and Technology (2017), https://www.mext.go.jp/component/a_menu/education/detail/__icsFiles/afieldfile/2019/10/11/1401777_002.pdf, accessed 02 September 2025

The following analysis focuses on how systems nurture the dispositions that underpin lifelong learning. Another important aim is to ensure co-ordination with, and smooth transitions into primary school, fewer policies with these aims were included in responses to the Education Policy Outlook questionnaire, so analysis for this aim is not included in this chapter. However, this chapter acknowledges that it remains essential for supporting skill development, as a bridge into schooling, and for learning and development across life.

Nurturing the dispositions that underpin lifelong learning

An increasing number of reforms explicitly promote learner agency from the early years, to encourage active participation, autonomy and curiosity as foundations for lifelong learning. Agency is seen as both a learning goal and a learning process, and reflects alignment with broader child-centred approaches to curriculum frameworks that build on children's experiences, needs, strengths and interests, that values exploration and self-expression (OECD, 2021[11]). When learners can play an active role in deciding how and what they will learn, this can positively influence their motivation to learn (Gottschalk and Borhan, 2023[26]).

For example, Sweden's curriculum framework sets broad objectives for ECEC, such as encouraging children to express their thoughts and ideas and creating the conditions for this to happen. It states that the starting point should be the interests of children, as well as the knowledge and experiences that children have already acquired. Educators are asked to challenge children's curiosity and understanding of language, communication, mathematics, science and technology, and to create conditions for expression through multiple forms - both with and without digital tools.

- **Mechanisms and actions:** Countries nurture dispositions for lifelong learning primarily through curriculum frameworks that set national learning goals focused on agency, curiosity and self-expression; providing pedagogical frameworks and exemplars to help educators translate these into practice; and supporting reflective teaching through professional learning. For instance, Sweden's curriculum links broad learning goals to local pedagogical planning, while Türkiye's Preschool Education Curriculum integrates child agency and exploration into structured daily activities, supported by professional training and monitoring tools.
- **Scope and timeline:** These aims are usually embedded in national curricula for continuous application. New Zealand's Te Whāriki (1996; revised 2016/17) applies to all early childhood education settings, combining long-term stability with local cultural flexibility, while Türkiye's Preschool Education Curriculum launched nationwide for ages 3–6, pairs broad dissemination with accelerated professional learning.
- **Main actors involved:** Learner agency depends on collaboration among families, educators and communities, supported by national and local authorities. For example, New Zealand's Te Whāriki invites parents and Māori and Pacific communities to co-design culturally responsive curricula, Norway integrates care, play and learning through partnerships with parents, and Türkiye's revised preschool curriculum connects multiple developmental areas under a unified vision for early learning.
- **Digital and blended approaches:** Blended approaches are generally utilised for promoting learner agency, typically emphasising creating safe and supportive learning environments for children, while digital approaches, with guidance, is used to enrich activities and extend access. For instance, Thailand's Happy Learning combines well-being-oriented school reforms with online learning games and a digital hub for teachers to integrate well-being and life skills into daily classroom practice. Costa Rica's I Learn the Good Life digital platform gives access to learning content on topics for different ages, including green skills, digital literacy, digital security, or learning about emotions for ECEC children.

Takeaway

Nurturing curiosity, confidence and agency from the earliest years requires more than broad curriculum goals: it depends on how educators, families and systems create daily opportunities for children to make choices, express ideas and see their voices valued. Embedding these dispositions explicitly in curriculum frameworks and professional learning can ensure that motivation and agency are developed as intentionally as cognitive skills, laying firm foundations for lifelong learning.

Developing skills for lifelong learning

Policies prioritise foundational skills in the early years because they underpin children's development and reinforce both the means and the will to learn. Reviewed initiatives commonly seek to strengthen language, literacy and numeracy through curricula, teaching standards and integrated services (e.g. Mexico's National ECE Strategy, Türkiye's Preschool Curriculum and Bulgaria's Integrated Services). Some also emphasise problem-solving and socio-emotional skills, such as Boston's Educare programme in the United States. On the other hand, metacognitive abilities such as planning, monitoring and reflecting on learning are less commonly referenced.

This section explores three key dimensions of these efforts: how systems are fostering early cognitive development, how they are enhancing quality and inclusion at the system level, and how digital tools and delivery models are being leveraged to expand access and strengthen learning experiences.

Fostering early cognitive development

Across education systems, reviewed policies commonly seek to foster early cognitive development. These are often targeted through play, interaction and responsive teaching, as play-based activities often support skills such as early literacy, communication, problem-solving and digital competence.

Norway's Framework Plan for Kindergartens, which promotes skill development across social, emotional, linguistic and cognitive domains is one example. Finland's National Core Curriculum for ECEC also guides skills development through personalised pedagogical strategies crafted collaboratively by educators and ECSETs, strengthening early language, socio-emotional learning and cognitive development in both inclusive and targeted formats. Frameworks also emphasise holistic development, for example focusing on communication, inquiry, metacognitive abilities as core competencies that nurture children's skill development. These policies highlight the close relationship between *will* and *skill* development in the early years.

- **Mechanisms and actions:** These include curriculum dissemination, local pedagogical planning, educator professional development, structured family participation and digital guidance, as features of Norway's implementation. Sweden's curriculum positions the child's interests, experiences and agency at the centre of pedagogical work, and multi-professional teams, including early childhood special-education teachers (ECSETs), plan and evaluate child support strategies together specialist roles in team-based structures work alongside educators in Finland to plan, evaluate and deliver child support strategies, while also providing peer coaching across teams.
- **Scope and timeline:** Typically, these are implemented nationally in scope, with local implementation and adaptation. In Norway, the framework covers all public and private kindergartens for children aged one to school entry, combining a national mandate with locally adapted training and guidance. In Finland, it applies to all licensed ECEC institutions.

- **Main actors involved:** A broad range of actors are involved in delivery and multi-level governance structures that support implementation. In Japan, national and local governments, families, civil society and children and youth are important actors within its Basic Act for Children's Policy. In Finland, ECSETs strengthen inclusive pedagogy and workforce capacity (see Box 2.3). In Norway, the Directorate for Education and Training oversees policy, while kindergarten staff are responsible for planning and delivery, local authorities are responsible for implementation and oversight, children are recognised as active learners, and parents are legal participants.
- **Digital and blended approaches:** Digital and blended learning approaches feature across countries, with a shared focus on purposeful use rather than replacement of other pedagogical methods. Digital tools are viewed as means to enhance access, or for creativity and exploration, not as ends in themselves. In Norway, for example, digital media is used for expression and shared learning with adults rather than for passive consumption, reinforcing play and social interaction as the core of early learning.
- **Tools and resources generated:** Resources, such as pedagogical documentation, individual learning plans, and structured reflection protocols are used collaboratively in Finland. Other approaches are rights-based and institutional in nature, with a focus on legal principles rather than programmatic tools.

Box 2.3. Finland – Mechanisms implemented as part of multi-professional teams in ECEC

In Finland, multi-professional teamwork is considered a key component of contemporary ECEC professionalism. ECEC policy states the right of children to receive support from regular ECEC staff teams as well as from early childhood special-education teachers (ECSETs), who are experts in individualised child supports and hold specific qualifications (e.g. a master's degree in special education) in addition to teacher training. While ECSETs may act as special-education teachers within a team, they often also participate in the planning, implementation, and assessment of support in a consulting role across multiple teams (Ranta et al., 2023[27]; Karila and Kupila, 2023[28])]. The policy assumes that collaborative planning among diverse professionals leads to more responsive, inclusive practices that enhance child outcomes. The role of ECSETs typically involve working in team-based structures, integrating special education into everyday pedagogical practice, co-planning and evaluating child support strategies, and serving as peer coaches to colleagues across teams.

Source: Finland's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Takeaway

Strengthening both cognitive and socio-emotional development in early childhood requires translating broad curriculum aims into daily, high-quality interactions between children and adults. Sustained investment in educator capability, multi-professional teamwork and family engagement can help ensure that play, communication and inclusion reinforce curiosity, confidence and self-regulation.

Enhancing quality for all through system-level measures

High-quality ECEC is increasingly recognised as a decisive factor in developing the skills that underpin lifelong learning. Policies encompass coherent curriculum frameworks, clear professional standards and sustained workforce development to ensure that children experience stimulating, play-based and responsive learning, with a focus on supporting rich daily interactions between children, educators and their environments.

In the Flemish Community of Belgium, for example, the Pedagogical Framework for Childcare of Babies and Toddlers links developmental domains with system- and institution-level monitoring to support continuous improvement in ECEC settings. This is one example of how quality frameworks are bringing together structural conditions and professional to strengthen skills for lifelong learning.

- **Mechanisms and actions:** Curriculum frameworks and standards are increasingly aligned with professional supports to strengthen both structures and practice. Examples include Austria's 15a Agreement, which couples federal transfers with workforce training and language support, and Norway's Framework Plan, which guides the use of digital technologies to enrich ECEC. Luxembourg's Subsidy Funding Scheme (Chèque-Service Accueil) ties fee subsidies to quality standards, while Mexico's Early Childhood Strategy sets minimum thresholds across providers. Structural levers such as ratios and standards are also combined with pedagogies that promote play, curiosity and exploration in Norway and Japan. Countries further invest directly in the profession: Estonia's ProgeTiger embeds digital competence in teacher training; Sweden and Iceland pair pedagogical coaching with career incentives; and the United States' Educare model uses master teachers to mentor colleagues.
- **Scope and timeline:** Typically implemented nationally, these frameworks are often piloted regionally before full adoption. Examples include the Flemish Community of Belgium's Measuring and Monitoring of Quality, which introduced quality monitoring after a coordinated launch, and Bulgaria's National Framework for Quality ECEC, piloted in ten centres before national rollout.
- **Main actors involved:** Ministries, inspectorates, research institutions and professional development organisations play important roles. Examples include cross-sectoral actions in Thailand (see Box 2.4), and in the Flemish Community of Belgium, the Measuring and Monitoring of Quality system links research, inspection and pedagogical coaching to maintain continuous improvement. Bulgaria's National Quality Framework unites education, health and social ministries with the United Nations Children's Fund (UNICEF) and municipal inspectorates to build a shared reference, while the French Community of Belgium mandates regular professional learning as a condition of quality assurance.
- **Digital and blended approaches:** Education systems employ a blended range of approaches for quality-related aims: these can vary from digital capacity-building with traditional modes of training. For example, Austria's curriculum reform uses Massive Open Online Courses (MOOCs), resource websites and virtual meetings alongside in-person workshops and mentoring to embed competency-based teaching.

- **Resources required:** Stable public allocations and quality-linked grants fund pedagogy and workforce investment. Austria's 15a agreement ties federal transfers to quality conditions, while the French Community of Belgium's Quality Code embeds expectations in annual budgets. Workforce resources range from professional development, coaching and ratio improvements, supported by facility upgrades to sustain quality environments.
- **Tools and resources generated:** Outputs typically include curricula, pedagogical frameworks, training manuals and inspection tools, as in German-speaking Community of Belgium, Bulgaria and Slovenia. The French Community of Belgium provides support documents to help childcare settings reflect on, adapt, and update their practices.

Box 2.4. Thailand – Collaboration with cross-sectoral actors in ECEC

Thailand's Early Childhood Development Promotion Plan aims to improve school readiness and reduce developmental inequalities among children aged 0–3 by providing structured, high-quality learning environments in the home and community. Its policy objectives include accelerating the provision of knowledge and understanding to parents, teachers, caregivers, communities and society as the most important factor for the all-round development of children, and to accelerate the development of the potential of local administrative organisations, communities, and local mechanisms close to children, such as district hospitals, sub-district health promotion hospitals, and early childhood development centres. The National Early Childhood Development Policy Committee is the main mechanism to set the policy direction. It leads the co-ordination with ministries including the Ministry of Education, Ministry of Public Health Ministry of Social Development and Human Security and Ministry of Home Affairs.

Source: Thailand's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, Thailand Ministry of Education, https://moe360.blog/2025/03/28/27368, accessed 04 September 2025

Takeaway

Sustaining quality across early childhood systems requires aligning structures and standards with the daily practices that shape children's learning. Workforce strength is central to this goal: competitive salaries, sustained professional learning, and ongoing coaching and mentoring are vital to attract, retain and empower staff to deliver high-quality, responsive learning experiences.

Harnessing digital tools and delivery

Education systems increasingly use digital tools to enrich pedagogy, build age-appropriate digital literacy, and strengthen the professional practice of educators. When used purposefully and safely, digital tools can enhance ECEC by supporting creativity, inclusion, and access. Current approaches emphasise responsible digitalisation (e.g. with regards to safety and privacy), integrating technology in developmentally appropriate ways, while building digital literacy among educators and families. This reflects a growing recognition of digital literacy as a core competency from the earliest years and a driver of pedagogical improvement.

Effective policies combine investments in skills and access: ensuring that children learn in safe, digitally enabled environments and that educators are equipped and confident to use these tools. For example, Estonia's ProgeTiger programme provides digital devices, teacher training and learning materials to support both teaching quality and children's digital competence.

- **Mechanisms and actions:** Most policies combine device provision with professional training, digital resources and practitioner networks to promote innovative pedagogy. Examples include Estonia's ProgeTiger and Lithuania's Innovations in Kindergarten, which integrate digital content with teacher development. Thailand and Lithuania pair digital tools with peer networks, while Norway and Iceland emphasise safe, age-appropriate and interactive use of technology. These mechanisms expand access and flexibility while addressing persistent challenges, including digital divides, safeguarding and the risk of displacing the relational aspects of ECEC.
- **Scope and timeline:** Narrower or phased approaches to enable systems to learn and adjust in fast-changing contexts are common. Estonia's ProgeTiger spans all education levels, with milestones for teacher training and AI integration. Finland's Framework for Digitalisation in Education and Austria's Digital Media Education Handbook use shorter implementation cycles linked to regular review points to encourage reflection and agility.
- **Main actors involved:** Implementation requires co-ordination across national authorities, training institutions and educators. In Finland, central and local actors jointly guide digital adoption across education sectors, while Austria supports educators in using technology to enrich play-based learning.
- **Digital and blended approaches:** Digital-led approaches are supported by professional development and frameworks that help to ensure responsible implementation. Lithuania's EdTech initiative connects educators with digital tool creators and offers hybrid professional learning to help enable digital innovation. Similarly, Costa Rica's Tecnoideas platform encourages exchanges of actors' pedagogically guided digital practices. Norway's early childhood curriculum framework states that digital practices should help enhance creativity and learning, rather than for passive consumption (see Box 2.5).
- **Resources required:** Funding typically combines national budgets with EU or loan funding. Investments often pair digital infrastructure and connectivity with teacher professional development and technical support, although the specific capacity requirements are not always detailed. Estonia's ProgeTiger combines state budgets and EU resources with teacher training for digital pedagogy, while Lithuania's Innovations in Kindergarten programme, supported by the European Social Fund, trained 89 expert lecturers to cascade digital practices nationwide.
- **Tools and resources generated:** Education systems have generated a range of digital toolkits, learning platforms, and digital repositories. For instance, Finland's Framework for Digitalisation in Education develop digital resources to strengthen educator capacity and pedagogical innovation, while Lithuania curates digital materials to build educators' competencies.

Box 2.5. Norway – Digital approaches in early childhood curriculum frameworks

Norway's Regulations on a Framework Plan for the Content and Tasks of Kindergartens (the Framework Plan) sets out supplementary provisions on the content and tasks of kindergartens.

Norway's curriculum framework in early childhood states that digital practices in ECEC settings shall encourage children to play, be creative and learn. Digital tools are used sparingly to enhance creativity and learning. Digital media is used for expression, exploration, and co-use with adults, rather than passive consumption. The use of digital tools must support children's learning processes and help

create a rich and varied learning environment for all children. Staff are expected to be actively involved with children when using digital tools, which should be used with care and not become a dominant practice. The Plan also gives a number of broad directions for staff, such as: enabling the children to explore, play, learn and create using digital forms of expression; evaluating the relevance and suitability and participating in the children's media usage; exploring the creative and inventive use of digital tools together with the children.

Source: Norway's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation; Norwegian Ministry of Education and Research (2017[29]), Framework Plan for the content and tasks of kindergartens, https://www.udir.no/contentassets/5d0f4d947b244cfe90be8e6d475ba1b4/framework-plan-for-kindergartens--rammeplan-engelsk-pdf.pdf, accessed 04 September 2025.

Takeaway

Embedding digitalisation responsibly and strengthening digital literacy among children and educators can enrich pedagogy and build foundations for lifelong learning. The priority ahead is to ensure that digital environments are age-appropriate, safe and inclusive, supported by monitoring and evaluation that deepen understanding of how digital experiences shape learning and well-being.

Creating the means for lifelong learning

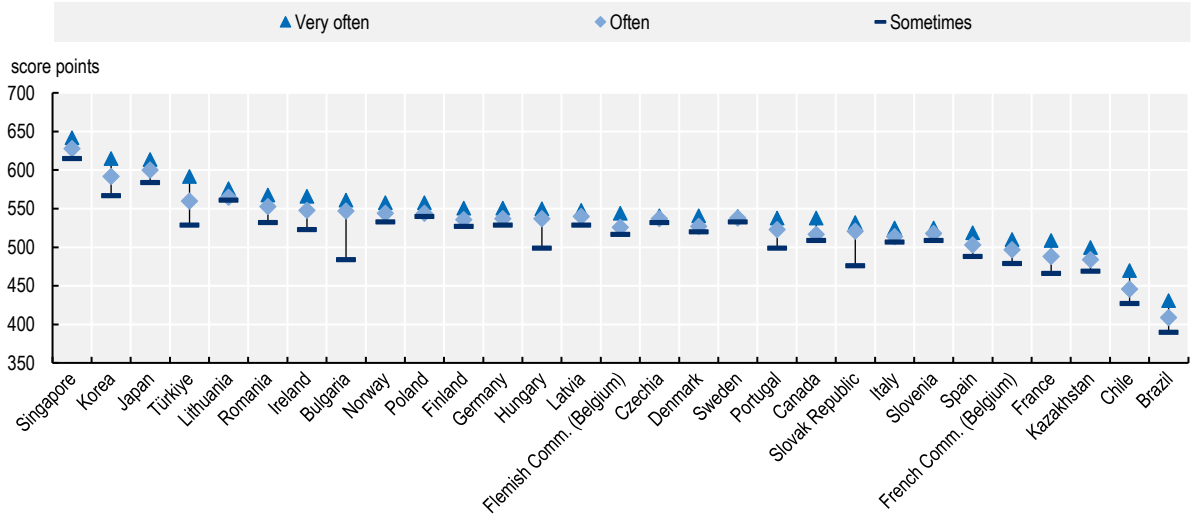
The "means" of lifelong learning are the conditions that allow children and families participate fully and confidently. Policies typically expand access, improve workforce quality and integrate services, which are all important components of learners' learning environments and beyond. Efforts to professionalise and connect the education workforce include Slovenia's counselling services and France's initiatives to strengthen teacher training in ECEC and foster partnerships with families and local communities. Similarly, parental engagement programmes, such as New Zealand's whānau-led services and Northern Ireland (United Kingdom)'s Getting Ready to Learn, help reinforce collaboration between schools, families, and communities to support children's learning and well-being.

The Trends in International Mathematics and Science Study (TIMSS) (2024[30]) shows that frequent home-based learning activities before primary school – reading, storytelling, playing with number and alphabet toys – are associated with higher Grade 4 mathematics achievement (see Figure 2.3). This relationship is especially pronounced in Bulgaria, Hungary, the Slovak Republic and Türkiye, where students whose parents reported more frequent engagement scored significantly higher in mathematics.

This section explores three key dimensions of these efforts: how systems are ensuring equitable access, how they are strengthening the home-learning environment, and how cross-sectoral collaboration can help create the means for lifelong learning.

Figure 2.3. Frequent home-learning activities are linked to higher mathematics achievement

Average achievement scores in mathematics (grade 4), by frequency of home early literacy and numeracy activities before primary school



Note: Results are based on parents' reports of how often they engaged their child in eight literacy and eight numeracy activities prior to starting primary school. Students were classified as engaging in these types of activities "very often," "often," or "sometimes" before beginning primary school.

Source: International Association for the Evaluation of Educational Achievement (IEA)'s Trends in International Mathematics and Science Study - TIMSS 2023, https://timss2023.org/results, accessed 13 October 2025.

StatLink https://stat.link/3ox9zp

Ensuring equitable access

Equitable access starts with removing financial, structural and informational barriers. While all children benefit from quality ECEC, the gains are greatest for those from less advantaged backgrounds (OECD, 2025[6]). For instance, in Spain, reforms in ECEC have focused on expanding access alongside improving quality of education for children aged 0-3, strengthening the curriculum framework and embedding inclusive education objectives.

Systems combine universal entitlements with targeted measures: universal frameworks guarantee access, while targeted supports direct additional resources to families most in need. Universal frameworks guarantee access for all, while targeted supports direct additional resources to families most in need. For instance, Czechia is implementing the Child Guarantee, which aims to create 7 500 additional places by 2030, focusing on children aged 0-3 and those at risk of poverty or social exclusion. Similarly, Luxembourg's Subsidy Funding Scheme *(Chèque-Service Accueil)* links fee subsidies to household income and childcare usage, to help affordability go hand in hand with quality regulation. Through such measures, education systems aim to give every child the opportunity to develop the skills and confidence that form the foundation for lifelong learning.

- **Mechanisms and actions:** Fee abolition, targeted subsidies and integrated services are some of the financial and outreach mechanisms that seek to expand access. Bulgaria's removal of preschool fees eliminated direct financial barriers to enrolment, while England and Northern Ireland (United Kingdom) direct entitlements and funding to low-income families. Brazil's intersectoral programmes align education with health and social protection to reach children in poverty. These mechanisms aim to improve affordability, availability and visibility of provision for disadvantaged families.

- **Scope and timeline:** Broad national frameworks are usually combined with targeted overlays for disadvantaged groups, typically implemented as multi-year or continuous commitments. Bulgaria's preschool fee abolition and England (United Kingdom)'s entitlement for disadvantaged two-year-olds use financial support to eliminate access barriers. Estonia's Preschool Law and the Slovak Republic's compulsory pre-primary provision establish universal participation rights. Phased eligibility extensions are also common: Luxembourg's Subsidy Funding Scheme *(Chèque-Service Accueil)* links affordability with quality regulation, and the United Kingdom's Targeted Entitlements in Early Childhood (see Box 2.5) and Working Parent Entitlement expand eligibility from age three to nine months to balance capacity and demand.
- **Main actors involved:** Implementation relies on co-ordination between national and local authorities. National ministries set entitlements and funding rules, while municipalities expand provision through public, private and non-profit providers. In Luxembourg, it is not only municipalities that deliver services – these can also be provided by private for-profit organisations or not-for-profit providers, while fiscal authorities administer subsidies in a mixed-provider market, while in England (United Kingdom), co-ordination between national and local authorities ensures that targeted funding reaches eligible children.
- **Resources required:** Equitable access depends on stable and predictable financing, often through means-tested subsidies, earmarked grants or blended schemes. The Subsidy Funding Scheme *(Chèque-Service Accueil)* in Luxembourg links subsidies to household income, while Northern Ireland's Sure Start channels funding to disadvantaged areas. China combines subsidy and tax incentive schemes to expand infant-toddler provision. Infrastructure investments focus on underserved or rural areas, complemented by specialised human resources such as psychologists, speech therapists and mediators in Bulgaria's Strong Start, community educators in Peru's non-school programmes for early education (*Programas No Escolarizados de Educación Inicial*) (*PRONOEI*), and early childhood special-education teachers in Finland.
- **Tools and resources generated:** Governments develop guidelines, communication materials and co-ordination tools to support equitable enrolment and collaboration across sectors. The Slovak Republic publishes national guidelines online, Sweden's Preschool for More Children provides municipalities with outreach materials to contact non-enrolled families, and Romania and Northern Ireland (United Kingdom) use referral templates and pathways that link education, health and social services.

Box 2.6. United Kingdom – Targeted entitlements in early childhood

The United Kingdom offers 15 hours of free early education to families of disadvantaged 2-year-olds, with the aim of improving educational outcomes for children facing disadvantage. This entitlement has developed gradually, evolving from a small-scale pilot in 2006 into a national policy with wider eligibility. Alongside this, the United Kingdom also has universal entitlement for 3- and 4-year-olds.

Among the expansions to eligibility criteria are:

- 2013: Entitlements aligned with free school meal entitlement and extended to include children looked after by a local authority in England or Wales;
- 2018: Families receiving Universal Credit with a net household income of GBP 15 400 or less became eligible;
- 2022: Covering families with no recourse to public funds, subject to specific income thresholds.

Source: United Kingdom's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, UK Government, https://www.gov.uk/help-with-childcare-costs/free-childcare-2-year-olds-claim-benefits?step-by-step-nav=f237ec8e-e82c-4ffa-8fba-2a88a739783b, accessed 15 September 2025

Takeaway

Ensuring equitable access to early learning depends on how universal and targeted measures are designed and sustained. Universal frameworks build stability and trust, while targeted approaches address the specific needs of disadvantaged children and families. Systems that balance both, supported by sustainable funding and local partnerships across education, health and social services, are best placed to make high-quality early learning accessible to every child.

Strengthening the home-learning environment

- The home-learning environment is central to early development and the "means" for lifelong learning. Policies in this area aim to help families create nurturing, stimulating environments and strengthen continuity between home and ECEC settings. These approaches recognise parents and caregivers as key partners in learning, as well as their influence on children's motivation, curiosity and confidence. For example, England (United Kingdom)'s Family Hubs model brings together services across education, health and social care to help parents foster positive home-learning environments while accessing childcare, health and employment support. Such policies highlight that family engagement and cross-sector co-ordination are vital for developing children's early skills and the relational conditions that sustain lifelong learning. Evidence shows that family engagement can be a powerful driver of children's participation, motivation and persistence in learning (Sylva et al., 2010[31]; OECD, 2025[6]).
- **Mechanisms and actions:** Relationship-centred mechanisms build trust and capability: England (United Kingdom)'s Family Hubs consolidate local services, from parenting support to childcare advice; New Zealand's Engaging Priority Families delivers home visits and tailored guidance for families not enrolled in ECEC; Türkiye's Family Education Programmes combine digital and face-to-face delivery; and the United States' Educare model embeds home visits and parent–teacher conferences to build consistent engagement. These mechanisms and actions underline that family engagement is not just about providing information, but are relational and based in trust.

- **Scope and timeline:** Typically local networks operate within national frameworks, using time-bound investments or continuous-improvement cycles. England's Family Hubs promote inter-agency co-ordination under a fixed funding period, while the U.S. Educare Network applies rolling, data-driven learning cycles to support long-term improvement across its partner cities.
- **Main actors involved:** Parents are seen as co-educators alongside partnerships across education, health and community sectors. In England (United Kingdom), Family Hubs coordinate local delivery through collaboration between local authorities, educators and health visitors. Türkiye mobilises teachers and facilitators to support parents' digital and socio-emotional skills, and the U.S. Educare centres extend family engagement through home visits, parent conferences and representation in governance.
- **Digital and blended approaches:** Digital tools increasingly used to support communication and parental involvement, complemented by in-person guidance. In Northern Ireland (United Kingdom), A Fair Start combines online learning modules, devices and data dashboards with direct outreach to disadvantaged families, while Türkiye's Family Education Programmes and New Zealand's Engaging Priority Families use hybrid delivery to increase flexibility and reach.
- **Resources required:** Resources generally support integrated local networks and outreach teams. England (United Kingdom)'s Family Hubs link early childhood practitioners with health visitors; Thailand's Early Childhood Development Promotion Plan funds home-learning coaches; and New Zealand's Te Whāriki uses bicultural advisors and community facilitators to promote inclusion. Budget allocations are typically embedded within broader ECEC or social policy frameworks rather than separated.
- **Tools and resources generated:** Parent-facing materials, home-learning kits and communication resources are some examples. Thailand's Early Childhood Development Promotion Plan includes developmental monitoring tools; Slovenia and China publish parent guides and online modules; and New Zealand's Te Whāriki integrates participation resources directly into its curriculum framework.

Takeaway

Strengthening the home-learning environment is vital for sustaining motivation and confidence beyond early learning settings. When families can act as empowered co-educators through structured outreach, guidance and trust-based partnerships, learning can become continuous across home, school and community. Embedding these supports within wider education, health and social frameworks can help ensure that every family, regardless of background, has the capacity and confidence to support children's learning and development.

Supporting cross-sectoral collaboration

Cross-sector co-ordination aligns services around children's needs rather than institutional boundaries. Where in place, it provides holistic, continuous support and smoother transitions into school - helping sustain relationships and learning. For example, Iceland's Act on the Integration of Services in the Interest of Children's Prosperity establishes a national framework for cooperation between education, health and social authorities to help children and parents access integrated services without impediment. Smooth transitions from ECEC to primary school are also a key function of co-ordination across learning settings and are important for ensuring continuity of learning and relationships.

- **Mechanisms and actions:** Where they exist, inter-ministerial or multi-agency frameworks seek to overcome fragmentation and promote smoother transitions between ECEC, primary education and

related services. Iceland's Act on the Integration of Services mandates co-ordination across education, social and health sectors, supported by formal collaboration structures between national and local levels. Bulgaria's Integrated Early Childhood Development Services use EU co-funding to promote municipal cooperation between health, education and social sectors, giving children access to health checks and early education. Brazil links ECEC with health and social protection through intersectoral programming.

- **Scope and timeline:** Where co-ordination frameworks have been established, they are typically embedded within national legislation or implemented through multi-year, locally adaptable projects. Iceland's Integration of Services Act applies nationally, requiring cooperation between all municipalities and relevant ministries. Bulgaria's integrated early childhood policy extends across municipalities through the Social Inclusion Project (SIP), using EU structural funds and municipal co-financing to scale integrated service delivery through multi-year cycles.
- **Main actors involved:** Cross-sectoral co-ordination relies on multi-level and inter-agency collaboration. In Bulgaria, the Ministry of Health and Ministry of Education jointly lead implementation, with the Ministry of Labour and Social Policy (MLSP) regulating integrated social and health services. Municipalities and civil-society organisations deliver local services, while the SIP was managed by the MLSP in partnership with local providers. In Iceland, both national and municipal authorities share responsibility for implementation alongside social and health agencies. These arrangements highlight that where co-ordination exists, success depends on shared governance and accountability across levels of government.
- **Tools and resources generated:** Bulgaria's Social Inclusion Project created 113 community centres to provide integrated education, health and social services under one roof. These investments included infrastructure rehabilitation and new childcare centres in underserved areas. However, across education systems, it is not yet known what additional tools and resources – such as shared guidelines, co-ordination procedures, inter-agency protocols or digital platforms – are available to facilitate and sustain this cross-sectoral collaboration across participating ministries and municipalities.

Takeaway

Where co-ordination mechanisms exist, they are key to ensuring smooth transitions and coherent support across ECEC, health and social services. Yet such policies remain fragmented across the reviewed systems. Strengthening shared governance, data exchange and sustainable funding can help make integrated services a consistent feature of early childhood systems rather than isolated initiatives. By improving continuity and responsiveness across sectors, these approaches can reinforce the means for lifelong learning.

Considerations for the future

Early childhood lays the foundations for lifelong learning. It is in these early years that curiosity, persistence and self-regulation take shape through daily interactions between children, educators and their environments. As participation in ECEC expands, systems are focusing on how policies can nurture the *will*, *skills* and *means* that sustain learning throughout life.

Evidence from the policies reviewed for this chapter shows strong commitment to enhancing quality, expanding equitable access and strengthening family engagement. Systems are increasingly aligning ECEC frameworks, workforce development and inclusion measures to improve access and quality of

provision. However, implementation remains uneven: motivational dimensions are rarely made explicit in policy design, workforce capacity is stretched, and cross-sector co-ordination remains fragmented or project-based. The challenge ahead is not only to broaden access but to ensure that early experiences consistently foster the dispositions, skills and enabling conditions that underpin lifelong learning.

- **Fostering will for lifelong learning:** Nurturing curiosity, confidence and a will to learn is a common goal of early education, though it is less often defined in practical terms. Many curricula promote play, exploration and self-expression, yet guidance on how educators and families can support these dispositions remains limited. Embedding agency, curiosity and persistence explicitly within curriculum frameworks – supported by pedagogical guidance and professional learning – can strengthen motivation from the start. Family engagement initiatives can extend these dispositions beyond ECEC settings, empowering parents to create nurturing and stimulating home environments.
- **Developing skills for lifelong learning:** Policies consistently prioritise developing early cognitive and socio-emotional skills as foundations for learning and well-being. Frameworks in Finland, Norway and Slovenia, among others, show how play-based, inclusive pedagogies can strengthen early literacy, communication, problem-solving and digital competence. However, metacognitive and self-regulation skills are less often addressed, and socio-emotional learning remains under-emphasised relative to cognitive development. Sustained, practice-based professional learning and multi-professional teamwork can help educators integrate these dimensions holistically into everyday pedagogy, ensuring that ECEC nurtures both will and skill.
- **Creating the means for lifelong learning:** The means for learning are advanced through policies that expand access, strengthen workforce quality, and improve governance and co-ordination. Universal and targeted mechanisms - such as fee abolition, subsidies and outreach - help remove financial and structural barriers, but their success depends on sustained funding and local delivery capacity. Ensuring quality for all requires not only coherent frameworks and standards, but also investment in educators' time, conditions and competence. Integrating education, health and social services can further strengthen the continuity of support for children and families, particularly at key transition points into primary school. Digitalisation also features across reforms as a means to enrich pedagogy and support professional practice, though responsible and age-appropriate use remains essential. Systems that treat digital tools as instruments for creativity and expression – rather than as replacements for play or interaction – are best positioned to use technology to enhance ECEC quality.

Next steps for policymakers. To translate these ambitions into sustained lifelong-learning outcomes, education systems could focus on the following directions:

- **Embed the will, skills and means for lifelong learning more explicitly** within curriculum frameworks – clarifying how dispositions, competencies and enabling conditions can be supported, alongside clear guidance.
- **Elevate process quality through sustained workforce development**, ensuring that educators have time, mentoring and professional learning opportunities to foster curiosity, creativity and socio-emotional growth through play and interaction.
- **Strengthen family engagement and the home-learning environment**, using structured outreach, guidance and partnerships across education, health and social services to empower parents as active co-educators.
- **Ensure responsible and developmentally appropriate digitalisation**, providing clear guidance, professional learning and safeguards so that digital tools complement - not replace - rich, play-based and relational learning.

- **Balance universal and targeted measures** so that all children can access high-quality ECEC while additional support reaches those facing disadvantage, ensuring affordability, continuity and inclusion.
- **Institutionalise cross-sectoral co-ordination,** moving from project-based integration to governance arrangements that align education, health and social policies around shared early development goals and smoother transitions to school.

These directions can help governments to strengthen the connections between will, skills and means, so that children can build the foundations for learning and development throughout life. Looking ahead, it will also be essential to deepen understanding of the long-term value of ECEC. Monitoring and evaluation frameworks, guided by a clear theory of change, should be designed to explicitly measure how early childhood interventions contribute to children's immediate learning and development outcomes, their successful transitions into school, and their broader cognitive, socio-emotional and lifelong-learning outcomes. Strengthening this evidence base can help policymakers sustain investment and continuously improve the interventions that give all children the best start in life.

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Annex 2.A. List of policy approaches

A list of policies reviewed for early childhood can be found below.

Annex Table 2.A.1. List of policies for early childhood

System	Year	Policy title	Links to further information provided by education systems
OECD countries			
Austria	2016-present	MINT Seal of Approval (MINT Gütesiegel)	Link
Austria	2022-2027	Agreement on Early Childhood Education ("15a agreement")	Link 1 Link 2
	2020	Digital Media Education in Elementary Educational Institutions (Digitale Medienbildung in elementaren Bildungseinrichtung)	Link
Costa Rica		I Learn to Live the Good Life Platform (Aprendo Pura Vida)	Link
		Tecnoideas Platform	Link
Czechia	2025	Framework Educational Programme for Pre-primary Education (2025 Revision)	N/A
	2023	Legal Right to Preschool Education for 3-year-olds (2023)	N/A
	2022	Action Plan for Implementing the Child Guarantee (2022–2030)	Link
Estonia	2012	ProgeTiger	Link 1 Link 2 Link 3 Link 4
Finland	n.d.	Multi-professional ECEC teamwork	Link 1 Link 2
	2022-2025	Framework for Digitalisation in Early Childhood Education and Care, Comprehensive School Education and Liberal Adult Education	Link
France	2023	The public early childhood service (Service public de la petite enfance)	Link 1 Link 2
	2023	Kindergarten Plan (Plan maternelle)	Link 1 Link 2
Iceland	2022	Act No 86/2021 on the Integration of Services in the Interest of Children's Prosperity	Link 1 Link 2
	2020	Education Policy 2030	Link 1 Link 2
Japan	2022	Basic Act for Children's Policy (Act No.44 of 2022)	Link 1 Link 2 Link 3
	2017	Curriculum framework for pre-primary schools	Link 2
Latvia	2025	STEM and civic engagement events for a broader educational experience	Link
Lithuania	n.d.	Innovations in Kindergarten	Link
	2024	Description of educational achievements of preschool children	Link
Luxembourg	2009	Subsidy funding scheme (*Chèque-Service Accueil* (CSA))	Link 1 Link 2 Link 3 Link 4
Mexico	2022	National Early Chilhood Education	Link
New Zealand	2017	Te Whāriki	Link 1 Link 2 Link 3

System	Year	Policy title	Links to further information provided by education systems
	n.d.	Parent/whānau-led services (community-based programmes)	Link 1 Link 2
	n.d.	Engaging Priority Families (EPF)	Link
Norway	2017	Regulations on a Framework Plan for the Content and Tasks of Kindergartens (the Framework Plan)	Link 1 Link 2
Poland	2019	Integrated Skills Strategy	Link 1 Link 2
Portugal	n.d.	Portuguese curriculum framework	Link 1 Link 2
Slovak Republic	2019	Amendment to the Education Act, which established mandatory pre-primary education for all children from 5 years of age.	Link 1 Link 2 Link 3 Link 4
Slovenia	n.d.	Renewed Kindergarten Curriculum	Link
	Ongoing	Counselling service	Link
Sweden	n.d.	Curriculum framework	Link 1 Link 2
	2022	Preschool for more children prop 2021/22:132	Link
Türkiye	2024	Family Education Programs: Velivizyon Platform, The Century of Türkiye Education Model Family School 1 and Family School 2 Course Programmes	Link 1 Link 2
	2024	The Century of Türkiye Education Model Preschool Education Curriculum	Link 1 Link 2
Other economies			
Flemish Comm. (Belgium)	2014	The Pedagogical Framework for Childcare of Babies and Toddlers	Link 1 Link 2
French Comm. (Belgium)	2004	Order of the Government of the French Community establishing the Quality Code for Childcare	Link
	2003	Continuing training programme for professionals and volunteers	Link 1 Link 2
German-speaking Comm. (Belgium)	2023	Attendance Kindergarden	Link
	2020	Reduction of compulsory schooling age	Link
England (United Kingdom)	n.d.	Family hubs	Link 1 Link 2 Link 3
	2018	Working parent entitlement	Link 1 Link 2
	2004	Universal entitlement	Link
	2013	15 hour entitlement for families of 2-year-olds in receipt of additional forms of support	Link 1 Link 2 Link 3 Link 4
Northern Ireland (United Kingdom)	2000/01 onwards	Sure Start Northern Ireland	Link 1 Link 2 Link 3
	1998 onwards	The Preschool Education Programme (PSEP)	Link 1 Link 2
	2016 onwards	Getting Ready to Learn programme	N/A
Partner and/or accession countries			

System	Year	Policy title	Links to further information provided by education systems
Bulgaria	2010 - recent	Integrated Early Childhood Development Services	Link 1 Link 2
	2020-2022, ongoing implementation	Expanding the access to education and care from the children's early age	Link 1 Link 2 Link 3
	Current	Development of National Framework for the Quality of Early Childhood Education and Care	Link
	2018	Introducing the application of adaptation models upon entering kindergarten	Link
China	2019	Guiding Opinions on Promoting the Development of Care Services for Infants and Toddlers Under the Age of 3	Link
	2024	Preschool Education Law of the People's Republic of China	Link
	2021	Action Plan for the Development and Enhancement of Preschool Education during the 14th Five-Year Plan	Link
Peru	2016	Programas No Escolarizados de Educación Inicial - PRONOEI	Link 1 Link 2 Link 3
Romania	2019	Early Inclusive and Quality Early Childhood Education	Link
Thailand	2025	Early Childhood Development Promotion Plan	Link

Source: Education Policy Outlook (2025), National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

3 Early to Mid-Adolescence

Adolescence is a pivotal stage for shaping how young people see themselves as learners and members of society. As they navigate educational and personal transitions through and beyond compulsory schooling, they begin to form a sense of agency, purpose and belonging that will influence their engagement with learning throughout life. Drawing on international evidence, OECD data and policy approaches from 31 education systems, this chapter analyses the strategic design choices that support learners at this critical life moment and offers practical insights for policymakers. It explores how education systems can nurture adolescents' *will*, *skills* and *means* for lifelong learning.

In Brief

Supporting learners in adolescence

Adolescence is a decisive juncture in the lifelong learning journey, marked by rapid physical, cognitive, emotional, social and behavioural change. It is a time of exploration and transformation, but also a period of increased vulnerability to disengagement from learning. By lower secondary school, students' motivation and well-being can begin to deepen or decrease. Results from Programme for International Student Assessment (PISA) 2022 show that only half (50%) of 15-year-olds agreed or strongly agreed that they love learning new things at school. Yet, this is also when identities, aspirations and habits for self-directed learning are still taking shape.

Across 31 education systems, reforms increasingly aim to nurture adolescents' *will*, *skills* and *means* for lifelong learning. Common areas of focus include:

- **Will:** Nurturing student agency (e.g. Estonia, the Netherlands); supporting social and emotional skills (e.g. French Community (Belgium), Bulgaria, China).
- **Skills:** Ensuring effective teaching practices (e.g. Portugal, Türkiye); developing transversal competencies (e.g. German-speaking Community (Belgium, Czechia, Poland)).
- **Means:** Harnessing digitalisation (e.g. Estonia, Lithuania, Slovak Republic); strengthening career readiness and guidance (e.g. the Netherlands, Norway, Sweden); supporting cross-sectoral collaboration (e.g. Estonia, Iceland, Northern Ireland (United Kingdom)).

Goal setting, reflection and learner-owned portfolios promote student agency; while mentoring and structured professional learning seek to strengthen teachers' capacity to support it. Transversal competencies are increasingly embedded across subjects, often supported by digital and blended resources. Meanwhile, when combined with strong governance and teacher guidance, digitalisation can enhance inclusion and engagement.

Despite these advances, challenges remain. Many systems seem to continue to focus mainly on academic skills and digital infrastructure and could pay more attention to how schools and families nurture, for instance, adolescents' motivation, curiosity and sense of belonging. Embedding these capacities more deliberately in daily practice – through formative assessment, collaborative learning and structured reflection – can help students monitor progress and build self-regulation. Teacher professional learning should also include socio-emotional skill development so teachers can model and nurture these behaviours.

Looking ahead, policies should focus on enabling learners' agency and self-regulation, while ensuring teachers have the time, support and skills to make these aims a reality. Responsible use of digital tools, stronger career guidance and well-being ecosystems, and closer connections with families, communities and employers can ease transitions to future stages. Keeping learning relevant to students' interests and aspirations can sustain motivation and belonging, making adolescence not the endpoint of schooling, but a bridge toward lifelong learning.

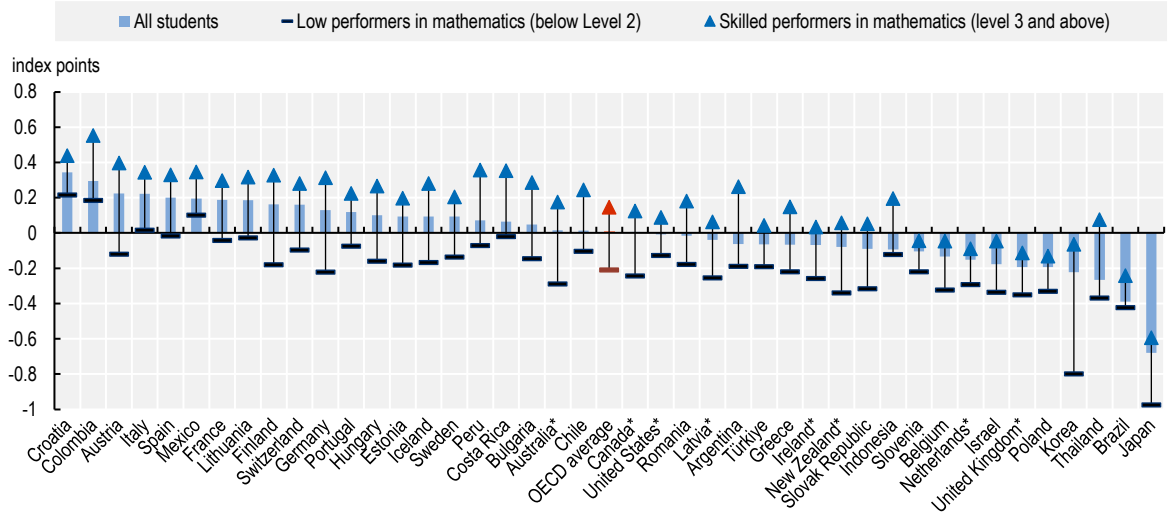
Introduction

Adolescence builds on the foundations laid in early childhood and represents a second critical moment in the lifelong-learning journey. Between ages 10 and 16, young people are highly open to learning yet vulnerable to disengagement. What happens during these years shapes their capacity to thrive in education, work and society (OECD, 2024[1]). During these years, distinctive cognitive, social, and emotional changes shape how young people respond to challenges and opportunities (Pfeifer and Allen, 2021[2]; Dahl et al., 2018[3]). For many OECD countries, it is also the final systemic opportunity before the end of compulsory schooling to strengthen the will, skills, and means that sustain lifelong learning.

Evidence from PISA 2022 highlights the importance of intrinsic motivation. Students who enjoy learning new things at school are more likely to use effective learning strategies – even after accounting for socio-economic background (OECD, 2024[1]). Those driven by curiosity and enjoyment are more likely to develop self-regulatory habits essential for lifelong learning. Across the OECD, high-performing students in mathematics (Level 3 and above on PISA) also report greater confidence in directing their own learning, on average. This is particularly the case in Austria and Colombia (Figure 3.1). Academic performance and self-directed learning therefore appear mutually reinforcing. Learning environments that foster curiosity, self-belief, and a sense that effort leads to improvement can help students to build the competence and confidence to continue learning throughout life.

Figure 3.1. Higher performers in mathematics tend to have better self-directed learning

Index of confidence in self-directed learning, by level of performance in mathematics



Note: Based on students' reports. *Caution is required when interpreting estimates because one or more PISA sampling standards were not met.

Source: OECD (2024[1]), *PISA 2022 Results (Volume V): Learning Strategies and Attitudes for Life*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/c2e44201-en.

StatLink https://stat.link/zpqseg

Socio-emotional development is equally vital. Adolescents participating in the Survey of Social and Emotional Skills (SSES) report lower levels of achievement motivation, self-confidence, and task performance than younger learners (OECD, 2024[4]) (Chapter 1). Yet these same skills underpin

persistence and adaptability in uncertain environments (Pintrich and De Groot, 1990[5]; Lüftenegger et al., 2012[6]).

Adolescence is therefore a period of risk and opportunity. Investments in equitable access to quality secondary education, socio-emotional learning, and adolescent health can yield high returns. Policies that cultivate adolescents' will, skills, and means can unlock this potential.

To support policymakers in this effort, this chapter analyses 66 policy approaches from 31 education systems targeting adolescence, drawing on the Education Policy Outlook questionnaire and international evidence (See Annex 3.A). It examines how countries support adolescents through complex transitions and concludes with considerations for the future.

Relevant insights from international evidence

Adolescence is a pivotal transition when young people form their identities, test social roles and face heightened risks of disengagement from learning. At this stage, education systems can play an enabling role – helping adolescents stay motivated, supported and confident to continue learning beyond compulsory schooling.

OECD evidence reveals persistent gaps in learning strategies, particularly among socio-economically disadvantaged and low-performing students (OECD, 2024[7]). These learners face a dual challenge: lower achievement and limited confidence in their ability to learn. Identifying and building on students' strengths, such as in terms of learning strategies, motivation, or self-belief, can create multiple pathways to success and prepare them for the uncertainties of tomorrow (OECD, 2024[1]).

Early investments in developing robust learning attitudes can have lasting effects. Individuals who develop a strong drive to learn are far less likely to disengage from adult learning later in life. Across most countries participating in the OECD Survey of Adult Skills, attitudes towards learning are significant predictors of participation in adult learning (OECD, 2021[8]).

A review of international evidence points to several priorities for policy action at both learner and system levels to better support learners at this age. Some are included below.

Focusing on learners

Adolescents thrive when they are encouraged to take ownership of their learning. Approaches such as formative assessment, constructive feedback, and proactive learning strategies can strengthen agency and self-regulated learning at this stage (UNESCO International Bureau of Education, 2021[9]; Dweck, Walton and Cohen, 2014[10]). Education systems can support this by helping teachers design environments where students feel trusted, capable and responsible for their own progress.

Teachers play a decisive role in keeping adolescents engaged. Differentiated instruction, supportive student-teacher relationships, and continuous professional development in areas such as inclusion, socio-emotional learning and digital pedagogy can support teachers to meet diverse learner needs and disseminate effective practice. Investing in mentoring, professional learning and incentives can further encourage learner-centred practices and digitally informed pedagogies (Le Donné, Fraser and Bousquet, 2016[11]; Ibrahim and El Zaatari, 2019[12]; Dahl et al., 2018[3]).

Curricula that prioritise transversal competencies can help prepare students for lifelong adaptability and smoother transitions into upper secondary and vocational pathways. This includes promoting metacognition, problem-solving, collaboration and digital literacy (Schneider and Artelt, 2010[13]; Kaffenberger, Melville and Agarwal, 2025[14]).

Finally, socio-emotional development, well-being and positive mental health remain essential to keeping adolescents engaged in learning and to reduce the risk of dropping out. Inclusive school cultures that foster

belonging is particularly important at this stage of identity formation. Evidence shows that interventions targeting socio-emotional development promote resilience and sustained participation (Beatson et al., 2023[15]; Belfi and Borghans, 2025[16]; Baird and al, 2025[17]).

Focusing on the system

When used purposefully, digitalisation can enhance inclusion and engagement through more personalised learning. Effective integration of digital tools and hybrid or blended models into teaching and assessment helps reach diverse learners. However, without equitable access and targeted support, digitalisation risks amplifying divides and excluding disadvantaged learners (Mejeh and Rehm, 2024[18]; OECD, 2023[19]).

Career readiness and guidance systems can also give adolescents structured opportunities to explore pathways and connect current learning with future options. International evidence links early, high-quality career guidance and exposure to diverse education and training routes with smoother transitions and lower risks of disengagement (Beatson et al., 2023[15]; UNESCO Institute for Lifelong Learning, 2022[20]).

Whole-system collaboration is also vital. Schools increasingly work in partnership with families, youth services and health providers to address barriers beyond the classroom. Evidence from cross-sector initiatives shows that coordinated support can help adolescents navigate transitions more smoothly and promote inclusion (Sheehan et al., 2017[21]).

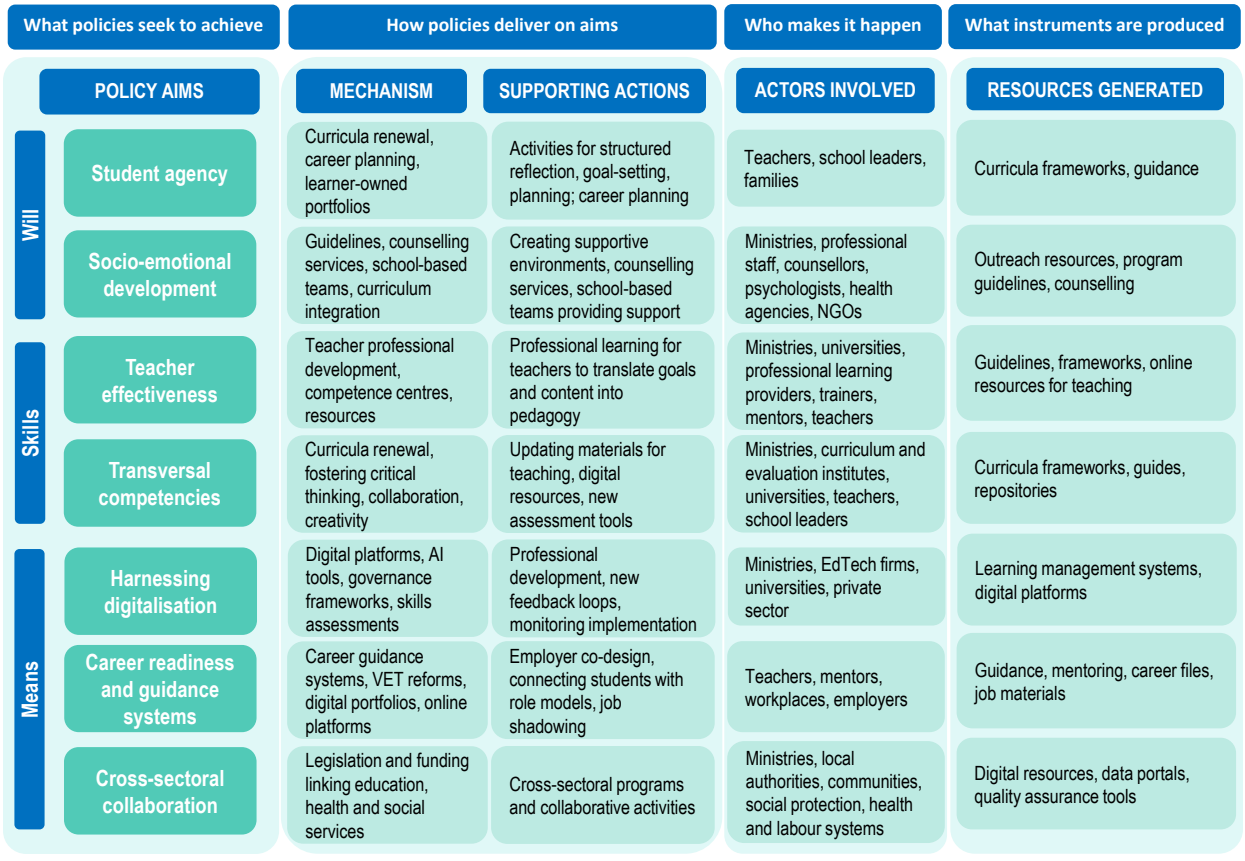
While these priorities are supported by growing international evidence, their effectiveness ultimately depends on how they are operationalised and implemented. The policy approaches explored below offer a glimpse into how countries and economies are translating these priorities into action, offering lessons for policymakers seeking to adapt similar strategies and anticipate potential trade-offs.

Policies for strengthening the will, skills and means for lifelong learning in early to mid-adolescence

Countries are increasingly translating broad ambitions for lifelong learning into concrete action during adolescence. Across education systems, reforms align closely with the international priorities identified earlier – especially those promoting learner agency, teacher capacity, well-being, and responsible digitalisation. This chapter explores these initiatives, first by looking into overall strategic design choices for these policies (e.g. mechanisms, scope, actors, resources and tools) to provide a system-level view of how different design choices and delivery arrangements shape implementation capacity. Initiatives are grouped by **policy aims** under will, skills and means, allowing policymakers to see how different strategies aim to motivate adults, develop relevant competencies and expand accessible learning opportunities, and where stronger coordination across these dimensions could make lifelong-learning systems more coherent and effective. These elements are summarised in Infographic 3.1.

Infographic 3.1. How policy strategies for early to mid-adolescents vary according to their aims

Most common approaches identified according to policy aim (selected categories)



Note: See Annex 3.A for a more complete view on the policies included in this chapter.
Source: Education Policy Outlook (2025): National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Strategic design choices in lifelong learning policies for adolescents

This section examines how countries design policies to sustain motivation and skill development as young people move through early to mid-adolescence. It analyses policy aims, mechanisms, scope and actors, highlighting how these choices influence engagement, equity and pathways into adulthood. While most of the initiatives collected pursue broader objectives associated with school education, many in the adolescence stage aim to nurture the *will, skills* and *means* that sustain lifelong learning.

Aims

Policy aims refer to the main objectives pursued to support learners. Many of the policies analysed share core objectives for lifelong learning in adolescence. Across systems, common aims include promoting learner agency, supporting social and emotional skills support learners' will, while objectives such as ensuring effective teacher practices and developing transversal competencies are key for developing learners' skills for lifelong learning. Furthermore, harnessing digitalisation for inclusion, engagement and personalisation, and strengthening career readiness and guidance, underpinned by cross-sectoral coordination also emerge as important policy aims, which can support learners' means for learning.

Mechanisms and actions

Achieving a policy aim requires translating ambition into operational mechanisms and actions. Across the policies reviewed, mechanisms are typically layered and combined to reach intended outcomes.

- *Curriculum renewal*. New frameworks increasingly embed learner agency, transversal competencies and digital literacy – defining what students learn and how teachers teach. Austria's curriculum reform modernises teaching to foster interdisciplinary skills and flexibility in lesson design (see Box 3.1). In Estonia, the National Curriculum for Basic Schools integrates goal setting and self-assessment to promote learner agency, while Portugal's Digital Transition Plan aligns content with digital competencies for students and teachers. Poland and the Netherlands complement these efforts with learner-owned tools and profiles that strengthen self-directed learning.
- *Teacher capability building.* Sustained professional learning and investments in teacher workforce competencies are instrumental for embedding new pedagogies and digital practices. For example, Estonia's ProgeTiger provides digital devices, teacher training and learning materials to strengthen classroom innovation.
- *Targeted equity measures*. Financial incentives and engagement strategies can support equitable outcomes. In Estonia, financial support helps schools expand participation. For example, in Luxembourg, curriculum reform is paired with family engagement and structured transition support to help learners progress equitably.
- *Infrastructure, digital access, and governance.* Investments in broadband connectivity, devices and secure platforms aim to ensure equitable access to technology and blended learning models, as seen in Estonia and Portugal. These are complemented by governance and monitoring frameworks to promote accountability: France's Digital Strategy for Education (2023-2027) introduces AI principles, and Türkiye's Digital Skills Assessment creates competency benchmarks and feedback loops feeding into continuous professional development for teachers.
- *Cross-sectoral coordination.* Countries are strengthening coordination across education, health, social and community services to improve outreach and the broader learning environment for learners. Iceland's system-wide acts promote service integration, while Northern Ireland (United Kingdom) funds school-community partnerships through its Extended Schools Programme.

Box 3.1. Austria – Curriculum reform in primary and lower secondary education

Austria has introduced a major curriculum reform in primary and lower secondary schools, with the aim of modernising teaching and preparing students for life in an increasingly complex world.

The reformed curricula aims to strengthen the development of subject-specific and interdisciplinary skills needed for independent and successful lives; supporting interdisciplinary learning and smoother transitions between school levels; and creating more flexibility for innovative, future-oriented lesson design by focusing on core essentials.

Several actions are being undertaken to support implementation. This includes cooperation between the Ministry of Education with education directorates and teacher training college. The reform is being integrated into the school quality management system. Teachers are supported through online platforms, including the development of a dedicated website and an online course. Further mechanisms include the provision of support materials such as rubrics and competence-based learning tasks and renewal of all textbooks and educational media.

Source: Austria's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, Bundesministerium Bildung (n.d[22]), www.paedagogik-paket.at, accessed 15 September 2025

Takeaway

The effectiveness of adolescent-learning reforms depends on how well systems align curriculum, teaching, digital tools and equity measures. Coherence between what students learn, how teachers teach and who is supported reinforces system capacity and contribute to building future-ready education systems.

Scope and timeline

Most policies reviewed adopt national or universal coverage, particularly in curriculum reform and digitalisation strategies. Examples include Portugal's Digital Transition Plan, France's National Digital Strategy, and Estonia's extension of compulsory participation to age 18.

National implementation can enhance visibility, coherence, and legitimacy. At the same time, more targeted approaches are common for reforms focused on equity, transitions, or innovative practice. Croatia's Whole Day School reform began in a subset of schools. Such targeted approaches can enhance relevance and allow systems to experiment, but as also noted in other chapters in this report, they risk fragmentation if not embedded within broader system frameworks.

Timelines typically combine long-term strategies with phased roll-outs. Curriculum reforms, such as in Austria and Poland, are typically multi-year and sequenced by grade or cohort. Digitalisation initiatives often mix short-term investments in infrastructure with ongoing cycles of monitoring and adaptation, as seen in Portugal. Structural reforms such as Estonia's transition to Estonian-medium instruction, and integrating AI in education, are similarly phased to allow capacity building (see Box 3.2). Pilot-based reforms, such as Croatia's, usually set time-bound horizons linked to evaluation and potential scale-up.

Box 3.2. Estonia – Integrating AI applications into classrooms

The AI-Leap Education Programme (TI-Hüpe) is a national initiative launched by the President of Estonia in collaboration with the Ministry of Education and Research and private partners. It provides free access to leading AI learning applications for students and teachers, aiming to build the knowledge and skills needed for the responsible and effective use of AI in education. The programme seeks to foster a generation of digitally fluent, lifelong learners by embedding AI tools into learning processes.

Implementation is managed through a dedicated foundation overseeing strategy, partnerships and funding. Core mechanisms include teacher training, integration of AI applications into classrooms, personalised learning pathways, and national coordination to guarantee equal access across regions and schools. The phased rollout begins in spring 2025 with the establishment of the foundation and partnership agreements, followed by autumn 2025 training and rollout to 20 000 upper secondary students and 3 000 teachers. In autumn 2026, the programme expands to 28 000 vocational students, 2 000 additional teachers, and new 10th-grade students. By spring 2027, it will have reached around 58 000 students and 5 000 teachers nationwide, when the first impact evaluation will commence.

Source: Estonia's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, TI-Hüpe (2025[23]), Human intelligence together with artificial intelligence (*Pärisaru koos tehisaruga)*, https://tihupe.ee, accessed 22 September 2025.

Takeaway

Realistic timelines, continuous capacity building and feedback mechanisms are essential not only for implementation success but also for fostering adolescents' identity as lifelong learners. Policy continuity and coherence, for instance across lower and upper secondary, can help prevent the potential decline in socio-emotional skills as students age and move throughout their education pathways.

Main actors typically involved

The range of actors who can support policy processes targeting this critical life moment is broad and extends well beyond schools and the education sector.

- *Ministries and national agencies* set strategic directions, establish quality standards and legislate frameworks, while local and regional bodies adapt implementation to context. This distinction reflects OECD findings on multi-level governance in public policy, which highlight that effective decentralisation depends on clear accountability, fiscal equalisation and strong professional capacity at subnational levels (OECD, 2017[24]; Charbit, 2011[25]).
- *Research and expert bodies*, when engaged, are frequently involved as design and evaluation partners, involved in developing curricula and expert frameworks.
- *Employers and social partners* appear most involved in vocational and career-oriented reforms, aiming to strengthen transitions between education and work and enhance skills relevance.
- *Civil society organisations and NGOs* are also identified in a handful of policies, particularly for outreach, well-being and inclusion, such as in Brazil's School Health Programme, or Bulgaria's social-emotional learning initiative, often as implementing partners for targeted programmes.

Northern Ireland (United Kingdom)'s Extended Schools Programme brings together a range of actors to support local needs.

- *Partnerships with technology consortia and EdTech* firms appear to have expanded as systems digitalise learning, infrastructure and data processes. Estonia, Lithuania and Bulgaria, for instance, have developed these to support development and delivery of infrastructure, tools and training.

Takeaway

Schools alone cannot carry adolescent learning. Stronger connections with families, youth services and community organisations can build more coherent environments for engagement, well-being and inclusion.

Digital and blended approaches

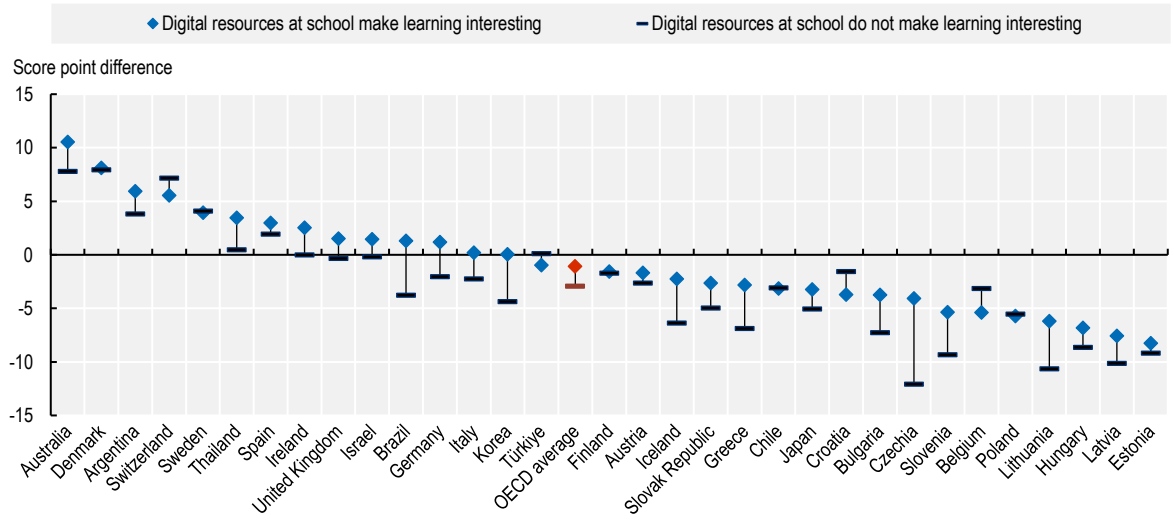
Large-scale digitalisation plans in education systems such as Portugal, Slovak Republic and Bulgaria combine infrastructure investments and updates (devices, broadband, cloud services) with digital teaching materials and competence frameworks for teachers. Estonia's AI-Leap adds an explicit focus on AI applications and personalised learning, while Lithuania's EdTech initiative connects public institutions, digital education innovators and schools to pilot new tools.

Across systems, digital tools targeting adolescents include online learning platforms, digital curricula, assessment systems and, in some cases, AI-enabled applications. These are typically introduced with the stated aims of expanding access, reducing administrative burdens, and supporting personalisation for learners, as seen in Estonia and Lithuania.

Blended approaches are common, reflecting a shared recognition that technology alone does not shift outcomes or drive learning gains; it must be integrated with pedagogical and organisational reforms. This direction aligns with OECD evidence that digitalisation has the greatest impact when accompanied by strong teacher capacity, inclusive curricula, and supportive school environments. PISA 2022 findings further indicate that mathematics performance tends to improve when students use digital learning resources that they find engaging and interesting. Furthermore, across countries, an increase of one hour per week in the use of digital resources for learning at school is positively associated with mathematics proficiency among students who agree that such resources make learning interesting (see Figure 3.2).

Figure 3.2. Students' engagement in digital resources can increase pedagogical effectiveness

Change in mathematics proficiency by one hour increase in the use of digital resources for learning at school, by agreeing or not with the sentence "Digital learning resources available at my school make learning interesting"



Note: Education systems are shown in descending order of the score difference associated with a one-hour increase in time spent using digital devices for learning in school per day, after accounting for students' and schools' socio-economic profile.
Source: OECD (2023[26]), PISA Database 2022, https://www.oecd.org/pisa/data/2022database.

StatLink https://stat.link/2kzayd

Overall, these results suggest that the quality and perceived relevance of digital learning experiences matter more than the quantity of use, highlighting the importance of designing digital and blended approaches that capture students' interest and support learning, while also balancing opportunities and risks faced online (see Box 3.3).

Box 3.3. Adolescents' digital engagement: balancing opportunities and risks

Across the OECD, most adolescents spend a substantial amount of time on digital devices. On average, 15-year-olds spend 2 hours per day on digital tools for learning activities at school, combined with 1.5 hours before or after school, and another 1.6 hours per day at the weekend. In addition, teenagers use digital devices extensively for leisure (OECD, 2023[27]).

Digital engagement offers important opportunities for learning, but it can also expose adolescents to risks. While many young people experience neutral or positive effects, a vulnerable minority struggle with problematic digital media use, which is associated with negative well-being outcomes. This occurs when adolescents find it difficult to regulate their time online, feeling compelled to continue even when it interferes with daily responsibilities or affects their well-being (OECD, 2025[28]). These risks are commonly grouped into four categories:

- **Content risks,** such as exposure to harmful or misleading material;
- **Conduct risks**, including cyberbullying or harassment;
- **Contact risks,** where adolescents interact with potentially harmful others; and
- **Consumer risks**, including privacy breaches and exploitative commercial design.

For policymakers, it is therefore important to foster safe, meaningful, and balanced engagement with digital tools.

This involves combining efforts to strengthen adolescents' digital literacy and self-regulation with appropriate safeguards – such as privacy by design and content moderation - to ensure that digital environments support, rather than undermine, learning and well-being and the foundations for lifelong learning.

Source: OECD (2023[27]), *PISA 2022 Results (Volume II): Learning During – and From – Disruption*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/a97db61c-en; OECD (2025[28]), *How's Life for Children in the Digital Age?,* OECD Publishing, Paris, https://doi.org/10.1787/0854b900-en.

Takeaway

Digitalisation delivers impact when embedded in sound pedagogy and supported by teacher capability, inclusive curricula and safe online environments. Systems combining technology with strong professional and institutional foundations can achieve greater learning engagement, quality and equity.

Resources required

Education systems mobilise a diverse mix of inputs across the core types of resources analysed for this report, of which funding, infrastructure and human resources are discussed. This section examines the resources required to implement the policy approaches reviewed, while the following section considers the resources and tools generated through these policies.

- *Funding* arrangements are most often embedded in national or regional budgets, with a smaller number of education systems complementing these with grants or subnational contributions to support local implementation or adaptation. Public investment remains the main resource, with OECD findings underscoring that sustainable and equitable funding is essential to both equity and quality (OECD, 2017[29]).
- *Infrastructure* investments combine physical renewal and digital capacity. Reforms range from upgrading school facilities and ensuring accessibility, to building digital ecosystems (see Portugal example in Box 3.4).
- *Human resources* are central to implementation. Reforms related to digitalisation or curricula often includelarge-scale professional development and the creation of specialist roles to embed new pedagogies and support inclusion, for example in Slovenia. Emerging profiles, including educational technologists and data or assessment specialists, are operationalising digital transformation aims, for example in Estonia. Multidisciplinary and cross-agency teams (e.g. with municipal case managers) also have coordination functions, though they remain uncommon.

Box 3.4. Portugal – modernising infrastructure of specialised technological centres

Portugal is modernising the infrastructure of its Specialised Technological Centres (*Centros Tecnológicos Especializados*) to strengthen vocational education and training in technological fields, especially in emerging sectors with high potential for added value. The initiative focuses on re-equipping and upgrading the technological infrastructure of public and private educational institutions offering vocational training, expanding their capacity through new and modernised spaces and equipment. It also seeks to reinforce the attractiveness of dual-certification secondary-level programmes in areas requiring highly skilled labour, aligned with rapid technological change driven by the digital and climate transitions.

Strengthening VET infrastructure is expected to boost student motivation and interest in qualifications linked to technological innovation, particularly in digital and green fields. Eligible schools receive up to EUR 1 000 000 to upgrade learning environments and tools, improving student engagement and making technological training more attractive and future-oriented. This initiative is funded through the National Recovery and Resilience Plan.

Source: Portugal's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation; Republica Portuguésa (n.d.[30]), Specialised technology centres (*Centros Tecnológicos Especializados),* https://centrostecnologicos.gov.pt/, accessed 7 October 2025

Takeaway

Effective resourcing depends not only on how much systems invest, but on how strategically resources are allocated and coordinated. Aligning funding, infrastructure and human capacity with reform priorities is important for equity and implementation quality, ensuring that investments reach the learners and schools where they matter most.

Resources generated

Countries are also producing tangible resources to support implementation and strengthen learning ecosystems. A challenge lies not only in creating new tools and resources, but in ensuring their effective use to achieve the intended learning outcomes. For adolescents, impact depends on how these resources are embedded pedagogy, relationships and broader learning environments. By linking curriculum, teacher practice, and digital ecosystems, these resources create an operational bridge between policy frameworks and daily practice.

- *Pedagogical and methodological resources* include digital or blended manuals that support educators in implementing new curricula. Examples include Portugal's Digital Education Labs, Croatia's Whole Day School teaching modules, and Bulgaria's Methodological Materials for SEL.
- *Curricular and competency frameworks* embed transversal, digital, and socio-emotional skills as foundations for lifelong learning (e.g. Austria, Slovenia, Poland and China).
- *Digital platforms and infrastructure* are increasingly developed to integrate learning and teacher support. These range from learning platforms and ecosystems, networks and analytics platforms. Romania's Relevant Curriculum, Open Education for All (CRED) initiative includes the creation of a digital platform that serves as a repository of digital resources, interactive tutorials, assessment tests, and a series of applications for teachers during digital training sessions.

- *Assessment and guidance tools* are expanding as part of broader support ecosystems. Türkiye's Digital Skills Assessment Project, the Netherlands' 'career file' templates, and Luxembourg's orientation guides seek to connect learners' experiences with reflection and feedback.
- *Monitoring and data-dashboards* enhance transparency and accountability. Estonia's Youth Sector Plan includes quality-assurance tools such as the Digital Portal for Quality Assessment and Youth Monitoring Dashboard, which strengthen evidence use across ministries. Coherent implementation and sustained follow-up ensure that policy can have greater impact (Viennet and Pont, 2017[31]).

Takeaway

New pedagogical, digital and assessment resources support learning outcomes for adolescents when used coherently across classrooms and systems. Embedding feedback and monitoring mechanisms can help strengthen implementation, ensuring these tools enhance engagement and motivation.

The following sections provide insights into how the different policy components come together under specific policy aims that relate – although not exclusively – to supporting learners' will, skills, or means. Typically, learner-focused policy aims tend to engage will by nurturing agency, confidence and motivation; curriculum and competency reforms tend to prioritise skills; and system-level and teacher-focused aims tend to emphasise providing the means that sustain lifelong learning through adequate structures, environments and resources.

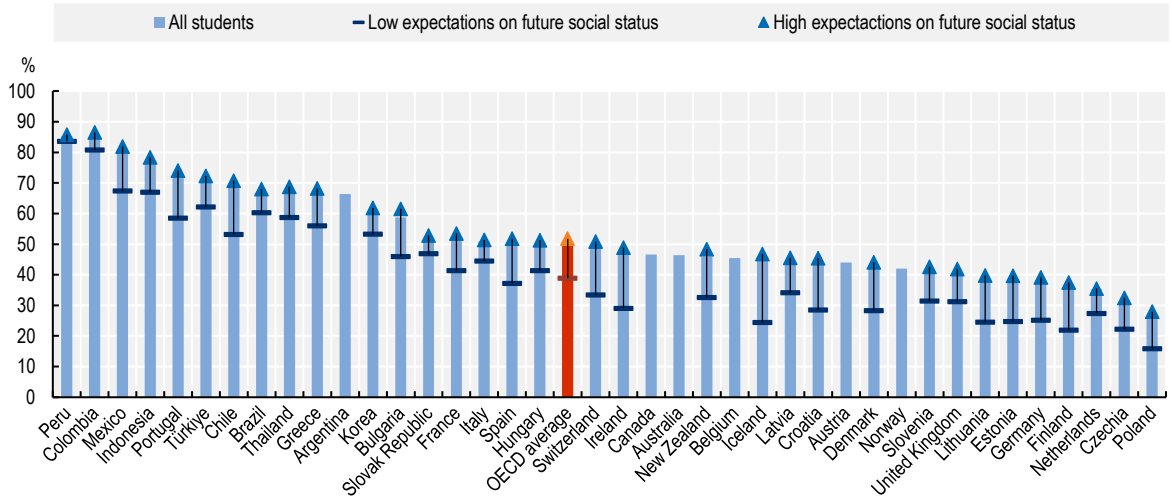
Fostering will for lifelong learning

A majority of policies make some reference to learner will, often expressed as motivation. For instance, Estonia's Youth Sector Development Plan encourages experimentation, self-reliance, and ownership of ideas, while the French Community of Belgium's curriculum emphasises boosting student motivation, self-esteem, engagement, and curiosity. However, explicit attention to growth mindset, persistence, or curiosity remains less common, and when mentioned, these aspects are often aspirational goals rather than operationalised. Several reforms make no reference to motivational or attitudinal dimensions at all.

Embedding such dispositions is vital. PISA 2022 data show that students with more ambitious expectations for their future social status – an indicator of aspiration and self-belief – report significantly higher intrinsic motivation to learn (see Figure 3.3). This relationship highlights the importance of nurturing learner will during adolescence.

Figure 3.3. Intrinsic motivation to learn is higher among students with more ambitious aspirations

Percentage of students agreeing or strongly agreeing with the sentence "I love learning new things in school", by future social status expectation



Note: Future social status expectation is based on the question "Where do you think you will stand when you are 30?", providing an answer from 1 to 10, where 10 are the people who are best-off in society (earn most money, receive the best education and have the most respected jobs), while 0 are the worst off. Low expectations on future social status include answers from 0 to 5, while high expectations from 6 to 10.
Source: OECD (2024[1]), *PISA 2022 Results (Volume V): Learning Strategies and Attitudes for Life,* PISA, https://doi.org/10.1787/c2e44201-en.

StatLink https://stat.link/mdpsnw

The following sections outline key policy aims that countries are operationalising to strengthen learners' will for lifelong learning: nurturing student agency and supporting social and emotional skills. It is also important to recognise another closely related policy area – promoting student engagement in schooling and preventing early school dropout and absenteeism. Although such policies were not reported through the Education Policy Outlook questionnaire, they remain essential components of broader efforts to strengthen students' connection to school and to foster a lasting motivation and love for learning.

Nurturing student agency

Across countries, growing attention is placed on nurturing learner agency to build motivation, self-belief and sense of ownership of learning. Most reforms recognise its importance but offer limited guidance on how to make it visible in classrooms. Few define what it looks like in daily practice or offer tools to help teachers cultivate it through formative assessment and feedback. PISA data show that students who regularly engage in assessments, goal setting and self-reflection report higher motivation and confidence in their capacity to learn independently (OECD, 2024[1]).

Some policies stand out for embedding student agency directly in learning design. Estonia's National Curriculum for Basic Schools encourage young people to set personal goals, pursue their interests, and learn from experience to take responsibility for their progress and promote self-directed learning. Similarly, Slovenia's curriculum renewal connects the three pillars of will, skills and means in a holistic way, by combining autonomy with structured reflection and teacher support way (see Box 3.5). These approaches suggest that agency is not an abstract goal but a skill that can be taught, practiced and reinforced. Clear guidance, formative assessment and reflective routines can help teachers turn policy aims into everyday habits, building students' confidence, curiosity and sense of belonging as lifelong learners.

- **Mechanisms and actions:** Curricula renewal and guidance reforms are mechanisms typically adopted to build learner agency. Estonia's National Curriculum for Basic Schools integrates goal setting, self-assessment and cross-curricular career planning to position learners as active agents, while Chile's proposed curriculum update for grades 1–10 explicitly includes learner agency as a key goal. Career guidance initiatives, such as Netherlands' Career Orientation and Guidance programme, use learner-owned portfolios ("career files") and structured reflection, supported by mentoring and workplace exposure, to help young people connect learning with future goals. Other initiatives, including Northern Ireland (United Kingdom)'s Extended Schools Programme also reference learner agency as part of broader efforts to strengthen student engagement that include action planning by schools, and partnerships with other organisations.
- **Scope and timeline:** Initiatives generally have a national scope, encompassing basic and lower secondary education, with multi-year implementation, often phased by grade or cycle.
- **Main actors typically involved:** Actors include ministries of education, school leaders, teachers, counsellors and local education authorities. In Estonia, the Ministry of Education and Research leads implementation with educational institutions and youth organisations. The Netherlands and Northern Ireland (United Kingdom) mobilise learners, teachers and community partners under the supervision of central education authorities, ensuring coherence between local action and national priorities.
- **Digital and blended approaches:** Digital tools play an enabling role in supporting reflection and personalisation. Estonia integrates digital curricula, online self-assessment tools and AI-driven guidance platforms, while the Netherlands employs blended models combining digital "career files" with mentoring. Slovenia uses digital authoring tools and collaborative online lesson planning portals, and Northern Ireland (United Kingdom)'s Extended Schools Programme embeds both digital and non-digital resources to connect home and school learning.
- **Resources required:** Policies often rely on sustained funding for curriculum renewal, teacher professional learning, and guidance infrastructure. Public budgets typically fund these initiatives, complemented by mentoring structures, professional networks and school-level implementation capacity (e.g. the Netherlands and Slovenia).
- **Tools and resources generated:** Policies often generate tools as digital portfolios, guidance templates, national curriculum portals and competency frameworks. Estonia and Slovenia provide teacher guides, self-assessment rubrics and online learning materials aligned with the curriculum. Career files and assessment guidelines to ensure consistent practice are developed by the Netherlands, while Northern Ireland (United Kingdom) produces digital guidance packs for schools.

Box 3.5. Slovenia – Supporting means, skill and will of learners through modernised curricula

Slovenia is modernising curricula for basic and upper secondary general education, as well as general subjects in technical and vocational education. The new curricula, to be implemented gradually from the 2026/27 school year, emphasise developing learners' will, skills and means by fostering personal responsibility and autonomy. Students are encouraged to take ownership of their learning, make informed choices, and develop agency through active participation, goal setting, curiosity and a growth mindset supported by inquiry-based learning and problem-solving.

The renewed curricula promote higher-order thinking by encouraging critical thinking, creativity and reasoning in meaningful contexts, and support metacognitive growth by guiding learners to reflect on and monitor their own learning. Real-life relevance is ensured through authentic, interdisciplinary tasks that connect knowledge to practice and strengthen engagement.

Digital competence is treated as a cross-curricular priority, emphasising access to and meaningful use of learning technologies for creativity and communication. Implementation plans also prioritise professional development for teachers, ensuring they are equipped with the knowledge, pedagogy and values required to deliver high-quality, future-oriented education.

Source: Slovenia's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Takeaway

Many reforms aim to nurture student agency but may not specify or provide guidance on how to translate it into classroom practice. Clear guidance can help teachers and schools turn agency into everyday practice, building students' sense of identity, belonging and ownership of learning.

Supporting social and emotional skills

Socio-emotional development, well-being and mental health are increasingly prominent in national policies. Systems now recognise more that building confidence, resilience and cooperation is as vital as academic success. Dispositions such as persistence, curiosity and cooperation are connected with motivation, engagement and academic achievement, and greatly support learners' adaptability and well-being throughout life (OECD, 2024[1]; OECD, 2024[4]). Yet few policies provide clear strategies to help schools and teachers make these goals part of daily practice. Guidance and teacher professional learning offerings could encompass socio-emotional skill development, helping teachers to integrate this into their pedagogy and shape and stimulate these behaviours every day in class (OECD, 2025[32]; Kankaraš and Suarez-Alvarez, 2019[33]).

Policies in China, Bulgaria and Slovenia link learners' *will* and *skills* by combining emotional development with self-awareness, critical thinking and inclusion. China's Guidelines for Mental Health Education, combine self-awareness development with social-emotional learning, and Bulgaria's Social-Emotional Skills Programme provides an emphasis on self-awareness, emotional regulation, interpersonal skills and empathy, along with growth mindset and critical thinking skills. Slovenia's national counselling network ensures every school can access psychological and developmental support.

- **Mechanisms and actions:** Approaches typically combine curriculum integration, counselling services, and home-school collaboration, as seen in China. Dedicated programmes, such as Bulgaria's, strengthen self-awareness, emotional regulation and interpersonal skills. Specialist counselling services are institutionalised in Slovenia, where nationwide school-based teams deliver preventive and developmental support, while the French Community of Belgium's common curriculum embeds well-being and inclusion objectives.
- **Scope and timeline:** Most aim for universal coverage within national systems, supported by localised implementation in schools and communities. Examples include Iceland's Act on the Integration of Services in the Interest of Children's Prosperity or France's pHARE anti-bullying programme, both of which link education, health and social sectors.
- **Main actors involved:** Efforts are often jointly led by ministries, school-based counsellors, psychologists, health agencies and NGOs. China links school-based psychological counselling and home-school cooperation, while Slovenia's nationwide counselling service ensures that every school has access to professionals supporting well-being and inclusion.

- **Digital and blended approaches:** Digital tools often complement traditional materials and activities, offering online resources and interactive activities for students and teachers (e.g. French Community (Belgium)).
- **Resources required:** Policies tend to rely on sustained public funding and cross-sectoral coordination. In China, implementation is supported by local education authorities and health partnerships, while fundings allocations to schools are provided by central government.
- **Resources generated:** Initiatives often produce counselling frameworks, well-being toolkits, and outreach materials. Both initiatives in China and Slovenia connect well-being with teaching and family engagement.

Takeaway

Socio-emotional skills are the foundation of adolescent motivation, engagement and well-being. When schools are equipped to build skills such as persistence, curiosity and empathy, they help young people build the confidence and adaptability needed for life. Systems must ensure these supports reach all students, bridging gaps across gender, age and socio-economic groups.

Developing skills for lifelong learning

Across education systems, policies place the greatest emphasis on developing *skills* for lifelong learning – more so than on explicitly fostering learners' *will* or providing the *means*. Transversal competencies such as problem-solving, creativity, collaboration, and digital literacy, are the most frequently prioritised. Austria's curriculum reform highlights critical and innovative thinking alongside environmental and digital competencies, while Estonia's AI-Leap Programme promotes responsible use of AI and adaptive learning strategies.

Foundational skills, such as literacy and numeracy, remain a key concern. Policies like Mexico's Common Curriculum Framework; France's Reinforcement of Fundamentals seek to strengthen these, while metacognitive skills such as planning, self-monitoring, and self-regulation, receive uneven attention. They are included in strategies such as Estonia's Education Strategy *2035*, Bulgaria's curriculum modernisation, and Chile's Curriculum Prioritisation for the Comprehensive Reactivation of Learning, but remain less operationalised.

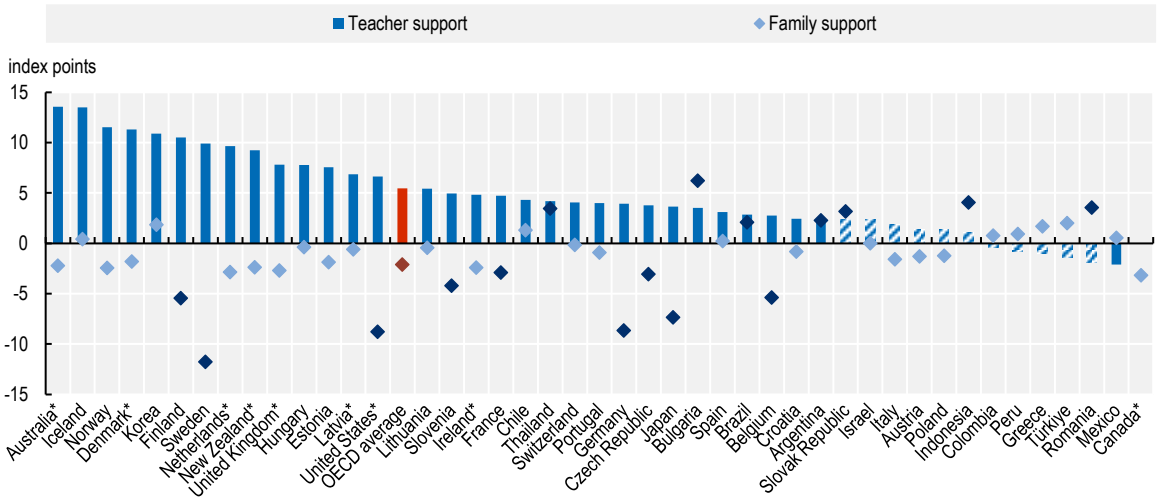
The following sections outline key policy aims that countries are operationalising to strengthen learners' skills for lifelong learning: ensuring effective teacher practices and developing transversal competencies.

Ensuring effective teacher practices

Teachers are central to shaping adolescents' curiosity, confidence and learning motivation. After accounting for students' and schools' socio-economic background, stronger perceived teacher support is positively associated with higher mathematics achievement in most systems (see Figure 3.4). Beyond achievement, students who report high levels of teacher support also demonstrate stronger learning dispositions: PISA 2022 results indicate that they are more likely to use critical thinking skills, take greater ownership of their learning, and show higher motivation to learn mathematics (OECD, 2024[1]).

Figure 3.4. Teacher support is an important influence on mathematics performance for adolescents

Change in mathematics performance associated with a one-unit increase in the index of teacher and family support



Note: Based on students' report, after accounting for students' and schools' socio-economic profile. Dashed columns represent statistically non-significant changes. Diamond markers in darker shades represent statistically significant changes. *Caution is required when interpreting estimates because one or more PISA sampling standards were not met.

Source: OECD (2023[27]) *PISA 2022 Results (Volume II): Learning During – and From – Disruption, PISA,* , https://doi.org/10.1787/a97db61c-en.

StatLink https://stat.link/z3f0y2

Policies emphasise continuous, practice-based professional learning that helps teachers adapt to new curricula, integrate digital tools and foster inclusive classrooms. Initiatives such as Austria's Curriculum Reform and Türkiye's Dynamic Course (D3) invest in teacher professional development and modernised instructional tools, while Portugal's Digital Transition Plan connects infrastructure investment with national teacher-training networks to embed technology into teaching.

- **Mechanisms and actions:** Practice-based professional development helps educators integrate new content and methods into everyday teaching. Portugal's Digital Transition Plan utilises Information Communication Technology (ICT) competence centres and "digital ambassadors" to translate tools into pedagogy. Slovenia's curriculum reform includes systematic professional development to support delivery of updated content, pedagogy, and values, while Türkiye offers pedagogical lesson scenarios and webinars to strengthen teachers' ability to foster motivation and agency. Professional learning is also tied to major reforms, as in China's teacher training for mental health education and Croatia's Whole Day School reform. Latvia has established the State Education Development Agency, a unified and strategically supervised professional support system for teachers, aiming to improve the quality of the learning process in general and vocational education, promoting student excellence and providing methodological support materials for teachers.
- **Scope and timeline:** Initiatives generally have a national scope, spanning multiple education levels and phases of reform. Austria's curriculum renewal began in 2023, introducing a phased rollout of teacher training in primary and lower secondary schools.
- **Main actors involved:** Ministries, universities and professional learning providers, such as universities and regional hubs, may typically collaborate. Portugal illustrates this model through its ICT competence centres and "digital ambassadors," which provide practice-embedded

coaching for teachers to integrate technology meaningfully into pedagogy, while Türkiye mobilises national trainers and local mentors to build teachers' techno-pedagogical capacity.

- **Digital and blended approaches**: Non-digital approaches, such as curriculum renewal and capacity building for teachers, appear to be more commonly utilised. However, some policies combine digital and non-digital approaches. For example, Austria's curriculum reform combines in-person professional development alongside the creation of dedicated websites, online courses and digital textbooks.
- **Resources required**: Policies typically mobilise professional development budgets and peer networks are being implemented to translate policy into daily practice. Portugal blends government, European Social Fund and Recovery and Resilience Plan funding with ICT competence centres and Digital Ambassadors. This seeks to provide practice-embedded professional development, a national monitoring platform and a MOOC. Türkiye similarly funds scenario-based pedagogy at scale via national platforms and a 520-trainer network.
- **Resources generated**: Reforms often produce a wide range of digital, pedagogical, and professional learning resources to sustain continuous improvement. Türkiye's Dynamic Course (D3) programme launched an online platform with ready-to-use lesson examples, teaching ideas, and spaces for teachers to share experiences and learn from each other. In Slovenia and Croatia, governments developed online curriculum websites, teacher handbooks, and digital examples of good lessons to support inclusive teaching.

Takeaway

Teacher practices and the quality of teacher–student relationships are powerful drivers of engagement and learning in adolescence, as well as lifelong learning outcomes. Ensuring effective teaching means investing in continuous, practice-based professional learning that helps teachers link new curricula, digital tools and formative assessment to students' motivation and sense of agency.

Developing transversal competencies

Countries are embedding transversal competencies in curricula, including through reforms that seek to integrate creativity, communication, problem-solving, sustainability and citizenship into core learning. These competencies seek to connect immediate academic goals with the broader capacities needed for lifelong adaptability and with classroom practice and assessment. For example, the German-speaking Community of Belgium's "My Education. My Future!" embeds civic, social-emotional and media competencies into the curriculum, and Finland's modernisation of upper general secondary education involves the development of new curricula and assessment methods.

Reforms in areas such as curriculum and pedagogical renewal, and digitalisation require sustained horizons and coherent implementation if they are to translate into meaningful and lasting improvements. As highlighted in OECD research, policy implementation is not a linear process but a long-term, multi-actor effort that depends on coherent policy design, stakeholder engagement, enabling contexts, and strategic implementation plans (Viennet and Pont, 2017[31]). However, reform timelines can typically be compressed, and professional learning opportunities may not fully reflect the depth of pedagogical change required.

- **Mechanisms and actions:** Curriculum reforms promote transversal competencies alongside subject mastery. Austria's new curricula integrate critical thinking, collaboration and creativity; Poland's Graduate Profiles articulate transversal skills and values; Portugal's Students' Profiles at the end of compulsory schooling is structured into principles, vision, values and competence areas; and Czechia's curriculum reform develops computational thinking, coding and modelling.

Supporting materials, renewed textbooks and new assessment tools complement these frameworks.

- **Scope and timeline:** Universal national coverage is typically adopted to guarantee coherence and legitimacy, often phased by grade or cycle, for example as seen in Austria and Poland.
- **Main actors involved:** Policies typically brings together ministries, curriculum and evaluation institutes, universities and teacher communities to co-design competence-based frameworks, develop supporting materials, and align assessment with learning outcomes. In Austria, the Ministry of Education, IQS and teacher colleges jointly developed its new curricula integrating transversal competences.
- **Digital and blended approaches:** Digital supports play a growing role in embedding transversal competencies within learning and teaching, while blended models combining face-to-face training, online resource hubs, and peer collaboration ensure professional learning remains continuous and accessible. Austria provides online professional learning, open-access curricular materials, and interactive teacher guides to promote competence-based instruction, while Czechia integrates digital learning platforms and coding environments to develop computational thinking.
- **Resources required:** Initiatives are funded mainly through core budgets for system-wide reform, complemented by support materials and partnerships with external experts. Poland's Graduate Profile was developed through national funding, engaging teachers and other supporting institutions, such as professional development institutions, textbook publishers and authors, and examiners and evaluators.
- **Resources generated:** Most reforms generate new produce a range of resources, including curricular frameworks and competency models that articulate skills for lifelong learning such as creativity, problem-solving, and self-regulation. Reforms focused on enhancing teacher practices and implementation of curriculum typically include resources and guides, such as teacher guides and online repositories (e.g. Austria's Pädagogik-Paket, or Slovenia's curriculum portal).

Takeaway

Embedding transversal competencies in curricula is essential for preparing students for a fast-changing world but success depends on how deeply these competencies are integrated into teaching and assessment. Sustained professional learning, coherent frameworks, and time for teachers to adapt are what turn curriculum goals like creativity, collaboration and problem-solving into lived classroom practices.

Creating the means for lifelong learning

Policies that focus on the *means* for lifelong learning typically aim to ensure that adolescents have equitable access to the conditions that enable learning to continue and evolve. The following sections outline key policy aims that countries are operationalising to create the means for lifelong learning, including harnessing digitalisation for inclusion, personalisation and engagement, strengthening career readiness and guidance systems to prepare students for their future learning and work, and embedding cross-sectoral collaboration.

Developing the means for lifelong learning also involves diversifying secondary education to meet varied student interests and needs, including through high-quality vocational education and training (VET) pathways and certificates recognised by both higher-education institutions and employers. Although few

examples were reported through the Education Policy Outlook questionnaire, such measures remain essential to valuing multiple learning routes and supporting smoother transitions into adulthood.

Harnessing digitalisation

Digital environments are now central to how adolescents learn and interact, making competencies for using technology critically and independently indispensable. PISA 2022 shows that students who can regulate their own learning online – setting goals, evaluating sources, and adapting strategies – perform better in mathematics. Increasingly, education systems increasingly use digital tools to broaden participation and make learning more relevant, engaging and personalised. These aims typically combine a focus on learners' skills and means to expand digital access while developing capacity.

As OECD evidence highlights, while digital technologies in education systems have great potential for increasing agency in learning, they are not transformative forces in themselves. Their impact depends on educators' capacity to use them in ways that can strengthen pedagogy and improve learning outcomes. Effective policies therefore pair technology with clear pedagogical aims, capacity building and safeguards for equity and privacy. At the same time, partnerships with technology providers have expanded rapidly, but governance frameworks for data use, privacy and interoperability are rarely specified, despite their importance for equity and for mitigating digital risks (OECD, 2023[19]).

- **Mechanisms and actions:** Countries are combining digital infrastructure with governance and accountability mechanisms. Estonia's AI-Leap Programme merges national investment in AI with personalised learning and critical digital literacy. France's 2023-2027 Digital Strategy for Education introduces AI principles, and Türkiye's Digital Skills Assessment creates competency benchmarks and feedback loops feeding into continuing professional development (CPD).
- **Scope and timeline:** Most initiatives operate nationally but include targeted support to close digital divides, focusing on rural or disadvantaged areas, such as in Estonia, Finland and Portugal.
- **Main actors involved:** Implementation involves education ministries, municipalities, EdTech firms and universities in co-developing infrastructure, AI-enabled tools and data systems. Estonia's AI-Leap is one such example: launched by Ministry of Education and Research in partnership with universities and the private sector, with implementation managed by a dedicated foundation.
- **Digital and blended approaches:** Digital platforms and AI-enabled systems increasingly support teachers in monitoring progress and personalising instruction. Estonia's ecosystem (eKool, Stuudium, Opiq) and Costa Rica's AI pilots in vocational schools illustrate how learning management systems can complement (not replace) face-to-face interaction.
- **Resources required:** Significant investment is directed to infrastructure, connectivity, devices and capacity building. Estonia finances its digital ecosystem through national and EU funds; AI-Leap combines public and private resources for licences, professional learning and coordination. Costa Rica's strategy has equipped 97% of schools with digital access and established innovation centres in half of its regions. The Slovak Republic invests EUR 200–250 million annually in broadband, cloud services and IT coordination, while Latvia prioritises portable equipment and training for socially vulnerable learners.
- **Resources generated:** Reforms tend to develop AI-assisted platforms, integrated learning management systems, and professional development frameworks (Estonia's AI-Leap; Portugal's Development of the Digital Development Plans (PADDE); Türkiye's Dynamic Course (D3); Lithuania's EdTech reforms; France's 2023-2027 Digital Strategy for Education) to make learning more engaging and data-informed.

Takeaway

Digitalisation can enhance access and personalisation, but its impact depends on meaningful use. Sustained investment in teacher capability and coherent digital governance will determine whether innovation leads to equitable, lasting improvement.

Strengthening career readiness and guidance systems

Across countries, growing attention is being given to career readiness as a bridge between schooling and future pathways. Career guidance helps students understand their interests, explore opportunities, and connect learning with life goals. However, in many systems, guidance provision remains fragmented or uneven. Employers tend to play a stronger role in vocational education but are less visible in general upper secondary reforms. This suggests a missed opportunity to strengthen career readiness and align learning with labour market needs.

Examples such as Norway's Educational Choice subject, and New Zealand's Inspiring the Future, which connects students with diverse role models, illustrate how structured reflection and exposure can make career learning both relevant and motivating.

- **Mechanisms and actions:** Mandatory career-learning programmes guide students to reflect on their interests and explore work options. In Norway, the Educational Choice subject includes self-reflection, job shadowing and school visits. New Zealand's Inspiring the Future connects students with diverse role models to broaden aspirations, and Sweden's vocational reforms enhance pathways between schools and employers through joint projects and work-based learning. Digital portfolios and online career guidance platforms also help students track progress and plan their futures.
- **Scope and timeline:** Programmes are usually targeted or regional in scope. The Netherlands, for instance, provided subsidies for 700 schools in the initial years of implementation to support heterogeneous grouping, in which various tracks in secondary education are combined.
- **Main actors involved:** Collaboration between schools, teachers, mentors, employers and community organisations is central. Such partnerships can help students connect their interests with future learning and work opportunities. The Netherlands' Career Orientation and Guidance framework, for instance, requires lower secondary students to develop and manage personal "career files" with teacher and mentor support, and encourage reflection on skills, interests and career aspirations (see Box 3.6).
- **Digital and blended approaches:** Employer partnerships and work placements, though not frequently identified within the analysed policies, provide experiential and hands-on learning for students, while digital portfolios and online resources are operationalised as part of new approaches to encourage student reflection and planning.
- **Resources required:** Initiatives typically mobilise human resourcing (teachers, mentors, external partners) as the primary lever, with some digital supports to organise information and facilitate reflection. The Netherlands and Norway integrate mentoring, workplace exposure and online resources. These are usually embedded in core education budgets, but dedicated allocations for guidance staff or employer engagement are rarely detailed.
- **Resources generated:** Systems develop mentoring guides, reflection templates and career exploration materials. For example, the Netherlands provides "career file" templates and assessment rubrics; Luxembourg organises orientation fairs and decision tools; and Norway offers guidance materials.

Box 3.6. Netherlands – Resources generated to support career orientation

In the Netherlands, Career Orientation and Guidance is a compulsory component of lower secondary vocational (VMBO) programmes. It aims to ensure that all lower secondary vocational students are systematically supported to explore who they are, reflect on what they can do, and prepare for future education and career pathways.

Several resources have been developed to support implementation, including templates and examples for career files, assessment guidelines for career competencies, and mentoring protocols. Schools have flexibility to adapt or design their own approaches, using the Netherlands' five career competencies as a common framework. Learners are encouraged to take ownership of their development through a personalised 'career file'.

Reflection is central: learners are encouraged to think critically about their experiences, interests, and aspirations, and to articulate what these mean for their future education and career choices. A career file can serve as one possible format for this reflection, a portfolio where learners collect and connect their insights and goals, but schools may also choose other forms that suit their pedagogical vision.

At system level, trust is placed in teachers and mentors to assess whether students meet the career education requirement. Local authorities can provide funding and models to support schools in facilitating continuity, for instance through 'transfer files', which share key learner information between institutions.

Source: Netherlands' response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Takeaway

Career readiness helps students see the purpose of learning and navigate transitions with confidence. When schools, mentors and employers work together, young people can better understand the purpose of learning and are more prepared for transitions in a changing world. Extending such connections beyond vocational tracks can make guidance a stronger driver of lifelong learning.

Embedding cross-sectoral collaboration

A smaller but growing group of countries are embedding cross-sector coordination to address learners' complex needs. These models recognise that success in education depends not only on what happens in classrooms, but also on the support systems surrounding young people, including health, family support, and social welfare. OECD evidence shows that family and school environments are central to shaping students' motivation and learning behaviours (OECD, 2024[1]).

In many systems, however, cooperation between sectors remains ad hoc. Roles, responsibilities and accountability are often loosely defined, and data sharing is limited. As a result, adolescents facing multiple challenges can still experience fragmented or inconsistent support.

Examples include Iceland's Integration of Services Act, which connects education, health and social sectors through shared local partnerships, and Northern Ireland (United Kingdom)'s Extended Schools Programme, which funds school-community services such as mentoring and homework clubs. Such

governance models seek to reflect a shift toward systems that see learning, health and welfare as interdependent.

- **Mechanisms and actions:** Shared frameworks and local partnerships as in Iceland's Integration of Services Act, which links education, health and social sectors, and Northern Ireland (United Kingdom)'s Extended Schools Programme, which funds school-community services such as mentoring and homework clubs.
- **Scope and timeline:** Initiatives are national in scope but rely on local implementation and tend to operate through multi-year funding cycles and phased delivery (e.g. Northern Ireland (United Kingdom)).
- **Main actors involved:** Coordination typically involves ministries, local authorities, schools, and community organisations. Northern Ireland (United Kingdom)'s A Fair Start programme brings together the Department of Education, other government departments, local authorities and communities, while the Extended Schools Programme brings together a range of actors across school, community organisations and other statutory bodies (see Box 3.7).
- **Digital and blended approaches:** Digital tools support coordination and information sharing across sectors. Estonia uses platforms to track outcomes and support joint planning, while Iceland is developing shared case management systems to link schools, health professionals, and social workers, improving early identification and support for children.
- **Resources required:** Sustained funding and institutional capacity are essential. Iceland's Acts are financed jointly by national and municipal budgets, while Northern Ireland (United Kingdom)'s Extended Schools Programme receives annual grants from the Department of Education, while A Fair Start pools funding from multiple departments. In Estonia, resources are directed toward shared data systems, research partnerships, and cross-ministerial coordination.
- **Resources generated:** Shared data systems, guidance frameworks, and monitoring tools improve collaboration and accountability. Estonia developed the Youth Monitoring Dashboard and quality-assurance frameworks to support evidence-based coordination, while Iceland introduced interagency training materials and common reporting protocols for local teams.

Box 3.7. Northern Ireland (United Kingdom) – actors contributing to school programme delivery

Northern Ireland (United Kingdom)'s Extended Schools Programme (ESP) aims to improve educational achievement among disadvantaged children and young people. Schools develop tailored programmes based on local needs. Funding is directed to schools in areas of high deprivation and includes incentives for collaborative working through Extended Schools clusters. Since 2006, over GBP 170 million has been invested in supporting these initiatives.

A wide range of actors contribute to planning and delivery. School leaders, teaching and support staff, and community and voluntary organisations work together to design and deliver activities that make flexible use of school facilities, often outside normal school hours. The Education Authority's Community and Schools Team provides coordination and guidance, while the Department of Education ensures strategic oversight and funding. Digital tools, such as the Northern Ireland Extended Schools Information System (NIESIS), can be used by schools for planning, delivering, and evaluating services. Other statutory bodies, such as Health and Social Care Trusts, may also be involved in various supports offered under individual school programmes.

Source: Northern Ireland (United Kingdom)'s response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation, Department of Education (n.d.[34]), https://www.education-ni.gov.uk/articles/extended-schools-programme, accessed 04 September 2025

Takeaway

Strengthening systematic collaboration and giving families a stronger voice in policy and practice can help young people see themselves as active learners and citizens through and beyond compulsory education.

Considerations for the future

Adolescence is a pivotal stage in the lifelong learning journey. It is a time when students' motivation and confidence can deepen or wane, yet also when the will, skills and means that sustain learning can be most deliberately shaped. Effective policy at this stage can determine whether young people continue to learn, adapt and contribute throughout life.

Evidence from PISA 2022 and the policy examples analysed for this chapter show growing momentum: countries are working to strengthen learner agency and socio-emotional learning, renewing curricula to include transversal and digital competencies, and expanding well-being and guidance supports. The next phase of reform must focus on connecting and sustaining initiatives that help adolescents engage meaningfully in learning and develop foundations for the future.

- **Fostering will for lifelong learning:** Many reforms now recognise motivation, engagement and socio-emotional learning as integral to achievement, but these goals are not yet fully embedded in practice. Supporting teachers to cultivate curiosity, resilience and a sense of belonging – through formative assessment, reflective pedagogy and inclusive classroom environments – remains essential. Whole-school approaches that integrate well-being, guidance and learner voice can help prevent disengagement and build confidence in learning.
- **Developing skills for lifelong learning:** Adolescence offers a crucial window to deepen transversal, digital and foundational skills. Curricular renewal is progressing in many systems, but sustained teacher professional learning and collaboration are needed to translate these aims into everyday teaching. An explicit focus on supporting metacognitive strategies and self-directed learning can strengthen students' ability to manage their own learning and apply knowledge across contexts. Coherence between curriculum, pedagogy and assessment is key to making these reforms lasting and equitable.
- **Creating the means for lifelong learning:** Equitable delivery depends on aligning resources, partnerships and governance. Responsible digitalisation – focused on safe, purposeful and inclusive use of technology – can expand access while supporting innovation. Stronger cross-sector coordination, linking education with health, social and community services, can make support for well-being and transitions more coherent. Expanding guidance systems and exposure to diverse pathways can also strengthen relevance and motivation, especially for those at risk of exclusion.

Next steps for policymakers. To ensure that adolescence becomes a bridge toward lifelong learning, systems could focus on:

- **Embedding socio-emotional learning and learner agency** across curricula, pedagogy and assessment, including providing guidance on what this looks like in daily practice.
- **Investing in sustained professional learning** to equip teachers with the skills and confidence to nurture learners' will, skill and means for lifelong learning.
- **Aligning curriculum, digital and well-being reforms** within coherent implementation frameworks.
- **Expanding high-quality guidance and transition supports** that connect learning with future study or employment opportunities.
- **Strengthening coordination across education, health and social services** to provide continuous, equitable support.

Together, these directions can help every young person leave compulsory education with the will, skills and means to keep learning throughout life.

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Annex 3.A. List of policy approaches

A list of policies reviewed for early to mid-adolescence can be found below.

Annex Table 3.A.1 List of policies for early to mid-adolescence

System	Year	Policy title	Links to further information provided by education systems
OECD countries			
Austria	2023	Curriculum Reform in Primary and Lower Secondary Schools	N/A
Chile	2022	Curricular Update Proposal for Grades 1 Through 10	Link 1 Link 2
Chile	2023	Update of Curriculum Prioritisation for the Comprehensive Reactivation of Learning	Link 1 Link 2
Czechia	2025	Mandatory English from First Grade (2025)	N/A
	2021	Revision Of Framework Education Programmes for ICT in Basic Education	Link
Estonia	n.d.	Digital technologies in education (platforms such as eKool and Stuudium, and digital learning platforms Opiq and TaskuTark)	Link
	2021	Education Strategy (2021–2035)	Link
	2021	Youth Sector Development Plan (2021-2035)	Link
	2011	National Curriculum for Basic Schools	Link 1 Link 2
	2025	Ai-Leap Education Programme (Ti-Hüpe)	Link
	2022	Transition to Estonian Language Education	Link 1 Link 2 Link 3 Link 4 Link 5
	2024	Reform extending compulsory learning obligations (*õppimiskohustus*)	Link 1 Link 2 Link 3 Link 4 Link 5 Link 6 Link 7
Finland	2024	Reform Implemented to Modernise General Upper Secondary Education	Link
	2022-2025	Framework For Digitalisation in Early Childhood Education and Care, Comprehensive School Education and Liberal Adult Education	Link
	2024-2025	Futures Work in Comprehensive Schools	Link
France	2023	National Strategy For Digital Technology In Education 2023-2027, Including AI And Its Uses In Education (Stratégie Nationale Pour Le Numérique Dans L'éducation 2023-2027, Dont Les IA et leurs Usages en Éducation)	Link 1 Link 2
	2023	Strengthening The Fundamentals	Link 1 Link 2 Link 3 Link 4

System	Year	Policy title	Links to further information provided by education systems
	2021	School Anti-Bullying Programme (Programme de Lutte Contre Le Harcèlement à l'école (pHARE))	Link 1 Link 2 Link 3 Link 4
Iceland	2022	Act No 86/2021 on the Integration of Services in the Interest of Children's Prosperity	Link
Latvia	2021	Education Development Guidelines 2021-2027	Link
Lithuania	2024	Edtech - Digital Transformation of Education	Link
Luxembourg	2020-2025	New Curriculum for Basic Education	Link
	n.d.	National framework for non-formal education	N/A
Mexico	2025	Educational Model of the Common Curriculum Framework for Upper Secondary Education (MCCEMS)	N/A
Netherlands	n.d.	Career Orientation and Guidance For Lower Secondary Vocational (VMBO) Programmes	Link
	2022-2027	Subsidy For Heterogenous Classes	N/A
	2024-2027	Subsidy To Stimulate Collaboration Between Schools for Primary and Secondary Education	N/A
New Zealand	n.d.	Inspiring the Future Aotearoa	Link
Norway	n.d.	Educational Choice (Utdanningsvalg)	Link
Poland	2024	Changes in Core (National) Curricula and Graduate Profiles	Link
	2020	The Strategy for Development of Human Capital	Link
Portugal	2017	Students' Profile at the End of Compulsory Schooling	Link
	2022	Specialised Technological Centres (Centros Tecnológicos Especializados)	Link 1 Link 2 Link 3 Link 4
	2020	Council of Ministers Resolution N.º30/2020: Digital Transition Plan	Link 1 Link 2 Link 3
Slovak Republic	2018, 2022	National Programme for The Development of Education and Training (Regional Schooling Section)	N/A
	2023	National Project: Centres of Excellence in Vocational Education and Training (CEOVP)	N/A
	2021–2030	Digital Transformation of Education	N/A
	2023	Reform of the Primary School Curriculum	Link
	2023	Support Measures for Inclusion in Education	N/A
Slovenia	Ongoing	Counselling Service in All Public Kindergartens And Schools	Link
	2021-2025	Modernisation Of Curricula for Basic School and Upper Secondary General Education And General Subjects In Technical And Vocational Education	Link
Sweden	2023	Investigation into New Upper Secondary Vocational Programmes	Link
Türkiye	2025	Young R&D	Link
	2023	Dynamic Course (DC) - Dinamik Ders Dili (D3)	Link
	2025	The Assessment and Monitoring of Students' Digital Skills Project	
Other economies			
French Comm. (Belgium)	2020	Reinforced Common Curriculum (As Part of The Pact For Excellence In Education)	Link
German-speaking Comm. (Belgium)	2023	My Education. My Future!	Link 1 Link 2 Link 3

System	Year	Policy title	Links to further information provided by education systems
	2023	Mission Statement 2040 (Leitbild): Education and lifelong learning for everyone	N/A
	2024	Digital Strategy Plan	N/A
	2023	Youth Strategy Plan	N/A
Northern Ireland (United Kingdom)	2021-present	Expert Panel on Educational Underachievement in Northern Ireland and "A Fair Start" Final Report and Action Plan	Link
	2006-present	Extended Schools Programme (ESP)	N/A
Partners and/or accession countries			
Brazil	2007	School Health Programme - Cogeb	Link 1 Link 2 Link3
	2024	National Pact for Learning Recomposition - COGEB	Link
	2025	Pencil Tip Program - Cogeb	Link
	2023	EPT Integrated High School, According to Goal No. 11 of PNE 2014/2024 - COGEF	Link
	2024	Teenagers School Program - COGEF	Link 1 Link 2
Bulgaria	2024	Development Of Mathematical and Digital Skills For Students Aged 11-16	N/A
	2024 -2025	No Aggression at School National Program For Socio-Emotional Skills	Link
	2025	Digital Transformation of School Education	Link 1 Link 2 Link 3
China	2012	Guidelines For Mental Health Education in Primary and Secondary Schools	Link
	2022	Action Plan on Comprehensively Strengthening and Improving School Aesthetic Education in The New Era	Link
Croatia	2022	Towards Sustainable, Equitable and Efficient Education Project	Link 1 Link 2 Link 3 Link 4 Link 5
Romania	2015	Relevant Curriculum, Open Education for All (CRED)	Link 1 Link 2 Link 3 Link 4
Thailand	2023	Happy Learning	Link
	2023	Learning Anywhere Anytime	Link

Source: Education Policy Outlook (2025), National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

4 Mid-Career

As adults reach mid-career, they must balance competing personal and professional priorities. This chapter explores how education systems can help adults in mid-career to stay engaged as lifelong learners while balancing work, family and evolving labour-market demands. It examines national and regional strategies that seek to remove barriers to participation, link short learning to recognised qualifications, and harness digital innovation for flexible delivery. Drawing on OECD data from 28 education systems, the chapter analyses strategic choices of policy design, as well as how these support the will, skills and means of learners at this critical life moment, offering practical insights for policymakers.

In Brief

Supporting learners during mid-career

Adults in mid-career (around ages 35-44) often face mounting workplace demands and personal responsibilities, yet their participation in formal and non-formal learning declines markedly compared with younger age groups. OECD data show that participation in formal and non-formal education among adults aged 35 to 44 has fallen in many countries over the past decade.

Policy interventions can help mid-career adults *remain engaged* and *adaptable* lifelong learners by aligning system-level design with individual motivations and constraints. The analysis of policy approaches from 28 education systems highlights some common trends shaping policy design in this age group to support their will, skills, and means:

- **Will:** Strengthening motivation and agency through learner entitlements (e.g. France, Portugal); and actively promoting engagement in lifelong learning through equity measures that help all adults feel confident and included (e.g. Brazil, Estonia, Luxembourg).
- **Skills:** Connecting learning pathways through modular and stackable qualifications (e.g. Norway, Poland, Sweden); Supporting employability and portability (e.g. Estonia, Norway); and building digital and transversal skills to participate effectively in technology-enabled learning (e.g. Estonia and Portugal).
- **Means:** Promoting access and participation through predictable funding, guidance, and digital tools (e.g. Flemish-speaking Community (Belgium), Finland); and strengthening cross-sector partnerships to share costs, align training with labour-market needs and extend reach to small and medium-sized enterprises (SME) and non-standard workers (e.g. the Netherlands, Türkiye).

Recent efforts to support learning in mid-adulthood show promising developments. Many policies now target both foundational and transversal competencies, combining financial incentives, modular and digital learning formats, and career guidance with initiatives that strengthen learner motivation and agency. The emergence of learner entitlements, such as individual learning accounts and paid training leave, along with recognition of prior learning and portable qualifications, signals growing political commitment to lifelong learning. These measures suggest a shift toward more coherent and flexible systems that better align education and labour-market needs.

Despite this progress, challenges remain. Several initiatives emphasise participation and employability but efforts to enable adults to sustain engagement or tracking long-term outcomes could be further emphasised. Outreach to SMEs, the self-employed, and low-qualified adults remains limited, while information on implementation and evaluation is often scarce. Digitalisation has expanded opportunities but also introduced new risks around quality, access, and data governance. Moreover, investment in trainers, counsellors, and mentors, which are key actors in maintaining mid-career adults' motivation and learner persistence high, remains uneven across systems.

Moving forward, governments can support learners' agency at this life stage by connecting flexibility with recognised portable credentials, strengthening monitoring and evaluation, and expanding targeted outreach to under-represented groups. Coordinated investment in digital infrastructure, professional capacity, and learner support can help ensure that innovation translates into sustained engagement. Embedding these elements into broader employment and social strategies will enable mid-career adults to upskill continuously and navigate change with confidence.

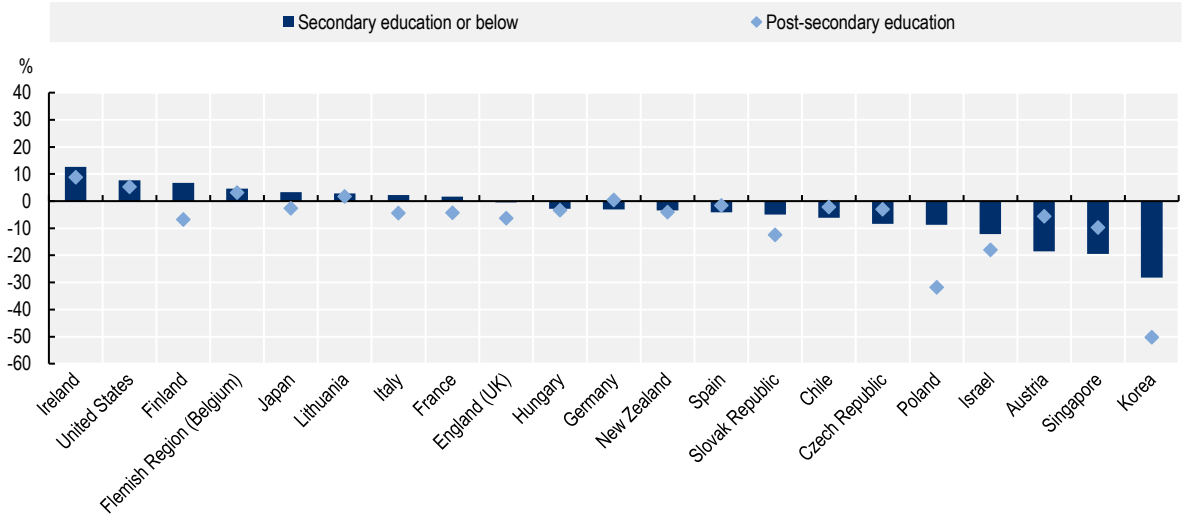
Introduction

Mid-career, typically around ages 35 to 44, is another critical moment in the lifelong learning journey. Adults at this stage must balance evolving workplace demands and personal responsibilities while adapting to career changes. However, they often lack the structured support of formal education systems available earlier in life. Although they have accumulated knowledge and experience, evidence shows that their participation in learning tends to decline with age.

Data from the 2024 Survey of Adults Skills (PIAAC) confirm this trend. Participation in formal and non-formal education among adults aged 35 to 44 has fallen in many countries over the past decade. Across the OECD, mid- to late-career adults (aged 35-54) participate in formal and non-formal job-related learning less often than early-career adults (aged 25-34), with only 43% reporting participation in adult learning within the past 12 months on average – a difference of 8 percentage points (OECD, 2025[1]). Participation in formal programmes remains limited among all adults (aged 25-65) and has fallen further, while non-formal job-related learning, though more common, also declined by around three percentage points to an average of 37% since 2012 (OECD, 2025[1]) (see Figure 4.1).

Figure 4.1. Participation in formal and non-formal education has decreased in many countries

Difference in participation rates of adults aged 35–44 in formal and non-formal education between PIAAC cycles 1 (2012) and 2 (2024), by educational attainment



Note: Does not include adults who in PIAAC cycle 2 were only administered the doorstep interview due to a language barrier.
Source: OECD (2024[2]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

StatLink https://stat.link/f3hx6i

However, this downward trend is not universal. Gains have occurred in several countries. In the Flemish Community of Belgium, Ireland, Lithuania, and the United States, both adults with lower levels of education (secondary education or below) and with higher levels (post-secondary education) alike have tended to increase their engagement. Statistically significant growth in non-formal job-related learning has also occurred in the Flemish Community of Belgium, Estonia, Ireland, Italy and England (United Kingdom) (OECD, 2024[2]).

Countries with high levels of non-formal learning, such as Finland, Norway and the United States, also show above-average participation in formal adult learning, which indicates that they have well-developed and accessible adult learning systems (OECD, 2025[1]).

Policies that strengthen adults' will, skills, and means can prevent or reverse these declines. To support policymakers in this effort, this chapter analyses over 75 policy approaches from 28 education systems that target mid-career stage adults (ages 35 to 44) drawing on an Education Policy Outlook questionnaire and desk-based analysis of international evidence and policy approaches (Annex Table 4.A.1). It explores how countries can support adults through this stage marked by complex transitions in work, identity, and learning engagement. Building on this analysis, the chapter concludes with considerations for the future.

Relevant insights from international evidence

The World Economic Forum warns that evolving skill demands require global upskilling and reskilling: if the world's workforce were represented by 100 people, 59 would need some form of training by 2030. Of these, employers expect 29 could be upskilled in their current roles, 19 retrained for new roles within their organisation, while 11 risk lacking the necessary training and facing uncertain employment prospects (World Economic Forum, 2025[3]). Policymakers therefore face the dual challenge of addressing both the motivations and capacities of individuals, and the broader capability of education and training systems.

At the individual level, a learner-centred approach can help shift systems from supply-driven models to those that empower individuals, supporting their agency and demand. This involves nurturing adults' interest and ownership over their learning choices, while supporting their access to opportunities to enable them to acquire new skills, potentially for careers in different professions such as greener jobs (OECD, 2023[4]).

At the system level, policymakers must address the cost and time barriers that continue to exclude those most in need. Systems should evolve beyond reactive, compliance-oriented training to equip workers with transferable skills for future roles. This requires moving from fragmented, short-term solutions to coherent strategies that integrate sustainable funding, employer engagement and flexible delivery models (OECD, 2025[1]).

From international evidence, priorities emerge that could be useful for policymakers to consider, with both a focus on learners and the system.

Focus on learners

Placing learners at the centre is key; empowering them to decide what, how, where and when they learn. This contrasts with traditional workplace training, where access is typically tied to a specific job or employer need, and limited to certain learning environments. A learner-centred approach focuses on individuals' professional development needs at different stages of their careers, whether in formal or informal settings (Cedefop and Kankaraš, 2022[5]; OECD, 2022[6]). Examples of such approaches include individual learning accounts (i.e. virtual accounts where individuals accumulate training rights over time). To avoid cost-shifting, these entitlements should complement, rather than substitute, employer responsibilities, with shared (public/employer) financing and options to train in paid time.

Expanding access and reducing barriers to training is also essential, especially for groups typically excluded from traditional funding mechanisms, such as the self-employed, gig economy workers, or adults who typically participate at lower rates (sometimes called 'hard to reach'). Relevant policy approaches include financial incentives through tax and benefit systems, as well as comprehensive strategies that can address complex obstacles to participation in training more easily.

Flexible delivery models also matter, as they allow training to adapt to individuals' diverse personal circumstances. Personalised training can be offered through, for example, digital platforms, including AI,

new partnerships between sectors and institutions, or more modular and targeted design. This flexibility can accommodate diverse needs and aims to facilitate the creation of habits. For example, for individual learning accounts, it is important to design schemes that go beyond one-time support, creating platforms that individuals can draw on repeatedly (OECD, 2025[7]).

Focus on the system

At the same time, effective lifelong learning policies must ensure systemic coherence. This includes features like "stackability" and "portability", which allow short learning opportunities to connect to recognised qualifications and move with learners as they change jobs or employment status. With OECD data showing that nearly 42% of non-formal job-related training lasts just a single day, it is key to connect these short learning opportunities to sustained, recognised qualifications (Schleicher, 2025[8]). This is increasingly important considering dynamic and uncertain labour-market trends where individuals rarely remain in one job for life (OECD, 2025[7]). Policy approaches to support this include micro-credentials and systems for recognising prior learning (RPL). These short courses and micro-credentials should be embedded within national qualification frameworks, with credit transfer and quality assurance to ensure portability and labour-market value.

Keeping pace with rapid technological change is also essential. The rise of generative AI and new related skill sets bring new opportunities for learning in formal, non-formal and informal settings. However, these advances also bring risks that need to be managed, such as regulatory non-compliance and unequal access to tools, potentially creating skill gaps.

Finally, building a cross-sectoral culture of lifelong learning is equally vital. Societies need to normalise upskilling and reskilling, raise aspirations and strengthen cross-sectoral buy-in and collaboration across employers, unions, and community organisations. This can be supported through mechanisms such as tri-partite agreements, which bring together key stakeholders to promote shared responsibility and action.

While these priorities focus on mid-career adults, they are also highly relevant to those approaching retirement. They offer valuable insights for designing flexible, inclusive and future-ready learning systems that support individuals throughout their working lives and beyond.

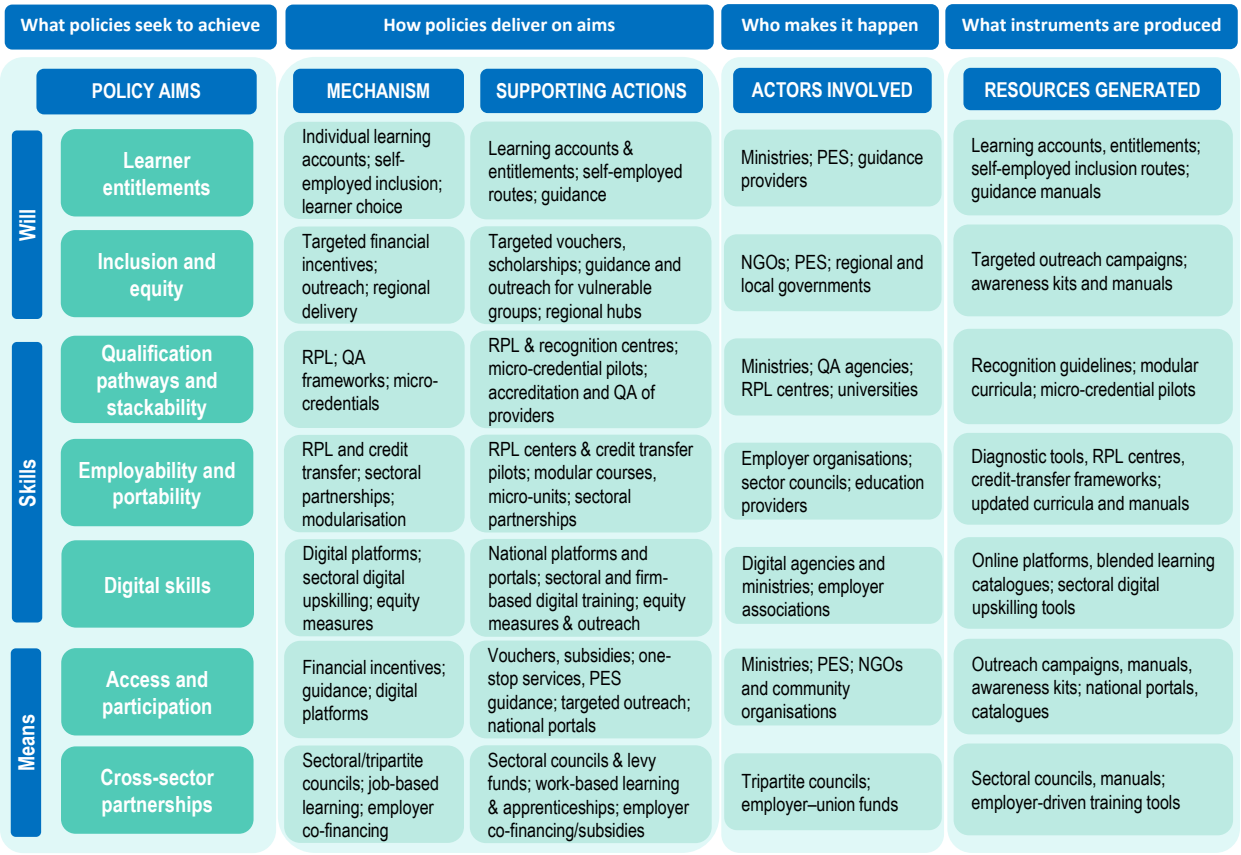
Policies for strengthening the will, skills and means for lifelong learning or mid-career adults

The examples collected for this report show close alignment between international lifelong-learning priorities and many of the policy efforts underway in participating countries and economies for mid-career adults. However, the approaches reviewed in this chapter indicate that countries prioritise will, skills and means to varying degrees in their strategies to support this group, typically focusing on the elements they can influence most directly.

To help policymakers strengthen their own approaches, this chapter explores these initiatives, first by looking into overall strategic design choices for these policies (e.g. mechanisms, scope, actors, resources, and tools) to provide a system-level view of how different design choices and delivery arrangements shape implementation capacity. It then groups initiatives by policy aims under will, skills and means, allowing policymakers to see how different strategies aim to motivate adults, develop relevant competencies, and expand accessible learning opportunities, and where stronger coordination across these dimensions could make lifelong-learning systems more coherent and effective. These elements are summarised in Infographic 4.1.

Infographic 4.1. How policy strategies for mid-career adults vary according to their aims

Most common approaches identified according to policy aim (selected categories)



Note: See Annex 4.A for a more complete view on the policies included in this chapter.
Source: Education Policy Outlook (2025): National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Strategic design choices in lifelong learning policies for mid-career adults

Across the policy initiatives supporting lifelong learning at mid-career collected for this report, most strategies prioritise flexibility and autonomy to help adults balance work, family and reskilling needs. The approaches vary in scope: some aim to maximise coverage, while others focus on engaging groups at risk of exclusion. Implementation models also differ. Certain systems rely on tripartite or sectoral agreements to strengthen labour-market relevance and share costs, while others are primarily government-led.

Digitalisation is embedded in many policies, although only a minority are specifically designed around digital transformation. A small but growing set of approaches is also beginning to test AI-enabled delivery, seeking to combine personalisation with safeguards for data use and equity. This section describes some key patterns across the components of the policies analysed.

Aims

Aims refer to the main objectives that a policy pursues to support learners in mid-career. Many of the policies analysed share a core ambition: removing obstacles for adult participation by making opportunities more flexible, portable and learner-centred.

Taken together, the aims identified in this chapter for mid-career adults reflect a system level push for flexibility on both the demand and supply sides. This includes entitlements to empower learners; recognition to make learning count; targeted routes for those most at risk of exclusion; sustained incentives; and partnership-based governance. The policy challenge is to combine these aims coherently so that participation translates into recognised, portable skills and better labour-market outcomes.

Mechanisms and actions

Achieving these aims requires translating ambition into operational mechanisms, which are the policy channels through which lifelong learning strategies take shape, with concrete actions. Across all aims, the alignment between design and implementation determines effectiveness. Where mechanisms are backed by sustained actions, policies are more likely to scale and generate long-term social and economic returns; where gaps exist, initiatives risk remaining fragmented or symbolic.

Four complementary building blocks emerge:

- *Financial support*. Instruments such as vouchers, subsidies, tax incentives or paid training leave remain baseline enablers, helping to reduce cost and time barriers. Targeted schemes, such as Luxembourg's co-financing scheme for continuous training provides training opportunities to self-employed and employees that may not necessarily be in line with current employment, thus offering flexibility beyond the developmental strategy of the company. By contrast, broader incentives might be easier to administer, although countries implementing similar mechanisms need to remain cautious to avoid reinforcing inequalities if uptake remains concentrated among those who would have trained anyway.
- *Structural flexibility*. Many systems are investing in mechanisms that bridge education, training and work, to make learning more portable and modular. Examples include Portugal's Qualifica Centres and Estonia's recognition of prior learning system (VÕTA), which link short courses to nationally recognised qualifications. Several countries, such as France, Lithuania, and the Slovak Republic are also advancing individual learning accounts to increase autonomy, while requiring strong regulatory oversight to ensure quality and prevent fragmentation.
- *Engagement support.* Guidance, outreach and user-friendly digital portals are increasingly recognised as critical for helping adults navigate opportunities and sustain motivation. Sweden's National Agency for Higher Vocational Education offers online resources, while campaigns such as Estonia's "Back to School Again" use storytelling and social media to make adult learning more visible and aspirational.
- *Monitoring and evaluation*. More systems are embedding evaluation and feedback structures to steer investment and improve accountability. For example, the French Community of Belgium's system review (Contract 2035) shows how periodic stocktaking can guide system improvement.

Governance models vary significantly. Some countries, such as Chile and Thailand, rely on centralised coordination approaches to ensure coherence and scale, while others, including Poland and Türkiye, partnership-based models to mobilise sectoral councils or tripartite agreements to align training with labour-market needs. Both models can be effective, provided that national frameworks prevent fragmentation and ensure accountability.

Takeaway

The effectiveness of mid-career lifelong-learning reforms depends less on the number of initiatives and more on how well their underlying mechanisms work together. Countries are using four main policy channels in the initiatives analysed for mid-career adults: financial support, structural flexibility, engagement support, and monitoring and evaluation. However, their impact will depend greatly on how they can ensure quality assurance, coordination and follow-through. Aligning these mechanisms within coherent governance frameworks can turn promising measures into more lasting system capacity.

Scope and timeline

For policies targeting adults in mid-career, scope (who is covered) and the timeline (how long the policy runs) are tightly connected design choices. Most approaches retain national coverage, which can provide visibility, coherence and legitimacy, acting as the "front door" to adult learning. However, governments rarely rely on national reach alone. Many often combine universal systems with sectoral or employee-based routes to align training with labour-market needs, while overlaying equity measures to reach under-represented groups (OECD, 2019[9]; Vincent Langley, 2024[10]).

Scope choices strongly influence duration. Broad national or universal schemes, such as those in Austria, China, Norway, Portugal and Slovenia, tend to be permanent or multi-year, reflecting the need for stability and sustained financing. However, stability does not necessarily mean rigidity: well-established instruments can evolve over time, such as in Sweden's Higher Vocational Education system (see Box 4.1). Similarly, Luxembourg's Skillsbridges programme offers training programmes selected based on recent labour-market analyses of identified growth sectors and labour-market shortages, and this offer is regularly updated. It is open to any adult, regardless of age, gender, employment status, origin, country of residence, or initial qualification, while preserving system continuity.

Box 4.1. Sweden – Flexibility of scope to adapt to change

Sweden has a form of tertiary-level education that keeps qualification structures stable, while adapting programmes and providers to evolving labour-market needs. Programmes are co-designed and co-financed by education providers and labour-market actors to enhance relevance and responsiveness. Learners can earn Higher Vocational Education Diplomas at levels 5 and 6 of the Swedish Qualifications Framework for Lifelong Learning (SeQF), or take shorter courses introduced in 2020, for targeted reskilling and upskilling. These courses, which do not lead to full qualifications, are highly adaptable in delivery mode (campus, distance, or remote) and study pace (full-time or part-time), to make them accessible to working adults. In 2024, 87 225 students were enrolled in Higher Vocational Programs and 19 700 individuals in shorter courses. The system is dynamic, with programmes evolving over time, and quality reviews confirming high standards and effective responsiveness to areas for improvement.

Source: Sweden's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation
https://www.myh.se/in-english; https://assets.myh.se/docs/publikationer/rapporter/kvalitetsgranskningsrapport2024.pdf (accessed on 1st September 2025).

In contrast, sectoral or employee-based initiatives frequently operate on shorter cycles, which allows faster adjustment to changing labour-market demand but can create "stop–start" effects. For instance, Austria and the Netherlands run annual training funds negotiated with social partners. Policies can also extend

eligibility to the self-employed – such as in Luxembourg, where salary costs for training days taken can also be reimboursed after the training is taken, subject to prior approval.

Phased or regional roll-outs help balance experimentation and scale, enabling systems to build evidence and political support before national expansion. However, a key policy challenge for these is finding the right balance between stability and adaptability, so that adults can benefit from predictable opportunities while retaining enough flexibility to respond to emerging economic and technological change, or to simply balance their need for learning with personal responsibilities.

Takeaway

Designing the scope and timeline of mid-career learning policies involves balancing stability with adaptability. Broad national schemes provide predictability and trust, while targeted or time-bound initiatives allow innovation and responsiveness but risk discontinuity if not institutionalised. Systems that connect both approaches, for example, using pilots to inform long-term frameworks, are best placed to ensure sustained participation and lasting system learning.

Range of actors typically involved

Lifelong-learning policies for mid-career adults typically mobilise a wide group of actors whose roles vary depending on governance traditions and system maturity.

Government ministries and agencies, most often from education, labour and social affairs, are key actors that provide leadership, coordination, and funding, as in Estonia, Portugal and Thailand. In more decentralised systems, like the Flemish Community of Belgium, Sweden, and Brazil, regions and municipalities have a stronger role in implementation.

Employers and social partners play a central role in many of the policies reported, particularly in keeping training aligned with labour-market needs and, in some cases, sharing costs. In the Netherlands, the Sector Plans (Sectorplannen) are co-funded by national government and sectoral stakeholders such as employers and unions, with sector-level coordination structures to plan and deliver training. Poland's national framework for micro-credentials (see Box 4.2) similarly illustrates how collaboration between ministries, research institutions, employer organisations and trade unions can support innovation and broad stakeholder engagement. Schemes in countries such as Austria and Germany also require close involvement from employers and public employment services, for instance through employer agreement to paid educational leave or company-level skills development plans. According to national submissions, social-dialogue and partnership structures in systems such as the Netherlands and Portugal remain important governance channels for giving workers a voice in adult-learning strategies and sharing responsibility for workforce development.

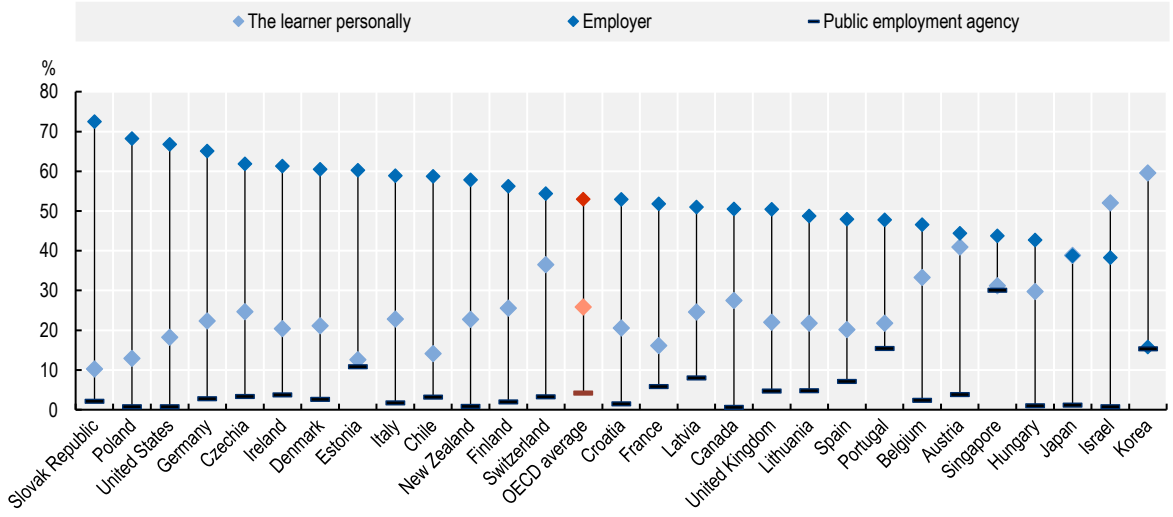
Education and training providers (including universities, vocational schools and private centres) translate strategies into practice by diversifying formats and extending access. In Estonia, providers such as universities, vocational education and training (VET) schools and private institutions deliver VÕTI and state-commissioned short courses in modular, online, hybrid and in-person formats tailored to working adults. In Slovenia, a national network of public adult education centres expands territorial coverage and delivers both on-site and remote learning opportunities. Austria uses its adult education centres and higher education institutions to provide modular courses (Level Up) and recognised learning pathways supported by Public Employment Service (AMS) guidance and approval under Paid Educational Leave. Public Employment Services and career counsellors also play a central role in connecting adults to relevant opportunities in Germany, where the Federal Employment Agency supports both funding and referral for continuing training programmes.

Civil society and community organisations also help widen participation, especially among adults who are furthest from learning. In Brazil, NGOs involved in the Thousand Women Programme and, in Iceland, local associations supporting adult education initiatives, have demonstrated how outreach partnerships can build trust and inclusion.

Across countries, employers remain the dominant sponsors of adult learning, with over half of adults who changed jobs in the past three years reporting that their training was funded or supported by their workplace (OECD, 2025[1]) (see Figure 4.2). This reinforces the importance of both partnerships with employers and portability: skills acquired at work must retain value beyond a single employer to enhance adults' mobility and resilience in changing labour markets.

Figure 4.2. Employers remain the main sponsors of adult learning in many countries

Percentage of 35–44-year-olds whose training was funded by each type of sponsor



Note: Financial support is defined as covering some or all of the expenses for learning, including tuition fees, course materials, travel, accommodation and so forth.
Source: (2024[2]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, OECD Skills Studies, OECD Publishing, Paris, https://doi.org/10.1787/b263dc5d-en.

StatLink https://stat.link/n4cktb

Takeaway

Lifelong-learning policies for mid-career adults rely on a wide and evolving network of actors. In the examples collected, governments usually provide leadership and coherence, while employers unions and education providers ensure relevance and delivery. Public Employment Services and community organisations can also expand access and engagement, particularly for under-represented groups. Strong governance depends on balancing national coordination with diversified partnerships so that learning opportunities remain both responsive to labour market and social needs and accessible to all adults.

Box 4.2. Poland – Engaging actors to implement micro-credentials

The implementation of micro-credentials in 2021 was a collaborative effort involving a wide range of stakeholders. Ministerial guidelines were developed with input from the Ministry of Labour, higher education institutions, ENIC-NARIC, vocational education and training providers, research institutes, employer organisations, and craft representatives. The ongoing project, led by IBE-PIB, is supported by an advisory group that includes representatives from ministries (including digital affairs and labour), IT companies, trade unions, and employer organisations. At the practical level, piloting and testing activities have engaged both large and small companies, as well as traditional universities and regional higher education institutions, ensuring broad participation across sectors.

Source: Poland's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation https://microcredentials.pl/en/about-the-project/ (accessed on 1st September 2025).

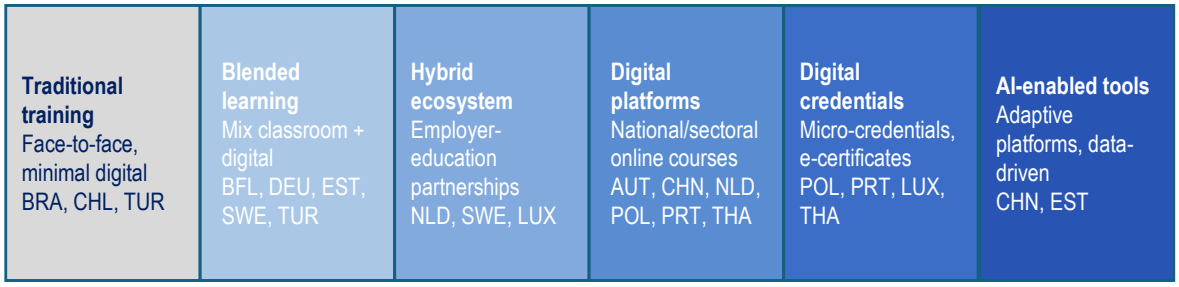
Digital and blended models

Digital and blended learning models are now a mainstream feature of lifelong-learning systems. Many countries use them to expand flexibility and access for mid-career adults while maintaining attention to equity and quality. Most combine online provision with in-person or workplace formats, reflecting the view that digitalisation is a complement – not a replacement – for human interaction in learning (see Figure 4.3).

Across systems, national online platforms are becoming central gateways for adult learning, offering searchable training catalogues, digital enrolment and tools that can support modular or flexible learning. In Estonia, for example, adults can explore opportunities through national digital channels such as the Jälle kooli website (see Box 4.3) and the digital systems linked to the Education Strategy and Lifelong Learning Strategy (e.g. EHIS, ÕIS, Tahvel). Portugal similarly uses national digital portals managed by IEFP – such as the online platforms supporting Cheque-Formação, Cheque-Formação + Digital, Trainer + Digital and Líder + Digital – which allow adults to browse approved providers, register for courses and access digital self-assessment or learning materials. In Luxembourg, digital catalogues provided through the National Institute for the Development of Continuing Vocational Training INFPC and the MyGuichet application system are complemented by personalised support from counsellors to guide learners toward relevant, accredited options.

Figure 4.3. Continuum of Non-digital to Digital/AI based Training Approaches (examples)

From Less Digital to More Digital



Source: Education Policy Outlook (2025): National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

StatLink https://stat.link/ij8l1v

Several countries are also developing digital credentials, e-portfolios and data systems that enhance portability, transparency and personalisation. Poland's Integrated Qualifications Register (ZRK) and its Odznaka+ micro-credential application provide digital repositories, standardised learning outcomes and tools to issue and store badges aligned with national and EU frameworks. Thailand's Credit Bank initiative builds a national central platform to record credits, validate experiential learning, and support e-portfolios that document learning across education, work and community settings. Estonia likewise embeds digital recognition tools within its VÕTA system (e.g. digital portfolios in ÕIS and Tahvel), enabling adults to store evidence and transfer credit across institutions. China is expanding online platforms and intelligent learning systems as part of its reforms in continuing and non-degree education, using digital resource libraries, online course platforms and data-driven monitoring tools to tailor and track learning.

Box 4.3. Estonia – A digital approach to lifelong learning

The Lifelong Learning Strategy 2020 made a significant investment in digital tools and platforms, but also in face-to-face guidance, mentoring, and traditional classroom formats. Its successor, the Education Strategy 2021-2035, which sets out key educational goals for the next 15 years, combines the support of digital learning platforms, and the use of AI tools for guidance and progress tracking, alongside classroom-based and work-based formats.

Aligned with this strategy is the Jälle kooli [Back to school again] (n.d.). This adult learning campaign encourages adults of all ages to reskill and upskill. At its core is a new adult learning information website and strong social media presence. The website aims to help adults explore how to engage in learning opportunities at adult gymnasiums, vocational schools, higher education institutions and in-service training. Interactive maps also help them locate learning opportunities available nearby. In addition, videos, inspirational stories, and interviews with employers seek to inspire individuals to undertake adult learning. Radio, billboards, and in-person promotional events are other types of approaches used.

Source: Estonia's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Hybrid ecosystems with employer/education partnerships have also been functioning, with co-designed programmes that combine online learning, workplace practice, and in-person workshops, as seen in the Netherlands, Sweden and Luxembourg. These models recognise that digitalisation alone can exclude some groups, so blended designs are being used to maintain inclusiveness and quality. Educators and mentors remain essential in these systems; they ensure that digital content is reinforced through guidance and interaction.

At the same time, traditional classroom and workplace training remain important, particularly in contexts where digital infrastructure is limited or where hands-on practice is critical, such as in Brazil or Türkiye. This combination of formats helps balance innovation with accessibility and learning quality.

Takeaway

Digital and blended learning have become integral to adult learning systems, offering greater flexibility, scale and personalisation. However, countries recognise that technology alone cannot guarantee equity or quality. The most effective strategies combine digital platforms with human guidance, mentoring and workplace learning, creating blended ecosystems where innovation strengthens – not substitutes – the personal support that sustains motivation and inclusion (EAEA, 2025[11]).

Resources required

Countries mobilise a diverse mix of resources to implement lifelong learning policies for mid-career adults. These include funding, infrastructure, and human resources, which together determine whether policies can move from design to sustainable delivery.

- *Funding* remains the most visible and commonly referenced input, providing the financial backbone for implementation. Countries combine national budgets, EU structural funds, and targeted grant or voucher schemes to lower both direct and indirect costs of participation. Austria's Level Up and paid educational leave provide free courses and income support; Estonia's VÕTI courses, VÕTA framework and State-Commissioned Short Courses are publicly funded and free of charge for eligible adults; Luxembourg reimburses part of the cost of company-organised training; and Portugal offers multiple voucher programmes (Cheque-Formação, Cheque-Formação + Digital) alongside subsidised digital and leadership training for trainers and managers. Meanwhile, Flemish training vouchers, training leave and training credit have potential to reduce financial and time barriers for employed workers. Together, these mechanisms can broaden access, particularly for low-qualified adults and those needing flexible, short-cycle learning.
- *Infrastructure* investments support both physical and digital access to learning. Many systems rely on extensive networks of adult education centres, vocational institutions and regional learning hubs – such as Austria's adult education centres, the Flemish Centres for Adult Education (CVO)/ Centres for Adult Basic Education (CBE), Portugal's Qualifica Centres, Sweden's municipal adult education and higher vocational education landscape, and Brazil's national network for teacher and adult education programmes. Parallel digital investments further expand accessibility: Estonia has built national digital registries (EHIS), e-learning platforms and online portfolio tools; Portugal uses national digital learning environments for its trainer and voucher programmes; Thailand's adult learning ecosystem includes nationwide digital portals; and China has invested heavily in online learning platforms, intelligent management systems and blended teaching formats. These infrastructures can make it easier for adults to access modular, flexible learning while maintaining in-person provision where practical and foundational skills require it.
- *Human resources* refer to the expertise and capacity required to deliver and manage learning, but remains a less visible but equally vital component. Germany and Portugal explicitly pair digital initiatives with staff upskilling (see Box 4.4), to help educators and counsellors adapt to new teaching formats. Austria and Lithuania rely heavily on Public Employment Services (PES) counsellors to guide learners, which highlights the continued importance of personal support and professional guidance in connecting adults to training opportunities.

Together, these examples show that building sustainable lifelong-learning systems requires not only financial investment but also the right infrastructure and skilled people to support implementation.

Box 4.4. Germany – Funding to support employers and workers to upskill

Germany's Act to Strengthen the Promotion of Vocational Training and Skills (Gesetz zur Stärkung der Aus- und Weiterbildungsförderung), in force since April 2024, aims to prepare the workforce for changing skill demands arising from technological and structural transformation. The measure is publicly funded through the Federal Employment Agency, which reimburses part of workers' wages and training fees, depending on company size and the learner's profile. The funding helps companies in providing continuing vocational training to their employees.

Under Section 82 of Book III of the Social Code, the programme includes subsidies for training-course costs and wage compensation for working hours lost due to training. Employees may also be reimbursed for additional expenses, such as travel or childcare.

Training can be delivered in-person, online, or through blended formats, motivating both employers and workers to invest proactively in upskilling.

The Vocational Validation and Digitalisation Act (Berufsvalidierungs- und Digitalisierungsgesetz – BVaDiG, 2024), passed in 2024 and implemented in 2025, aims to further digitalise and de-bureaucratise vocational training. Additionally, the Act facilitates the recognition of skills acquired through work experience without a formal qualification. The law explicitly aims to utilise all available skills in the German labour market, particularly those of young people without formal qualifications but with professional experience. The Act thus intends to increase both acquiring non-formal and formal qualifications and it further provides a point of connection to formal further education and training.

Source: Germany's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation https://www.levelup-erwachsenenbildung.at/start; https://www.levelup-erwachsenenbildung.at/monitoring/monitoringberichte (accessed on 1st September 2025).

Takeaway

Resources for lifelong learning extend well beyond financial inputs. Effective implementation depends on coordinated investments in funding, infrastructure, technology and skilled personnel. At the same time, systems differ in their funding models. Some lean on public subsidies and entitlements, to give learners direct purchasing power. Others rely more on levy funds and employer co-financing, reflecting traditions of social partnership and collective bargaining.

Tools and resources generated

To implement lifelong-learning policies for mid-career adults, countries are developing a wide variety of practical tools and resources. These range from curricula and diagnostic instruments to portals, guidelines and outreach materials. Together, they help translate broad policy aims into everyday learning opportunities and build institutional capacity. Five broad groups emerge:

- *Curricula and training materials*. Many systems are updating adult learning content to make it more flexible and relevant. Austria's Level Up programme has developed diagnostic tools, pedagogical resources and digital learning materials tailored to adult learners. Estonia has produced extensive training curricula and materials through initiatives such as the VÕTI programme and State-Commissioned Short Courses, which include sector-specific course packages aligned with labour-market needs. In Norway, the Skills Plus Work programme provides job-related learning materials and national standards for basic skills adapted to workplace contexts. The Flemish Community of Belgium's Centres for Adult Education (CVOs) and Centres for Adult Basic Education (CBEs) use fully modular programmes and have developed curricular frameworks, modular course guides and RPL tools to support adult learners and Norway.
- *Guidelines and quality frameworks*. Countries such as Slovenia have developed national guidance materials, including diagnostic tools, manuals and toolkits, to strengthen the quality and coherence of adult education provision. Poland has introduced detailed qualification standards and quality

assurance procedures within its Integrated Qualifications Registry and micro-credential initiatives, helping ensure that new credentials meet consistent criteria and can be integrated into national frameworks.

- *Digital platforms and portals*, or blended courses. Online tools are now central to expanding visibility and access. Portugal's suite of digital learning tools supports learners, trainers and institutional leaders in strengthening digital skills (see Box 4.5), while Lithuania's Kursuok platform and Latvia's Stars portal seek to link individuals' learning accounts to a national course catalogue. Thailand's Credit Bank initiative similarly enables online recording and transfer of learning credits.
- *Diagnostic and assessment tools*. These help adults identify gaps and gain recognition for existing competencies. Austria uses literacy diagnostics and dashboards to guide adult education provision, Estonia's VÕTA system provides national templates and rubrics for recognising prior learning, and Luxembourg employs digital reporting and evaluation templates to monitor progress.
- *Awareness and outreach materials*. Campaigns manuals and information packs remain essential for motivating adults to re-engage in learning. Estonia's Back to School Again campaign uses social media and learner stories to normalise participation, Brazil's Thousand Women Programme provides inclusive training materials for women in vulnerable situations, and the Netherlands has developed workplace toolkits to support engagement through regional pilots.

Taken together, these tools indicate that countries are approaching adult-learning implementation in complementary ways, combining digital, pedagogical and motivational resources to support participation, quality and equity.

Takeaway

Countries are investing in diverse tools to turn strategy into practice, from digital platforms and modular curricula to diagnostic and outreach resources. Each supports a different aim: access tools seek to increase visibility (e.g. campaigns, portals), recognition tools to enhance employability (e.g. diagnostics, curricula), and outreach tools to foster inclusion. The coherence of these choices is encouraging, but many remain pilot based. Without stronger integration into recognition frameworks and funding schemes, their long-term impact may be limited.

Box 4.5. Portugal – Some resources developed to enhance different actors' skills

Efforts undertaken by Portugal to support the acquisition of new skills include specific sets of tools targeting three different types of actors:

- In connection with the Training Voucher + Digital (Cheque-Formação + Digital) (2015), which is a form of direct financing of training accessible to any person regardless of employment status, available tools for them include digital self-assessment quizzes, registration manuals, and lists of certified courses by region.
- Targeting persons with higher levels of responsibility and varying levels of digital skills, the Leader + Digital (Líder + Digital) (2022) supports them with digital leadership case studies, scenario-based simulations, and self-assessment frameworks.

- Finally, the Trainer + Digital (Formador + Digital) (2025) focuses on enhancing trainers' digital skills and qualifications, using tools such as digital pedagogy toolkits, reusable learning objects, trainer self-assessment instruments, and online communities of practice.

Source: Portugal's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Building on this overview of how countries design and resource their lifelong-learning strategies, the following sections examine how these components come together within specific policy aims. Organised around the three lifelong-learning dimensions (will, skills and means) they illustrate how different systems prioritise and connect these aims to support mid-career adults' sustained engagement and development throughout working life.

Fostering will for lifelong learning

Policies that strengthen adults' motivation and agency are essential to sustaining learning beyond early and mid-career stages. However, compared to skills and means, the **will** dimension (i.e. attitudes such as persistence, curiosity or agency) tends to be less systematically addressed. Evidence from the Education Policy Outlook suggests that while most policies target access or employability, a smaller number explicitly focus on nurturing adults' curiosity, confidence and self-direction as learners.

Encouragingly, several countries are beginning to integrate these motivational aims within wider lifelong-learning frameworks, combining outreach, autonomy and inclusion measures. Some systems use campaigns and outreach to normalise adult learning, such as Estonia's "Back to School Again" and Brazil's Thousand Women Programme. France's Personal Training Account promotes learner agency by giving every worker an individual training credit and allowing them to choose and manage their own learning (see Box 4.6). In the French Community of Belgium, pedagogical, and psychosocial individualised student support or adult learners complements this focus on motivation.

Across systems, two broad approaches emerge for fostering adults' will to learn: giving learners agency through personal entitlements, and increasing inclusion and equity to engage under-represented groups. Together, these approaches seek to shift systems from a supply-driven model to one that empowers individuals to take ownership of their learning choices.

Strengthening learners' motivation and agency: Learner entitlements

Learner agency and entitlements approaches seek to empower adults to decide when, how and what they learn. Although still less common, they are expanding across systems and align with emerging international evidence emphasising autonomy and ownership. For policymakers, these approaches are a way to shift from supply-driven to demand-driven lifelong learning systems (OECD, 2025[7]).

- **Mechanisms and actions:** Individual learning accounts and similar entitlements, such as France's Personal Training Account (CPF), Portugal's approaches under +Digital, and the Slovak Republic's and Luxembourg's efforts to extend access, give adults direct purchasing power to pursue training aligned with their own needs. Some systems explicitly extend eligibility to non-standard workers, including the self-employed (e.g. Luxembourg, Slovak Republic), thereby widening who is recognised and supported by the system. Digital platforms like France's CPF app seek to make options transparent, helping adults navigate their choices and act on their autonomy.
- **Scope and timeline:** Entitlement schemes tend to have a broad or universal reach. France's CPF, for instance, covers all workers and jobseekers and is portable across jobs and employment status, while Portugal's digital entitlements are not tied to a specific employer. These measures are generally permanent and statutory, signalling predictability and trust in the system.

- **Main actors typically involved:** National ministries of labour and education lead policy design, funding rules and regulation. Public agencies and national skills bodies administer accounts, validate eligible training offers, and monitor misuse or low-quality provision. Social partners, such as in Luxembourg, contribute to defining eligible training and pushing for inclusion of categories such as the self-employed.
- **Resources required:** Stable, predictable funding is essential. In France, each adult receives €500 annually (up to a ceiling), creating a visible, personal incentive to participate. Sustaining such schemes also demands strong administrative capacity for quality assurance and fraud prevention, as well as guidance professionals to ensure autonomy translates into meaningful choices.
- **Tools and resources generated:** Digital platforms and apps (as in France's CPF) seek to allow adults to view, select and enrol in approved training directly, without having to negotiate through their employer. Complementary information campaigns and catalogues further promote reskilling and upskilling as normal, self-directed actions, to reinforce adults' confidence and sense of agency.

Takeaway

Learner entitlements seek to make motivation actionable by giving adults purchasing power, visibility over options and procedural autonomy. The policy challenge is to pair this autonomy with safeguards: quality control, guidance and inclusion of non-standard workers. Without these, entitlements risk reinforcing advantage for those who are already confident and informed.

Actively promoting engagement in lifelong learning, including through targeted equity measures

Equity and inclusion aims place a strong emphasis on will to learn by working directly on motivation, confidence and perceived belonging in learning. These approaches focus on adults who have traditionally been under-represented in training – those with low prior qualifications, face insecurity at work, or face broader social vulnerability.

Examples from participating systems show how outreach and local engagement can make learning feel both relevant and attainable. Brazil's Thousand Women Programme supports women in vulnerable situations to rebuild confidence, employability and a sense of agency through professional and human-rights training. Estonia's Back to School Again campaign uses storytelling and social proof to make adult learning visible and aspirational. In Luxembourg, outreach efforts target SMEs, low-qualified adults and the self-employed to ensure that they are aware that they are not only eligible for training, but feel entitled to use it.

These targeted initiatives often complement universal measures by focusing on specific groups or regions where disengagement is highest. Typical target groups in the examples analysed include low-qualified adults, women in vulnerable contexts, migrants, SMEs and the self-employed.

- **Mechanisms and actions:** Outreach campaigns and visibility drives, such as those in Estonia and Brazil, aim to reduce stigma, raise aspirations, and replace the message "training is not for me" with "this is for people like me." Local learning centres and regional hubs in the Flemish Community of Belgium, Luxembourg and Brazil seek to bring opportunities closer to adults' daily lives, offering flexible formats that fit around work and care responsibilities. Psychosocial and pedagogical support, as seen in the French Community of Belgium, also addresses confidence and well-being, which are often decisive for persistence.
- **Scope and timeline:** These measures are typically selective, focusing on particular groups or territories to concentrate resources where need is greatest. Many begin as pilots or phased roll-

outs, which supports adaptation and innovation but also risks discontinuity if not institutionalised or backed by stable funding.

- **Main actors typically involved:** Ministries and agencies responsible for employment, social affairs and education set the overall strategy, while regional and municipal bodies lead implementation. Civil society organisations and community actors (such as in Brazil) can play a motivational role, building trust and tailoring outreach to cultural and social realities. Public Employment Services (PES) and guidance counsellors act as connectors, reaching adults who may not identify as "learners" and helping them navigate opportunities.
- **Resources required:** Targeted subsidies, vouchers or scholarships can help lower immediate cost barriers for under-represented learners. Physical infrastructure such as regional training hubs or local learning centres is also being used to reach those who might not engage with purely digital provision. Human resources are therefore essential: outreach staff, counsellors and mentors are often the difference between awareness and actual uptake, but countries report that this capacity is uneven and sometimes underfunded.
- **Tools and resources generated:** Tailored communication materials and outreach kits, such as those in Luxembourg and Brazil, help raise visibility among specific groups. Campaigns like Estonia's "Back to School Again" showcase relatable learner stories to inspire participation, while practical navigation tools help adults take their first steps back into learning with confidence.

Box 4.6. France – Supporting will, skills and means

France's Personal Training Account (Compte Personnel de Formation – CPF) provides a comprehensive approach to strengthen learner **will**, develop relevant **skills**, and ensure access to **means**. Introduced in 2015 and reformed in 2019, the CPF provides every worker and jobseeker with an individual entitlement to lifelong learning that can be used throughout their career, including during periods of unemployment.

It promotes intrinsic motivation, self-directed learning, and a culture of continuous development, by allowing individuals to choose and manage their own training through a digital platform and mobile app. By enabling adults to pursue learning that aligns with their personal and professional goals, it fosters autonomy and metacognitive capacities such as planning, reflection, and self-assessment.

The policy initiative supports a wide range of certified training programmes, covering foundational skills (such as language and digital literacy) and transversal or career-transition skills. To ensure learners have the means to participate, each adult receives €500 per year (up to EUR 5 000) in portable, cumulative, and digitally managed credits, reducing financial and administrative barriers to learning.

Source: France's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation; OECD (2019[12]) *Individual Learning Accounts : Panacea or Pandora's Box?*, https://doi.org/10.1787/203b21a8-en; Ministère du Travail et des Solidarités (2017[13]) Le compte personnel de formation (CPF), https://travail-emploi.gouv.fr/le-compte-personnel-de-formation-cpf accessed 20 October 2025.

Takeaway

Inclusion and equity approaches seek to work directly on motivation, dignity and perceived access. They recognise that telling adults that "learning matters" is not enough; these policies seek to make them feel that learning is for them, and to remove the social, emotional and logistical barriers that keep them out. The policy challenge is durability: many of these measures are pilots or targeted schemes, which risks leaving the most vulnerable with the least continuity.

Developing skills for lifelong learning

Skills are among the most frequently referenced dimension across the policies reviewed. Most approaches combine support for foundational competencies – such as literacy and numeracy – with higher-order or transversal abilities, including digital literacy, critical thinking and metacognitive "learning to learn" skills. Examples include Austria, the Flemish Community of Belgium, Estonia, France, Luxembourg and Portugal.

While many of the enabling structures that support these efforts (such as qualification frameworks and credit systems) are categorised under means in this framework (Chapter 1), the analysis here focuses on how countries help adults build, deepen and connect their skills throughout life. In other words, this section examines the development of skills rather than the infrastructure that validates or funds them.

Policies in this area show a shared ambition to help adults continually adapt to changing labour-market and technological demands. Across systems, countries are also working to make learning opportunities more modular, portable and responsive to workplace realities.

Across systems, three interrelated aims stand out across the initiatives analysed: Qualification pathways and stackability, which help adults progress through modular learning and accumulate recognised competencies over time; Employability and portability, which help ensure that skills developed remain transferable across jobs and sectors; and Digital skills empowerment, which enables adults to participate effectively in an increasingly digital economy.

Together, these reflect an ambition to shift from fragmented training initiatives towards coherent lifelong-learning systems that integrate relevance, flexibility and recognition.

Connecting learning pathways through modular and stackable qualifications

These approaches seek to make learning progression modular, cumulative and visible. They help adults build on prior experience and translate training into qualifications over time, as seen for example in Estonia, Norway, Portugal and Sweden. While such initiatives rely on enabling "means" like recognition systems and credit frameworks, their primary focus is on how adults develop and connect competencies across diverse learning settings, turning experience into visible, portable skills. In Norway, for instance, modular structuring organises training into smaller, competence-based units. Participants are placed in modules that match their existing skills, allowing them to complete only the missing components. Upon completion, they receive a certificate of competence, which both facilitates progression to further training and strengthens their position in the labour market.

- **Mechanisms and actions:** Recognition of prior learning centres (e.g. Estonia, Portugal, Poland), micro-credential pilots (e.g. Brazil, Türkiye), and quality assurance frameworks to support alignment across the system (e.g. Norway, Czechia, Portugal) are common mechanisms. These mechanisms help validate skills and connect short learning opportunities to recognised qualifications but can remain fragmented without integration into national frameworks.

- **Scope and timeline:** These initiatives are typically anchored in national systems, while workplace and sectoral routes, such as in Brazil or Slovakia, seek to allow greater flexibility and responsiveness. Longer timelines or permanent frameworks can help build trust and continuity.
- **Main actors typically involved:** National ministries of education and labour oversee qualification frameworks and ensure system coherence (e.g. Estonia, Norway, Poland, Portugal). Specialised agencies and recognition centres, such as Portugal's Qualifica Centres and Estonia's RPL centres, administer validation processes, while quality assurance bodies (e.g. Norway, Czechia) help ensure consistency. Social partners and sectoral bodies often contribute to identifying emerging skill needs and validating new micro-credentials to sustain relevance.
- **Resources required:** Sustained investment in infrastructure, digital systems and staff capacity is vital for stackability and quality. Austria and Portugal fund credential frameworks directly, while Estonia and Poland maintain national recognition centres as system "bridges." Norway and Portugal have invested in training personnel to ensure the effective operation of these systems.
- **Tools and resources generated:** These initiatives frequently produce recognition and progression guidelines. Estonia, Norway, Poland and Portugal have developed frameworks linking modular learning to qualification structures, helping adults see how short courses can build toward full qualifications.

Takeaway

Building modular, stackable learning pathways helps adults see how short courses lead to recognised qualifications and career progression. While these approaches depend on strong system-level "means," their success ultimately rests on whether adults can *develop and connect* their skills meaningfully across contexts. Ensuring coherence, trust and transparency across providers (and sustained investment in quality assurance and staff capacity) can help these systems evolve from promising pilots to lasting foundations of lifelong learning.

Supporting employability and portability

Employability and portability aims focus on helping adults apply their skills in changing labour markets and carry them across jobs, sectors and employment types. While these policies often combine elements of both skills and means, they are included here because their central goal is to develop and connect competencies that remain valuable beyond a single context, rather than merely providing the structural enablers to do so.

Across systems, policies increasingly integrate recognition of prior learning, micro-credentials, and training in transversal and digital competencies with employer engagement and labour-market alignment. For example, Estonia's VÕTA framework (Validation of Prior Learning and Work Experience) allows individuals to gain formal recognition for skills acquired through work, volunteering or informal learning. Complementing this, the VÕTI programme – a state-funded initiative supported by the European Social Fund – offers adult learning courses that strengthen both professional and general life skills. Norway's Skills Plus Work provides employer-based training in foundational and workplace skills backed by government grants. Such policies are particularly relevant in labour markets marked by frequent job transitions and career changes. Without portability, learning remains confined to a single employer or context, limiting workers' adaptability and economic resilience (OECD, 2024[14]).

- Mechanisms and actions: Common approaches include combining recognition of prior learning (RPL) and credit-transfer mechanisms with modular course formats, as in Estonia, Norway, Poland and Portugal. Sectoral partnerships, such as those in the Flemish Community of Belgium, the

Netherlands and Türkiye, also seek to strengthen labour-market alignment and tailor provision to industry needs.

- **Scope and timeline:** These initiatives are most often sectoral or employee-based, with cyclical or time-bound implementation to allow flexibility to adjust to evolving market needs. For instance, the Netherlands and Poland operate through sectoral training funds with annual planning cycles, balancing responsiveness with continuity.
- **Main actors typically involved:** Employer organisations and sectoral councils appear to play a central role in defining skill needs, managing levy funds and co-designing training offers, as seen in Poland and Türkiye. Education and training providers – particularly in Estonia, Norway and Portugal – deliver modular, RPL-aligned programmes that connect directly to employment pathways.
- **Resources required:** Sustainable financing often depends on levy funds and cost-sharing mechanisms involving employers and social partners, as found in the Flemish Community of Belgium, Poland and Türkiye. Modular and blended formats, common in Estonia, Portugal and Sweden, provide the flexibility needed for workers to train while employed.
- **Tools and resources generated:** Countries are investing in diagnostic and recognition tools, updated curricula and new RPL centres (e.g. Estonia, Norway, Poland) to formalise learning and strengthen worker mobility. Austria and Portugal have also produced new manuals and modular training materials to ensure coherence across providers and improve employability outcomes.

Takeaway

Policies promoting employability and portability bridge the gap between learning and the labour market by ensuring that adults' skills remain valuable across jobs and careers. Success depends on balancing strong employer engagement with inclusive access for SMEs and non-standard workers. Scaling up recognition of prior learning, deepening sectoral partnerships and embedding portability in credential systems can make lifelong learning a genuine lever of economic adaptability and individual security.

Building digital and transversal skills to participate effectively in technology-enabled learning

Digital transformation policies bring together skills and means, but the core objective of the policies analysed (and the reason they are considered under *skills* in this chapter) is to help adults develop the digital and transversal competencies needed to participate in, and benefit from, technology-enabled learning. While system-level platforms and tools provide the infrastructure, these initiatives focus on building adults' confidence, adaptability and capacity to learn in digital environments. For example, Portugal's +Digital initiatives emphasise digital and transversal skills.

Across systems, technology-enabled learning has become a dominant trend. Many countries are scaling short, modular and blended formats that fit around work and family life. Estonia, Portugal, Sweden and China combine digital-skills training with digital learning environments, to help adults both use and navigate these technologies effectively. In Chile, the Netherlands and Thailand, national online platforms serve as access points for training, while in the Flemish Community of Belgium and Luxembourg sectoral upskilling initiatives target digital readiness in specific industries.

- **Mechanisms and actions:** National platforms and digital catalogues, such as those in Chile, the Netherlands and Estonia, seek to serve as central access points to accredited courses and promote modular, self-paced learning. Sectoral initiatives in China and Luxembourg strive to tailor digital-skills provision to local industry needs.

- **Scope and timeline:** Most initiatives operate at the national level, supported by sectoral or employer-based channels for technology adoption. Many combine long-term national strategies with short-term pilots to test new formats and ensure that digital expansion remains inclusive and sustainable.
- **Main actors typically involved:** National digital agencies, such as in Estonia and Thailand, lead the coordination of infrastructure and governance. Sectoral employer groups, such as in Poland, help ensure that training aligns with evolving labour-market and technological needs.
- **Tools and resources generated:** Countries have developed national platforms, catalogues and blended learning repositories (e.g. Chile, Estonia, the Netherlands, Portugal, Sweden), alongside sector-specific upskilling tools (e.g. China, Poland). These tools enable large-scale participation but require quality assurance and outreach mechanisms to prevent uneven access.
- **Digital and blended approaches:** Increasingly, AI and data-driven tools, as in China and Estonia, offering adaptive content and real-time feedback. However, the most effective strategies deliberately combine these technologies with in-person mentoring and guidance to ensure that learning remains engaging and pedagogically sound.

Takeaway

Digital transformation is reshaping both *what adults learn* (through the development of digital and transversal skills) and *how they learn,* via online and blended delivery. National platforms and AI tools can personalise learning and expand access, but their success depends on coupling innovation with inclusion. Linking digital access to recognised credentials, mentoring and quality assurance can ensure that technological progress enhances equity and strengthens the human connections that sustain learning motivation.

Creating the means for lifelong learning

Most policies place a stronger emphasis on **means**, understood here as the tangible enablers that make lifelong learning possible. These include financial and time supports, recognised credentials, digital tools, guidance services, and accessible learning environments. This focus is understandable: governments can act most directly on these levers to remove barriers to participation and sustain delivery. While *skills* policies help adults build competencies, *means* policies focus on creating the conditions for that learning to take place. They make learning affordable, visible, and logistically feasible – transforming intention into action.

Examples from participating systems show this interplay between opportunity and access. Austria, Portugal and Sweden combine public funding with structured learning environments; Estonia and Portugal integrate micro-credentials and digital platforms into adult-learning systems; and Luxembourg and the Slovak Republic extend eligibility to self-employed workers. A large share of measures target access and participation, while others build cross-sector partnerships to share costs, align provision with labour-market needs, and sustain delivery over time.

Promoting access and participation through predictable funding, guidance and digital tools

Access and participation policies focus on removing practical barriers to learning – funding, time, information, guidance and delivery formats. They are the “means” to engage, but many also incorporate behavioural elements that strengthen adults’ *will* to participate, such as awareness campaigns, social proof and stigma reduction. Examples include public communication efforts in Estonia, Finland, Norway and Slovenia, and Japan’s emphasis on respecting adults’ intrinsic motivation to learn.

- **Mechanisms and actions:** Financial incentives remain the most common lever, including vouchers, subsidies, scholarships and student finance (e.g. Austria, the Flemish Community (Belgium), Iceland, Luxembourg, Portugal and Sweden). Some systems, like the Netherlands, Poland and Türkiye, use levy-based training funds to foster employer co-investment, while others rely on subsidies and tax relief (e.g. Austria, Luxembourg, Japan). Guidance and one-stop services – such as those in Germany, Latvia, Lithuania and Sweden – help adults navigate complex options and reduce informational barriers.
- **Scope and timeline:** These measures often aim for national coverage to enhance visibility and predictability (e.g. Austria, Iceland, Norway, Slovenia), while others are implemented through employee-based channels for faster workplace uptake (e.g. Austria, the Flemish Community (Belgium), Portugal). Some initiatives explicitly extend eligibility to self-employed workers (e.g. the Slovak Republic, Luxembourg) or include targeted overlays for disadvantaged groups (e.g. Iceland, Portugal). Most are permanent or multi-year to signal policy commitment.
- **Digital and blended approaches:** Digital tools can reduce search and transaction costs by consolidating information on available training and funding. Portugal's Qualifica+Digital and Poland's national portal are examples of such platforms. Similarly, digital credentials – developed in Poland and Portugal – support recognition and credit transfer. Blended models in Estonia and Sweden mix workplace and online formats to make learning more flexible for working adults and SMEs.
- **Main actors typically involved:** National ministries of education and labour lead policy design and financing, while Public Employment Services (PES) act as gateways in countries such as Germany, Latvia, Lithuania and Sweden, to connect adult learning to labour-market opportunities. Regional and local actors adapt provision to territorial needs, which is key for inclusion.
- **Resources required:** Funding instruments – such as subsidies and vouchers (e.g. Austria, Portugal, Iceland) and scholarships (e.g. Luxembourg) – form the foundation of most initiatives. Infrastructure investments, including regional training hubs and local learning centres (e.g. the Flemish Community (Belgium), Brazil, Sweden), reduce territorial inequalities. Digital portals (e.g. Chile, the Netherlands, Thailand) broaden reach but demand ongoing governance and technical support. Human resources – particularly PES counsellors (e.g. Austria, Lithuania) – play a vital role in ensuring that access translates into sustained participation.
- **Tools and resources generated:** Outreach campaigns and learner information packs (e.g. Brazil and Luxembourg) seek to normalise adult learning and reduce stigma. National portals (e.g. Chile, the Netherlands, Thailand) centralise course and funding information to lower search costs for learners and employers. Similarly, guidance and self-assessment tools help individuals identify learning needs, build confidence and visualise a path forward, which are critical first steps in fostering participation (OECD, 2019[15]).

Takeaway

Access measures are no longer only about paying for training; they are about creating the full ecosystem that enables adults to learn. The most mature models combine predictable funding with guidance, visibility, recognition and flexible delivery. The policy challenge is to ensure that these supports reach those least likely to participate otherwise, instead of mainly subsidising those already inclined to train.

Strengthening cross-sector partnerships to share costs, align training with labour-market needs and extend reach to SMEs and non-standard workers

Cross-sector partnerships aim to build shared responsibility for adult learning across government, employers, unions, or training providers. Compared with access and participation measures, they appear less frequently in the policies analysed – despite their importance for cost-sharing, relevance and sustainability. Their relative scarcity suggests an implementation gap: while most countries recognise the value of collaboration, fewer have developed stable institutional mechanisms to sustain it.

Where they exist, such partnerships help ensure that learning remains relevant to labour-market needs and embedded in work organisation, rather than being treated as an individual burden. For example, the Netherlands' Sectoral *Plans* seek to enable employers and unions to co-finance training and jointly plan skill priorities within sectors. Türkiye's nationwide lifelong-learning system, coordinated by the Ministry of National Education (MoNE–HBÖGM), similarly involves public employment services and social partners in expanding access and tailoring provision to labour-market needs, although its financing remains primarily public.

- **Mechanisms and actions:** Sectoral councils and tripartite funds coordinate training priorities and co-financing in the Netherlands, Poland and Türkiye. Expansion of work-based learning models in countries like Estonia and the Netherlands seek to connect classroom learning with real workplace practice. Employer co-financing schemes in Japan and Türkiye help sustain company-based upskilling, particularly in industries adapting to automation and new technologies.
- **Digital and blended approaches:** Partnerships increasingly operate through hybrid learning ecosystems, where employers and providers co-design modular programmes that combine online content, on-the-job practice and in-person workshops, as seen in the Netherlands and Sweden. These models seek to keep learning closely aligned with industry needs while preserving a human layer (e.g. mentoring, coaching and supervision) to supports learner persistence.
- **Tools and resources generated:** Sectoral partnerships often create shared planning tools, such as joint training roadmaps, competence frameworks and funding instruments. The Netherlands, Poland and Türkiye have developed governance tools such as sectoral councils and common training manuals, while Japan has formulated guidelines for labour-management cooperation on training in the workplace.

Trade unions and worker organisations highlight that effective partnerships must embed worker-centred safeguards to ensure fair participation in lifelong learning. This includes making paid time to train and shared employer–public financing explicit design conditions, rather than implied through entitlements or voluntary arrangements. Embedding social dialogue and collective bargaining as governance mechanisms can help ensure that costs are distributed fairly across employers, workers and governments, while extending the reach of training opportunities to SMEs and non-standard workers.

Takeaway

Partnership models can enhance relevance, share costs and embed learning in work organisation, but they are not yet systematic. Without national guardrails, they risk uneven coverage: larger firms tend to benefit most, while SMEs, self-employed and non-standard workers may be left out. Scaling and institutionalising such partnerships through mechanisms like sectoral councils, levy funds or national strategies, can help turn collaboration into a lasting pillar of lifelong-learning systems.

Considerations for the future

Mid-career is a pivotal stage in the lifelong learning journey. Adults in this phase balance growing professional and family responsibilities while adapting to rapid technological and economic change. In the context of climate change, ensuring a just transition – so that affected workers can reskill as their contexts evolve – makes mid-career learning even more critical. Yet OECD data show that participation in adult learning declines sharply by mid-adulthood, even as the demand for new skills accelerates. Helping adults remain engaged and adaptable lifelong learners therefore requires policies that align system-level design with individual motivations and constraints.

Evidence from PIAAC and from 75 policy approaches analysed for this chapter shows that many countries are making progress towards this goal, although with different emphases across *will*, *skills* and *means*. These efforts signal strong political commitment and growing recognition that lifelong learning is essential for economic resilience and social inclusion. However, important implementation challenges persist. The challenge is less about doing more, and more about connecting policies better and sustaining them over time.

- **Fostering will for lifelong learning:** A key challenge is transforming adults' motivation and interest in learning into lasting participation. Learner entitlements, such as individual learning accounts, show promise in turning motivation into action by giving adults visibility, choice and purchasing power. However, learners' autonomy can only be effective if is supported by quality assurance and accessible guidance so that adults can perceive the system as trustworthy and easy to navigate. Equally, outreach and inclusion strategies play a vital role in motivating adults who feel distant from learning. However, telling adults that "learning matters" is not enough. Awareness campaigns, local learning hubs and psychosocial supports can help rebuild confidence and a sense of both belonging and accessibility, especially among vulnerable groups. For policymakers, the priority is to be able to secure the durability (and adaptability) of these initiatives. This includes being able to scale up successful pilots and ensuring that institutionalised initiatives achieve longer-term stability, allowing them to become known and trusted as accessible and effective resources.
- **Developing skills for lifelong learning:** Across systems, education policy makers face the key challenge of ensuring that adults not only participate in learning but also acquire skills that are recognised, transferable and future-ready. This is essential for a better of investment both for the system and the individual. Modular and stackable pathways can help adults see how short courses connect to qualifications and career progression, but this requires coherent quality and recognition frameworks across the system. Sustaining employer engagement is also essential to bridge the gap between learning and labour markets. Sectoral partnerships and recognition of prior learning mechanisms can make training more relevant to the adult. At the same time, it is important that actors such as SMEs and non-standard workers are not left behind. Digital transformation further reshapes what and how adults learn. Digital platforms and AI tools offer scalability and

personalisation blended approaches that integrate online delivery with mentoring and in-person learning remain key to ensuring quality and inclusion. The examples collected suggest a window of opportunity for better differentiating the different types of skills that adults might need depending on their professional profiles (including trainers). In the same way, the success of these initiatives depends on equity safeguards, data governance and human support.

- **Creating the means for lifelong learning:** The most mature systems recognise that access to training alone is not enough. The policy challenge remains in ensuring that these resources reach those least likely to participate, rather than primarily benefiting adults who would train regardless. Partnership models bringing together different actors (e.g. linking governments, employers, unions, education providers and community organisations) can help to share costs and increase relevance. Yet these remain uneven across sectors, often benefiting larger firms more than SMEs or self-employed workers.

Next steps for policymakers: To strengthen mid-career adults' engagement in learning and move from fragmented initiatives to coherent lifelong-learning ecosystems that effectively support flexibility, countries could focus on:

- **Integrating will, skills and means more deliberately** into cohesive policy frameworks. These need to align learner motivation, capability and opportunity.
- **Balancing flexibility with persistence**, pairing short, adaptable learning offers with guidance and follow-up to sustain participation over time.
- **Reinforcing recognition and quality assurance** so that learning (whether digital, modular or workplace-based) translates into valued, portable qualifications.
- **Embedding digital transformation within inclusive systems** that combine innovation with safeguards for equity, quality and data trust.
- **Investing in human capacity and partnerships**, so that trainers, mentors and social partners can better motivate and support learners across all contexts.

These directions can help governments to strengthen the connections between will, skills and means, so adults not only access learning, but stay engaged, grow and adapt throughout their working lives.

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Annex 4.A. List of policy approaches

A list of policies reviewed for the mid-adulthood stage can be found below.

Annex Table 4.A.1. List of policies for mid-adulthood

System	Year	Policy title	Links to further information provided by education systems
OECD countries			
Austria	2012	Level Up - Initiative for Adult Education (Initiative Erwachsenenbildung)	Link 1 Link 2
	1998	Paid Educational Leave (Bildungskarenz)	Link 1 Link 2
Costa Rica	2016-2025	National Plan for Lifelong Learning (PNFP)	N/A
Czechia	2004	Decree on Retraining of Job-Seekers and Employees (Decree No. 519/2004)	Link 1 Link 2 Link 3
	2020	The Strategic Plan of The Ministry for Higher Education for the Period from 2021 (SP2021) (SZ2021+)	Link
Estonia	n.d.	Back to School Again (Jälle kooli)	N/A
	2021	The Education Strategy 2021–2035	Link
	2014	Lifelong Learning Strategy 2020	Link 1 Link 2
	2009	State-Commissioned Short Courses	Link
	2025	Vocational Education Reform	Link 1 Link 2 Link 3
	2021–2027	VÕTI Training Courses	Link 1 Link 2
	2027 - current	Validation Of Prior Learning And Work Experience (VÕTA)	Link 1 Link 2
Finland	2020	Strategy For Lifelong Guidance 2020–2023	Link
France	2024	Public Transformation Campus (CAMPUS de la Transformation Publique)	Link 1 Link 2
	2015	Personal Training Account (Compte Personnel de Formation)	Link 1 Link 2 Link 3
	2014	Formation en Situation de Travail (FEST)	Link 1 Link 2
	2008	Educational and Family Actions (Actions Educatives Familiales (AEF))	Link 1 Link 2
Germany	2024	Act to Strengthen the Promotion of Vocational Training and Skills (Gesetz zur Stärkung der Aus- und Weiterbildungsförderung)	Link 1 Link 2 Link 3
	2024	Skills Development Benefit (Qualifizierungsgeld)	Link 1 Link 2

System	Year	Policy title	Links to further information provided by education systems
Iceland	2010	Act on Adult Education No. 27/2010	Link 1 Link 2
	2020	Education Policy 2030	Link
	2024	Parliamentary Resolution No 15/154 on Action Plan for Icelandic as Second Language for the Years 2024-2026	Link
Japan	2002	Lifelong Learning Promotion Act	Link 1 Link 2
Latvia	2021 2024	Education Development Guidelines 2021-2027 Individual Learning Accounts Platform *Stars*	Link 1 Link 2
Lithuania	2024	Individual Learning Accounts Initiative (Kursuok)	Link
Luxembourg	n.d.	Financial Aid for in-Company Continuing Vocational Training	Link
	n.d	Individual Training Leave (Congé Individuel De Formation (CIF))	Link
	n.d	Skillsbridges	Link 1 Link 2
	n.d	Adult Apprenticeships (Apprentissage Pour Adultes)	Link
Netherlands	2013	Sector Plans (Sectorplannen)	Link
	2019	Subsidy Flexibilisation VET	Link
	2023	Sectoral Development Pathways (Sectorale Ontwikkelpaden)	Link
	2023-2027	Program Learning Culture (Programma Leercultuur)	N/A
	2020-2029	SLIM-Regeling (Stimuleringsregeling Leren en Ontwikkelen in het MKB)	Link 1 Link 2 Link 3
Norway	2020	Learning Throughout Life (Lære Hele Livet)	Link
	2006	Skills Plus Work	Link 1 Link 2
	2024	Modular Structured Learning as part of the New Education Act	Link 1 Link 2 Link 3
	2024	Right to Requalification in VET.	N/A
Poland	2016	Integrated Qualification Registry (ZRK)	Link
	2021	Micro-credentials Implementation	Link
Portugal	2017	The Qualifica Programme	Link
	2022	Trainer + Digital (Formador + Digital)	Link
	2022	Training Voucher + Digital (Cheque-Formação + Digital)	Link
	2022	Leader + Digital (Líder + Digital)	Link
	2015	Training Voucher (Cheque-Formação)	Link
Slovak Republic	2021	The Lifelong Learning and Counselling Strategy for 2021-2030 (Stratégia celoživotného vzdelávania a poradenstva na roky 2021-2030)	Link 1 Link 2
	2025	Electronic Platform for Individual Learning Accounts	Link

System	Year	Policy title	Links to further information provided by education systems
Slovenia	2021	Adult Education Guidance as a Public Service	Link
	2023	Programmes for Acquiring Basic and Vocational Skills for Adults.	N/A
Sweden	2022	Student Finance Scheme for Transition and Retraining	Link 1 Link 2
	n.d	Municipal Adult Education and Training	Link 1 Link 2
	2009	Higher Vocational Education	Link 1 Link 2
Türkiye	2011	Ministry of National Education- Directorate of Lifelong Learning/Non-Formal Education Activities	Link 1 Link 2
Other economies			
Flemish Comm. (Belgium)	n.d.	Centres for Adult Education (Centra Voor Volwassenonderwijs)	Link 1 Link 2
	2020	Training Vouchers for Employees (Opleidingscheques Voor Werknemers)	Link 1 Link 2 Link 3
	2020	Flemish Training Leave (Vlaams Opleidingsverlof - VOV)	Link 1 Link 2
	2020	Flemish Training Credit (Vlaams Opleidingskrediet - VOK)	Link 1 Link 2
	2022	Digibanks (Digital Inclusion Hubs for Lifelong Learning)	Link 1 Link 2
French Comm. (Belgium)	2025	The 2035 Contract: An Ambitious Vision for Adult Education	Link
German-speaking Comm. (Belgium)	2023	Mission Statement 2040 (Leitbild)	Link
	2024	Digital Strategy	Link
Partner and/or accession countries			
Brazil	2005	A Thousand Women Program - SETEC	Link
Bulgaria	2024	Projects of Nationally Representative Organisations of Employers and Employees	Link 1 Link 2
	2023-mid 2026	Provision of Digital Skills Trainings and Set-up of a Platform for Adult Learning	Link
	2021-2027	Training Through Vouchers	Link
	2023	Modernizing VET through New Learning Content, Teacher Training and Partnership with Business	Link
Chile	2024	Curricular Frameworks for Youth and Adult Education	Link 1 Link 2
	2022-2025	Digital Teaching Competencies Training Program	N/A
China	2022	Implementation Opinions of the Ministry of Education on Promoting the Reform of Academic Continuing Education in Regular Higher Education Institutions in the New Era (Jiao Zhi Cheng 2022 No.2)	Link
	2021	Interim Provisions on the Administration of Non-Degree Education offered by Regular Higher Education Institutions	Link
	2021	Implementation Plan for the 'Skills China	Link

System	Year	Policy title	Links to further information provided by education systems
		Action'	
Romania	2005	Law 279 Regarding Apprenticeships at Workplaces	N/A
	n.d.	Decision No. 772/2022 on the approval of the Methodology for Granting Transferable Credits for the Professional Training of Adults; Repeal of Government Decision No.844/2002; Duration of Schooling	N/A
	n.d.	Order 6768/2023 for the Approval of the Methodology for Granting Transferable Credits in Lifelong Learning	N/A
Thailand	2024	Credit Bank: Educational Opportunities for Everyone	N/A

Source: Education Policy Outlook (2025), National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

5 Approaching retirement

Late adulthood marks a turning point in lifelong learning. As people approach retirement, they reassess their roles, identities and capacities to keep learning, even as participation rates decline and skills risk becoming obsolete. This chapter examines how education systems can help older adults remain confident, employable and engaged learners – by creating opportunities that value experience, support transitions and promote inclusive, age-friendly workplaces. Drawing on international evidence, OECD data and policy approaches from 19 education systems, it analyses the strategic choices that support the *will*, *skills* and *means* for learning in later life and offers practical insights for policymakers.

In Brief

Supporting learners approaching retirement

As working lives extend, supporting learning in later life has become a central policy challenge. Adults approaching retirement (around ages 55–65) consistently show lower participation in adult learning and training than younger age groups. OECD PIAAC data show that only about 26% of adults aged 55–65 report participating in job-related formal, non-formal or informal education and training within the past 12 months. Engaging this group in learning is critical both to sustaining productivity and to supporting health, well-being, and inclusion in ageing societies.

Learning in later life is not only about employability – it is also about identity, purpose and connection. Policy interventions can help late-career individuals reaffirm their identity as lifelong learners. By doing so, older adults can continue to contribute meaningfully to the workforce and to society, both before and after retirement. Analysis of 35 policy approaches from OECD and partner countries highlights some common trends shaping policy design in this age group to support their will, skills, and means:

- **Will:** Strengthening older learners' motivation to remain active (e.g. China, Japan, Lithuania, Türkiye, England (United Kingdom)); encouraging employers to invest in older workers' learning and retention (e.g. Netherlands, Poland, Slovenia, United States).
- **Skills:** Promoting upskilling and reskilling (e.g. Czechia, Estonia, Luxembourg, Netherlands, Sweden); advancing digital inclusion and adaptability (e.g. German-speaking Community (Belgium), China, Germany, Latvia, Poland).
- **Means:** Expanding access and participation (e.g. Austria, Estonia, Lithuania, Slovak Republic, Türkiye); fostering equity and age-friendly workplaces (e.g. Norway, Poland, Slovenia, United States).

Recent efforts to support learning in later life show promising trends. Many policies combine financial incentives, workplace learning and guidance with initiatives to strengthen motivation and agency. The growing use of modular, short-cycle and work-integrated formats suggest recognition of older adults' diverse circumstances and needs. Broad national coverage and layered support for workers and employers signal political commitment to embedding lifelong learning within ageing and employment strategies.

Despite this progress, most policies still focus mainly on participation and employability. Fewer address the recognition of prior experience, tackle age bias in recruitment and training, or make explicit links between learning, health, and well-being. Limited data on adults aged 65+ and uneven evaluation frameworks further constrain the evidence base.

Moving forward, governments should strengthen recognition systems, promote age-inclusive workplaces, and connect education, labour, health, and social policies through coordinated national and local action. Framing lifelong learning as an investment in well-being, resilience and social cohesion can help societies turn longevity into opportunity.

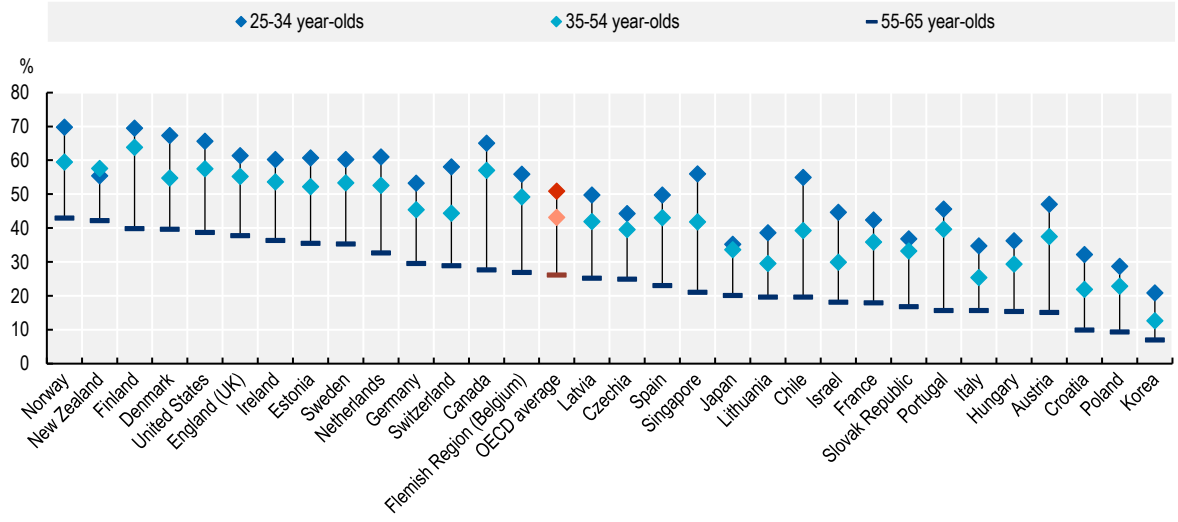
Introduction

Adults approaching retirement, typically aged around 55 to 65, experience a decisive moment in their lifelong-learning journeys. Unlike earlier stages, this period is marked by the lowest levels of participation in education and training, even as the risks of skill depreciation and labour-market exclusion increase (OECD, 2024[1]; OECD, 2025[2]).

Recent data from the OECD Survey of Adult Skills (PIAAC) show that adults aged 55-65 participate in adult learning less than all other age groups (see Figure 4.1). On average across OECD countries, only 26% of individuals in this age group reported taking part in job-related formal, non-formal, or informal education and training within the past year, compared to 51% of early career adults (OECD, 2025[3]). The widest gaps between younger and older adults are observed in Canada, Chile and Singapore, while Japan, Korea and New Zealand show relatively smaller differences. Overall, English-speaking and Nordic countries tend to report the highest levels of older adult participation (OECD, 2024[4]).

Figure 5.1. Older workers are the least likely to participate in adult learning

Difference in participation rates in job-related adult learning by age groups, in per cent



Note: Adults aged 25-65; job-related adult learning refers to formal, non-formal and informal education and training undertaken for the purpose of acquiring skills for a current or future job in the last 12 months before the PIAAC 2024 Cycle 2 survey. OECD average is an unweighted average of all participating member countries.
Source: OECD (2024[4]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills* 2023, OECD Skills Studies, OECD Publishing, Paris, https://doi.org/10.1787/b263dc5d-en; OECD (2025[3]), *Trends in Adult Learning: New Data from the 2023 Survey of Adult Skills, Getting Skills Right,* OECD Publishing, Paris, https://doi.org/10.1787/ec0624a6-en.

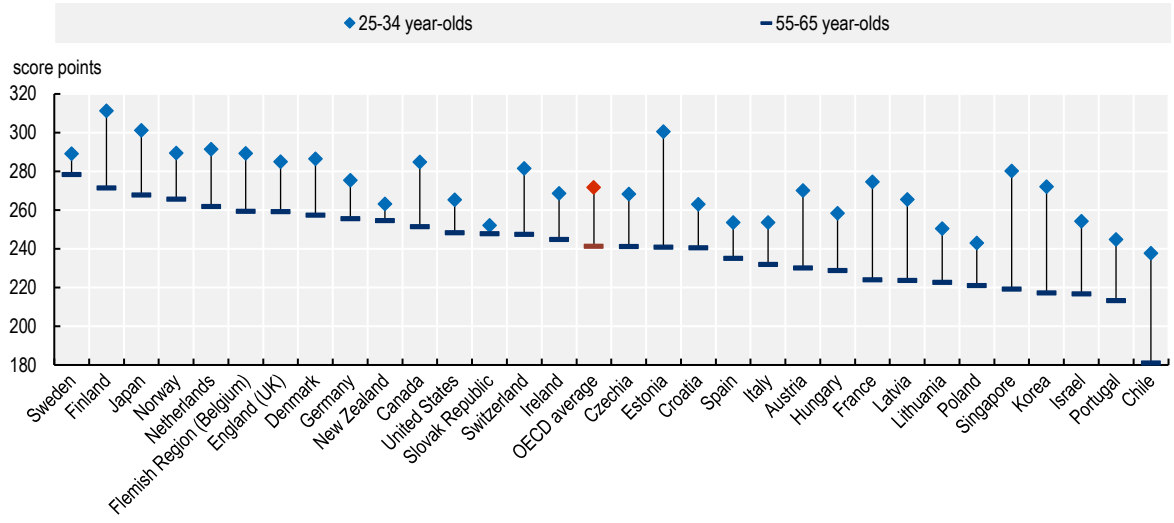
StatLink https://stat.link/8c5xn3

Additional evidence from the Employment Outlook shows that older workers (55-65) are seven percentage points less likely to participate in training and 14 percentage points less likely to engage in learning-by-doing than younger adults (25-34) with similar education and occupational profiles (OECD, 2025[5]). These gaps reflect a both structural barriers (e.g. in terms of cost, time constraints and accessibility) and perceived benefits, such as lower expected returns on training investments later in life (OECD, 2025[2]; OECD, 2025[3]). These perceptions can reinforce a self-perpetuating cycle of under-investment in training and accelerating skill obsolescence (Picchio, 2021[6]).

PIAAC data show that proficiency in literacy, numeracy, and adaptive problem-solving is lower among older adults, scoring lowest across all domains (see Figure 5.2) (OECD, 2024[4]). These patterns, consistent across cohorts and survey cycles (2012-15 and 2023), are especially pronounced among adults with lower levels of education, reflecting changing work environments and opportunities to use and update skills across the life course (OECD, 2025[2]).

Figure 5.2. Older adults reach the lowest average literacy proficiency scores

Average mean score in literacy proficiency, by age group



Note: The results are represented on a 500-point scale. To help interpret the results, the reporting scales have been divided into "proficiency levels": Level 1 ≥ 176 points, Level 2 ≥ 226 points, Level 3 ≥ 276 points, Level 4 ≥ 326 points, Level 5 ≥ 376 points.
Source: OECD (2024[4]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills* 2023, OECD Skills Studies, https://doi.org/10.1787/b263dc5d-en.

StatLink https://stat.link/v2bo6s

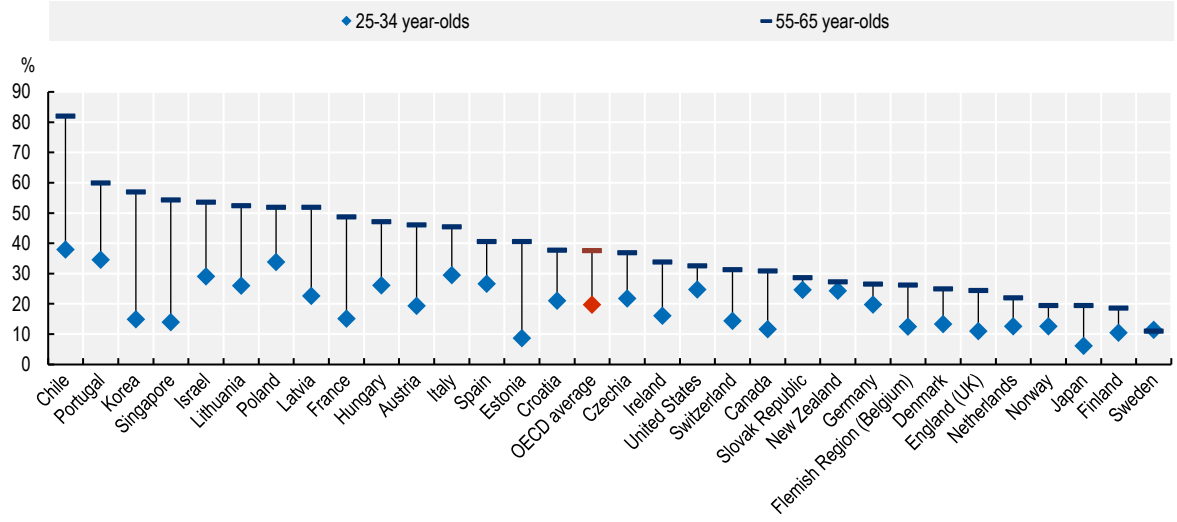
Skill proficiency and participation in adult learning are closely connected. On average, 26% of adults with low literacy proficiency (Level 1 or below) engage in adult learning, compared with 70% of adults at Level 4 or above (OECD, 2024[4]). This makes highly proficient adults more than 2.5 times as likely to participate in formal and/or non-formal education and training. However, adults approaching retirement represent the highest share of adults with low performance, struggling with basic written information, mathematical operations, and everyday problem-solving tasks (see Figure 5.3).

While some decline in cognitive performance is natural, falling proficiency among older adults also reflects fewer opportunities to apply and update skills over the life course (OECD, 2025[2]). Rapid technological change further intensifies this problem, and digital and technical skills depreciate more quickly than in the past (Kim and Park, 2020[7]). This resulting mismatch between demand for fast evolving skills and limited opportunities for reskilling at this age puts older workers – especially the older, less-educated workers in lower-paying, lower-skill jobs – at greater risk of losing their jobs, experiencing income insecurity, and disengaging socially (OECD, 2025[3]). Paradoxically, those most in need of reskilling are often least able to access it. This shows the importance for policymakers of designing policies that combine aspects such as financial incentives, guidance, recognition of prior learning, or employer engagement to help reverse this cycle of low participation and low proficiency.

To support policymakers, this chapter analyses 35 policy approaches from 19 education systems targeting adults aged 55 to 65 based on the Education Policy Outlook questionnaire (See Annex 5.A) and complementary analysis of international evidence to support them as lifelong learners. Where relevant, the chapter also highlights differences from mid-career adults and concludes with some key considerations for future policy development.

Figure 5.3. Older adults represent the largest share of low literacy performers

Percentage of low performers (scoring at Level 1 or below) in literacy proficiency, by age group



Note: Literacy proficiency level at or below Level 1 (Level 1 ≥ 176 points) indicates difficulty with basic written information.
Source: OECD (2024[4]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, OECD Skills Studies, , https://doi.org/10.1787/b263dc5d-en.

StatLink https://stat.link/9vacor

Relevant insights from international evidence

As societies age and working lives extend, enabling older adults to remain active and confident learners has become a central policy priority (OECD, 2022[8]). Besides the many shared elements and policy priorities between late- and mid-career adults, some key priorities specific to adults approaching retirement emerge from international evidence. These insights focus on two complementary levels of action: supporting the learner and strengthening the system.

Focusing on learners

Older adults benefit most from flexible learning opportunities that recognise their diverse experiences and motivations. Evidence shows that self-paced, job-related and work-integrated training is particularly effective (Picchio, 2021[6]). Short, modular, and focused courses aligned with everyday tasks can help enhance both their accessibility and perceived relevance (OECD, 2025[5]; Schirmer et al., 2022[9]).

However, many older workers remain uncertain about the returns to training, which can discourage participation. Targeted incentives, such as subsidies, vouchers, or paid training leave, can help offset direct and opportunity costs. These measures can change perceptions of value and strengthen individual choice and ownership (OECD, 2025[5]). Trade unions and collective bargaining can act as important enablers, helping older workers navigate opportunities and overcome barriers to participation. They do so by

negotiating time off for learning, protecting wages or income during training periods, and providing information, advice and guidance that link learners to suitable providers (OECD, 2025[3]).

Addressing motivational and psychological barriers is equally important. Some adults may underestimate their learning capacity or perceive limited labour-market rewards for upskilling. Others may overestimate their current skills' levels and be unaware of how quickly those skills may become outdated. Communication campaigns can shift these perceptions by emphasising the wider benefits of learning for employability, well-being and engagement in later life (OECD, 2019[10]; OECD, 2025[3]). Entry-level digital training, career guidance, and recognition of prior learning (RPL) can be especially valuable to lower entry barriers, rebuild confidence, and validate skills acquired informally over a lifetime (OECD, 2019[10]; OECD, 2025[5]). Without such recognition, experienced workers risk disengagement despite rich professional knowledge (OECD, 2025[5]).

Taken together, learner-focused measures should aim not only to increase participation but to reframe learning as a source of empowerment, fulfilment and relevance.

Focusing on the system

A coherent system approach is also needed to make late-career learning accessible, relevant and integrated into broader ageing and employment strategies. Flexible, modular and stackable formats, such as micro-credentials, allow older adults to acquire skills incrementally, without the commitment required by longer programmes (OECD, 2023[11]; OECD, 2025[5]). Embedding these within national qualification frameworks can help enhance their recognition and portability, which can also facilitate smoother transitions between jobs or into retirement.

Employer practices are decisive. Age-inclusive human-resource policies – from recruitment and retention to career progression – can counter exclusion and ageism, fostering age-friendly workplaces where lifelong learning is part of the organisational culture (Wilckens et al., 2020[12]; OECD, 2019[10]; OECD, 2025[5]). In several countries, social-partner governance structures, such as tripartite agreements, help ensure that age-inclusive measures are embedded in workplace training and lifelong-learning strategies. Financial incentives for employers, such as tax benefits, subsidies or levy schemes, can further encourage investment in older workers (OECD, 2025[5]), while more indirect measures, such as phased retirement, can also strengthen firms' incentives to invest in older workers' skills (OECD, 2019[10]).

Outreach and coordination strategies also remain essential. Public Employment Services (PES), social partners, and local community organisations, can help older adults identify skill gaps and re-enter employment pathways (OECD, 2025[5]). The Later Life Workplace Index underlines that organisational practices in leadership, health management, knowledge transfer, and retirement transitions all reinforce the learning capacity and well-being of ageing workforces (Wilckens et al., 2020[12]).

When combined, these learner- and system-level approaches foster age-friendly, inclusive lifelong-learning ecosystems that sustain employability and smooth transitions into retirement and support active and healthy ageing and foster social participation.

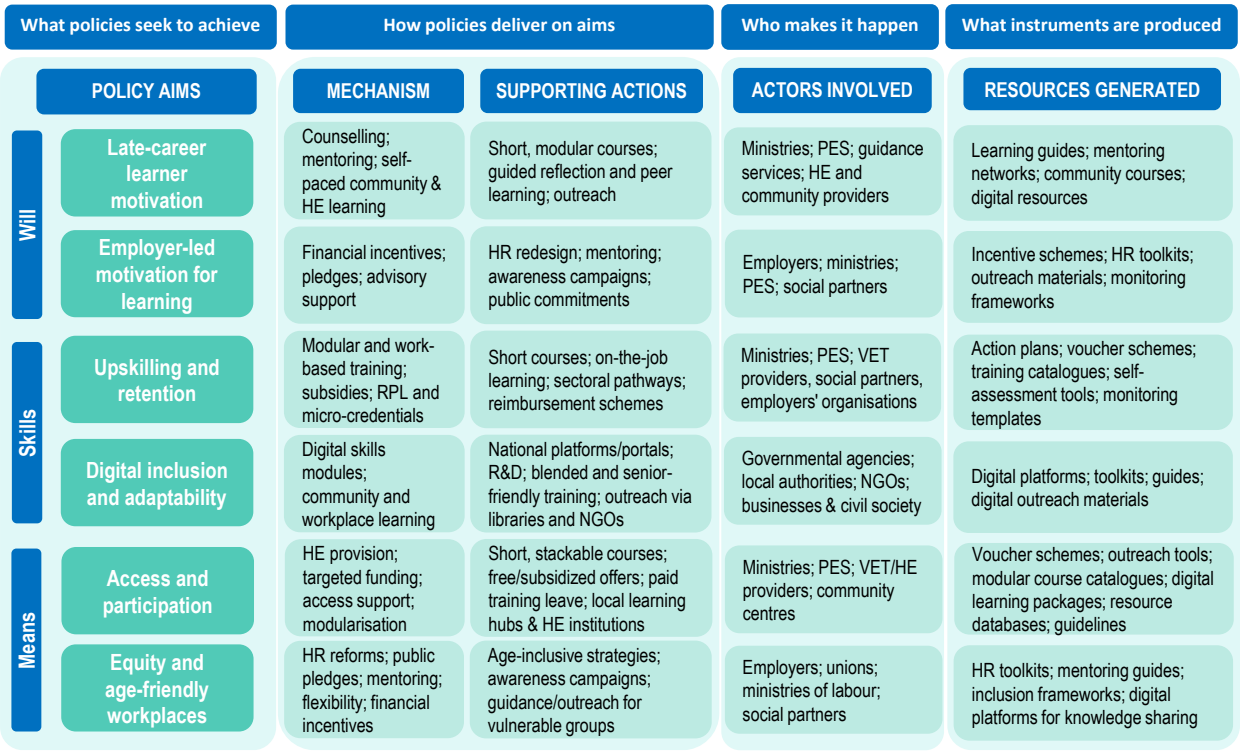
Policies for strengthening the will, skills and means for lifelong learning of individuals approaching retirement

The examples collected for this report show some alignment between international evidence and current policy efforts targeting older adults in participating countries and economies. This chapter explores these initiatives, first by looking into overall strategic design choices for these policies (e.g. mechanisms, scope, actors, resources and tools) to provide a system-level view of how different design choices and delivery arrangements shape implementation capacity. It then groups initiatives by **policy aims** under will, skills and means, allowing policymakers to see how different strategies aim to motivate adults, develop relevant

competencies and expand accessible learning opportunities, and where stronger coordination across these dimensions could make lifelong-learning systems more coherent and effective. These elements are explored in Infographic 5.1.

Infographic 5.1. How policy strategies for late-career adults vary according to their aims

Most common approaches identified according to policy aim (selected categories)



Note: See Annex 5.A for a more complete view on the policies included in this chapter.
Source: Education Policy Outlook (2025): National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation.

Strategic design choices in lifelong-learning policies for adults approaching retirement

This section analyses how countries design policies to sustain learning, employability and social participation in later life. It reviews policy aims, mechanisms and actions, scope and timeline, and actors, highlighting how design choices can align lifelong learning with active-ageing and well-being strategies during this life stage, with benefits extending into older age.

Lifelong-learning strategies for adults approaching retirement build on the same foundations as those for mid-career adults (i.e. flexibility, accessibility and agency) but adapt them to the specific challenges of ageing workforces. As people live and work longer, policy attention is shifting from short-term flexibility towards sustaining employability, purpose and participation throughout later life.

National strategies increasingly seek to balance labour market goals such as productivity, retention and re-employment with broader dimensions of well-being, inclusion, and active ageing. In doing so, countries are beginning to integrate lifelong learning more explicitly into employment, social protection, and health agendas, to help opportunities to learn remain relevant across the span of working life and beyond.

Emerging approaches appear to view learning not only as a means to maintain competitiveness, but also as an investment in resilience, cohesion and intergenerational solidarity, with a focus on helping societies turn longevity into opportunity.

Aims

As in mid-career, access and participation objectives remain core aims, while late-career learning increasingly broadens its purpose beyond professional advancement to include personal enrichment, social engagement, and well-being. Policy strategies seek to lower cost, time and motivational barriers through vouchers, subsidies, modular courses and community learning hubs, recognising the diverse aspirations and capacities of older learners. Some initiatives aim to strengthen older learners' motivation and agency while others encourage employers to invest in lifelong-learning opportunities for older workers.

A growing number of strategies also connect upskilling and reskilling with active-ageing and employment agendas to sustain participation and income security in the labour market. This reflects a shift from promoting flexibility alone to sustaining engagement in the face of skill obsolescence and demographic ageing (OECD, 2025[5]).

A further prominent aim is to promote equity and age-friendly workplaces. Compared with mid-career initiatives, these measures place greater emphasis on organisational culture change and supportive environments that help late-career adults remain active, valued and productive. At the same time, inclusion objectives increasingly extend beyond employment to encompass digital participation and well-being, and to help mitigate digital divides that risk reinforcing social exclusion. In doing so, governments are reframing late-career learning not only as an economic necessity but also as a foundation for dignity, autonomy and civic participation in ageing societies.

Mechanisms and actions

Translating policy ambition into effective delivery mechanisms remains key to sustaining lifelong learning throughout adulthood. While the overall policy architecture resembles that observed at mid-career, several distinct shifts emerge. Late-career mechanisms place greater emphasis on retention, re-employment and motivation, in order to respond to older adults' specific barriers such as lower perceived returns, time constraints and declining confidence (Kim and Park, 2020[7]; OECD, 2025[5]; OECD, 2025[3]).

Across systems, four complementary mechanisms stand out:

- *Financial support and incentives*. Vouchers, subsidies, tax incentives and paid training leave remain the primary levers, but their role increasingly extends beyond encouraging participation to sustaining retention and re-employment. In the Netherlands, training vouchers give older workers choice in learning provision. Sweden offers tax relief and reduced social contributions for workers aged 65 and over, while Austria's Come Back hiring subsidy reimburses employers that recruit older adults. These measures seek to reduce both direct and opportunity costs, reward firms that retain and re-skill older staff, and foster learners' autonomy.
- *Structural flexibility and recognition.* Mechanisms promoting flexible, modular and relevant learning remain central, while they focus more on accessibility and relevance rather than progression (Picchio, 2021[6]). Examples include short, modular, and stackable training (Estonia, England (United Kingdom)), higher education offers (Lithuania, Türkiye, United States), and blended learning platforms (China, Poland, Slovenia). Recognition of prior learning in Estonia and the Netherlands are also efforts to validate informal and experiential skills, strengthening confidence and mobility later in life.
- *Employer engagement and age-inclusive workplaces*. In contrast to mid-career measures where employer engagement centres on aligning skills supply with demand, late-career employer mechanisms prioritise retention, knowledge transfer, and inclusive human resources (HR) systems

(OECD, 2025[5]; Cedefop and Kankaraš, 2022[13]). Policies such as Norway's tripartite Inclusive Workplace Agreement, the United States' American Association of Retired Persons (AARP) Employer Pledge, Slovenia's company-level age-management strategies, and Japan's phased retirement schemes, promote mentoring, flexible hours and gradual transitions between full-time and part-time roles. These mechanisms seek to connect human-resource reform and learning, shifting responsibility for motivation from individuals to systems.

- *Guidance and community anchors*. Behavioural factors, such as low confidence and motivation, weigh more heavily in late careers (Paccagnella, 2016[14]). Guidance, outreach and advisory services help address information gaps, connect older adults to opportunities, validate prior learning, and create social pathways back into learning. England (United Kingdom)'s 50 PLUS Choices programme offers finances, skills and health support through initiatives like the Mid-Life MOT reviews delivered by Jobcentre Plus coaches, who direct jobseekers to relevant guidance and opportunities. The Netherlands' complements voucher schemes with peer network sessions, while higher education institutions and local learning hubs in China (see Box 5.1), Germany, Lithuania, and Türkiye provide trusted and accessible entry points, contributing to reframe learning as an integral part of healthy ageing.

Takeaway

Beyond expanding provision, the effectiveness of late-career lifelong-learning reforms depends on ensuring that financial, structural and motivational levers operate coherently. Policies need to connect incentives for workers and employers with recognition of prior learning, age-inclusive HR practices and accessible guidance.

Box 5.1. China – Mechanisms and actions to support older adults' learning needs

The Open University of China (OUC) established the University for Older Adults (UOA) to promote education for older adults to meet their diverse and individualised cultural and learning needs and to respond positively to population ageing. The UOA provides accessible and diverse learning opportunities for older adults to enhance well-being, social engagement and personal development, supporting China's broader goals for active ageing and lifelong learning.

It operates through four main mechanisms: tailored course content; a national online platform linked to local learning centres; social interaction and peer support; and a specialised team for elderly education and services. Key actions include the development of online and blended learning content; training of facilitators; creation of local learning hubs. Digital courses are delivered through the OUC platform, while community learning centres host in-person activities.

Source: China's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Scope and timeline

Across the policy initiatives analysed, scope (i.e. who it covers) and timeline (i.e. how long a policy runs) emerge as interconnected design choices.

Most of the policies analysed for this chapter operate at the national level and focus explicitly on adults aged 55 and above. More targeted approaches remain limited, particularly those addressing workers in precarious or non-standard employment. Many of these groups continue to be underrepresented in lifelong learning (OECD, 2025[3]).

A smaller number have a regional or institutional scope, such as Türkiye's Sinop University initiative, while employer-based coverage appears only occasionally (e.g. Norway). Sweden has extended eligibility beyond age 66, reflecting longer working lives.

Although formal coverage is relatively homogeneous, operational targeting within this universal framing varies. Some countries delegate delivery to local employment services or sectoral partners, as in Poland and the Netherlands, to tailor implementation to regional labour market conditions. Others differentiate access by labour market status, targeting jobseekers or unemployed adults (Austria, the Netherlands, Poland), or focus on specific vulnerable groups, such as disabled adults or older workers in rural settings (China). Employer, or sector-specific routes, such as small- and medium-sized enterprise-focused (SME) measures in the Netherlands, can also help reach those less likely to engage through mainstream systems.

Timelines generally mirror scope. As for mid-career, broad national schemes tend to be permanent or multi-year (such as in the United States, see Box 5.2), and are often embedded within long-term national active ageing strategies and supported by stable funding. Several initiatives have scaled up from pilots into nationwide offers, such as the Netherlands' Action Plan 50+ Works, or Sweden's tax benefit scheme for older workers. In contrast, targeted and labour market-linked measures are more frequently time-limited, running in five-year cycles or aligned with budget periods. While fixed horizons allow for adaptation and flexibility to changing labour-market needs, they risk discontinuity if not institutionalised or sustained beyond funding cycles.

Takeaway

Late-career learning policies are predominantly national and multi-year in scope. They are often embedded in active-ageing strategies, with targeted or sector-specific initiatives that provide flexibility and innovation but risk discontinuity if not institutionalised.

Box 5.2. United States – Scope and timeline of employment programmes for older adults

The Senior Community Service Employment Program (SCSEP) is a community service and work-based job training programme for older Americans. Established in 1965 and incorporated under the Older Americans Act in 1973, it remains one of the longest running federally funded employment initiatives for older adults. Administered by the U.S. Department of Labor, SCSEP operates nationwide through annual Congressional appropriations.

The programme targets adults aged 55 and over with incomes below 125% of the federal poverty level, particularly those facing barriers to employment. It aims to enhance employability by providing paid community service positions, skill development, and pathways to unsubsidised employment.

SCSEP operates through five pillars: enrolment of eligible participants; placement with community service host organisations; individual employment plans; supportive services and training; and transition support to unsubsidised jobs. Participants gain both digital and non-digital skills through in-person placements and online modules, with additional employment assistance offered through American Job Centres.

Source: United States Department of Labour (n.d.[15]), Senior Community Service Employment Program, https://www.dol.gov/agencies/eta/seniors, accessed 20 October 2025.

Range of actors typically involved

Countries differ in how they distribute responsibilities for late-career learning depending on their governance traditions and institutional capacities. A wide ecosystem of actors contributes to design and delivery, which reflects the close link between lifelong learning, labour-market participation and active-ageing strategies. While many of these actors also play central roles in mid-career learning (including tripartite governance models and union participation, as in Chapter 4), their functions evolve as learning becomes increasingly tied to employability, well-being and social participation in later life.

- *Government ministries and agencies*. Core leadership generally lies with ministries of labour, education and social affairs, supported by specialised governmental agencies and funding bodies. Public employment service (PES) and training agencies are central to implementation, as illustrated by Austria's Public Employment Service (AMS) and Estonia's Unemployment Insurance Fund. These institutions act as gateways connecting older adults to employment opportunities, guidance and training offers, and they are frequently the first point of contact for unemployed or transitioning workers.
- *Employers and social partners*. Tripartite arrangements, as Norway's Inclusive Workplace Agreement and the Netherlands' sectoral pathways, mobilise governments, unions and employer organisations to co-design and co-finance learning. In Slovenia and the United States, employer-led initiatives encourage age-inclusive hiring, mentoring, and workplace training, also in the effort to reinforce motivation and retention.
- *Education and training institutions*. Universities, vocational education and training (VET) providers and community learning centres are key delivery actors, particularly where learning extends beyond work-based settings. In China, Lithuania, and Türkiye, universities of the third age combine education, digital inclusion, and intergenerational exchange, to make learning accessible in later life. In Poland and the German-speaking community of Belgium (see Box 5.3), community-based initiatives and digital outreach programmes seek to widen access and strengthen the social dimension of lifelong learning.

Takeaway

As societies age, policy design for adults approaching retirement requires coordinated action across ministries, employers, and community actors. Beyond delivering learning opportunities, collaboration among these actors is essential to strengthen the social dimension of lifelong learning – ensuring that older adults remain included, connected, and able to participate fully in economic and civic life. This can help build a culture of inclusive lifelong learning that extends into retirement, supporting both individual and societal resilience.

Box 5.3. German-speaking Community of Belgium – actors involved in the Digital Strategy

The Digital Strategy of the German-speaking Community provides orientation and impetus for digital development. Covering the period 2025-2029, it promotes digital competencies at all levels, participatory involvement, individual autonomy, efficiency, co-operation, and value-driven innovation to strengthen infrastructure, competencies, administration, the economy and an equitable digital society.

Implementation is led by the Ministry of the German-speaking Community in collaboration with stakeholders from the education system, business, and civil society. Public administration, transport, educational, cultural and health institutions, as well as associations, benefit from new infrastructures and digital services. Partnerships with local authorities, professional sectors and community organisations seek to support skills development, digital inclusion and citizen engagement.

The strategy marks the start of a broad digital dialogue involving the population, public bodies, businesses and civil society, gathering ideas and proposals across five key areas: infrastructure, competencies, administration, business development and an equitable digital society.

Source: German-speaking Community of Belgium's response to the Education Policy Outlook (2025): National Pre-Filled Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation; Ostbelgien (2025[16]), Digitalstrategie der Deutschsprachigen Gemeinschaft, https://ostbelgienlive.be/desktopdefault.aspx/tabid-8057/13115_read-72149, accessed 20 October 2025.

The following sections build on this analysis by looking more closely at how countries combine these components within specific policy aims. Organised around the three lifelong-learning dimensions (will, skills and means) they highlight how different systems prioritise and connect these aims to support adults' sustained engagement in learning as adults approach retirement.

Fostering will for lifelong learning

As working lives extend and retirement ages rise, sustaining older adults' motivation to learn has become a cornerstone of lifelong-learning policy. This stage of life often brings shifting priorities, including declining confidence and uncertainty about the value of further training. Yet evidence shows that nurturing the attitudes and dispositions that motivate adults to learn, grounded in curiosity, confidence and purpose, can help individuals stay active, adaptable and engaged, both in work and beyond (OECD, 2019[10]; OECD, 2025[5]).

Across systems, few policies targeting this age group place **will** (i.e. the attitudes and dispositions that motivate adults to learn) at the centre of design. Most continue to prioritise skills and means, treating motivation as an enabling condition, or desirable by-product, rather than a policy lever in its own right. As a result, will is often nurtured indirectly through opportunities, incentives and supportive environments rather than being operationalised as an explicit objective.

Where will is prioritised, approaches are typically learner-centred, aimed at rebuilding confidence, self-efficacy and purpose through guided reflection and community-based learning. A smaller set of policies seek to motivate employers to invest in the learning and retention of older workers. In Slovenia, this involves reframing later-life learning as a source of empowerment and relevance by supporting firms to embed mentoring, awareness-raising and age-inclusive HR practices.

The main challenge for policymakers lies in bringing motivation from the margins to the mainstream of lifelong-learning design. While relational mechanisms such as mentoring, reflection and community engagement deepen learners' connection to learning, embedding explicit motivational objectives within

programmes for access, reskilling or active ageing could make will a measurable and sustained policy outcome.

The following sections examine how this motivational dimension unfolds both through learner-focused initiatives that re-engage individuals, and employer-focused measures that embed learning motivation within organisational culture and practice.

Strengthening older learners' motivation to remain active

Policy approaches that explicitly aim to strengthen motivation for older learners are learner-centred by design, emphasising confidence, curiosity and purpose as drivers of engagement. They reflect growing recognition that sustaining lifelong learning in later life requires more than access or affordability. Older adults often face reduced self-belief, perceived limited returns, or entrenched "no-need-to-learn" mindsets, thus also depends on the capacity of systems to rebuild a sense of purpose and relevance (OECD, 2025[5]). These initiatives are often voluntary, community-based, and framed as part of active ageing and well-being.

Examples include China, Germany, Lithuania, Türkiye, and the United States, which established third age universities or learning centres for senior learners with the aim of normalising learning for adults approaching retirement and foster ownership of one's learning journey. These higher education institutions offer flexible, interest-based courses that encourage curiosity and confidence while cultivating growth-oriented mindsets among senior learners.

Other initiatives include the Mid-Life MOT initiative in England (United Kingdom), which offers structured reflection and planning for health, work and financial security in later life, and Poland's Active+ Programme, which promotes social participation and digital inclusion, both creating supportive learning spaces that combine curiosity and confidence with guided engagement and community connection. The Netherlands' Action Plan 50+ network training programme seeks to enhance self-efficacy and agency through structured workshops, peer-to-peer learning, positive reinforcement and building a growth mindset, empowering older adults to reframe learning and take active steps toward re-employment.

- **Mechanisms and actions:** Policies tend to combine relational and flexible mechanisms (counselling, mentoring and reflection-based planning) with community-anchored or higher education provision (e.g. China, Lithuania, Türkiye, United States). Key delivery actions include short, modular or community-based formats (e.g. Netherlands, Poland).
- **Scope and timeline:** Approaches typically operate under national frameworks with localised delivery through VET and HE providers and are sustained through multi-year or permanent strategies to maximise reach, visibility and predictability.
- **Main actors involved:** Policies rely on close coordination between ministries, PES, guidance services and local institutional providers to ensure that older adults can reconnect with learning opportunities regardless of employment status. Employer partnerships feature in England (United Kingdom).

Takeaway

Relational, trust-based engagement can reframe learning as renewal rather than obligation. To sustain motivation, policies need stable coordination, long-term funding and explicit recognition of confidence and agency as learning outcomes.

Encouraging employers to invest in older workers' learning and retention

A smaller set of policies treats will as a system-level responsibility, aiming to motivate employers to invest in learning and retention of older workers. These initiatives recognise that learning motivation in later life is shaped not only by individual confidence or opportunity, but also by workplace culture and organisational support, and later-life learning is seen as both empowerment and organisational renewal.

Examples include Slovenia's Comprehensive Support for Companies for the Active Ageing of Employees programme, which helps firms embed mentoring, awareness-raising and HR development to create age-friendly, learning-oriented workplaces. Poland's Employment Support for Workers Aged 50+ programme combines financial incentives with advisory services and outreach to encourage recruitment, retention and reskilling, strengthening motivation through inclusion and recognition. The Netherlands' Incentive Scheme for Learning and Development (SLIM) encourages SMEs to provide modular, practice-based training and continuous professional development (CPD) in key sectors, while in the United States, the AARP Employer Pledge uses public commitment to promote age-inclusive hiring and support learning through mentoring and flexible arrangements. In England (United Kingdom), the 50 PLUS Choices strategy encourages employers to adopt age-inclusive practices by offering flexible work, retention support and development opportunities for workers aged 50 and over.

Together, these policies show how financial, advisory and normative approaches can align employer practices with active ageing goals and sustain motivation to learn in later working life.

- **Mechanisms and actions:** Range from financial incentives, often as reimbursements, tax credits, or subsidies (e.g. Poland), to public pledges and awareness measures that normalise age-inclusive behaviour (e.g. Slovenia, United States), to early guidance and practical support (e.g. England (United Kingdom)).
- **Scope and timeline:** Policies typically combine national frameworks with voluntary firm participation or social-partner agreements (e.g. US AARP Pledge). Programmes tend to operate in multi-year cycles to allow cultural and HR change.
- **Main actors involved:** Policy objectives depend heavily on the engagement of employers and social partners, both in terms of implementation and cost-sharing. Ministries and government typically provide funds and oversight, while PES match needs to provision.

Takeaway

Employer-centred approaches show that motivation in later life depends as much on individual effort as on organisational culture. Incentives, guidance and visible commitments to age-inclusive practice make learning a shared responsibility.

Developing skills for lifelong learning

Of the three dimensions analysed, **skills** are the most systematically addressed across policies reviewed supporting adults approaching retirement. Most initiatives include provisions for upskilling or reskilling, often combining foundational and digital competences with technical or sector-specific training aligned to labour-market needs.

Employability remains the main rationale underpinning most late-career skill policies. Some countries, such as Estonia, Luxembourg or the Netherlands, link upskilling with recognition systems (RPL) that strengthen confidence and portability, but few explicitly treat skill development as a bridge between work, retirement and civic engagement before and after retirement.

Skills initiatives are often complemented by measures to provide the means to learn, such as via financial support or modular short-cycle delivery, and, more selectively, by initiatives to foster motivation and agency. Examples include state-funded short courses and digital-literacy programmes in Estonia, Latvia, Poland, and China, and health and care-related training in Sweden and Luxembourg to address demographic and labour-market change. Transversal competences, such as communication, teamwork and problem-solving, also feature prominently as enablers of adaptability and retention.

The main challenge for policymakers is to shift from a labour-market lens to a life course perspective on skills. This means connecting upskilling policies with recognition, guidance and motivational support so that late-career adults see learning not only to remain employable, but also as a path to fulfilment, autonomy and social participation. Aligning skills strategies with health, ageing and social policies will be essential to make lifelong learning both sustainable and meaningful in later life.

The following sections analyse late-career skill strategies for promoting upskilling to sustain employability and facilitate transitions; and for advancing digital inclusion and adaptability.

Promoting upskilling and reskilling

Across policies reviewed, late-career upskilling policies typically combine vocational, work-based and modular training to sustain employability and support smoother transitions. Short, stackable courses are often paired with on-the-job learning and targeted financial incentives, often routed through employers, to reflect older learners' needs for self-paced and work-integrated training (Picchio, 2021[6]).

Several countries have expanded public training offers to support re-employment and adaptability. Examples include Czechia's Decree on Retraining of Jobseekers, which funds tailored pathways for unemployed adults; Estonia's VÕTI programmes, offering free or subsidised short courses for adults over 50; and Sweden's transition and retraining support, providing financial aid and guidance for adults moving into new sectors.

Other systems have reinforced employer-driven and sectoral approaches. Luxembourg reimburses firms for staff training through its company-organised learning aid, embedding continuous development in workplace culture. In the Netherlands, the SLIM subsidy and Sectoral Development Pathways encourage SMEs and industry groups to provide modular, practice-based professional development, particularly in care, education, green and digital sectors.

Across systems, recognition mechanisms (e.g. RPL in Estonia and the Netherlands) seek to raise the perceived value and portability of short learning and help late-career adults convert skills gains into labour-market mobility or phased retirement options.

- **Mechanisms and actions:** Policies typically combine vocational and on-the-job training, subsidised upskilling, and fiscal incentives. Mechanisms include short, modular or sector-based courses (e.g. Estonia, Czechia), reimbursement schemes that co-fund company training (e.g. Luxembourg), and subsidies supporting continuous development. Recognition systems (RPL, micro-credentials) in Estonia and the Netherlands focusing on reinforcing portability and perceived value.
- **Scope and timeline:** Policies tend to operate under national frameworks with targeted application, focusing on jobseekers, SMEs, and sectors undergoing transition (e.g. Netherlands, Sweden). Most are time-bound or cyclical, linked to active labour-market policies, while others are permanent mechanisms embedded in continuous learning frameworks.
- **Main actors involved:** Initiatives are typically led by ministries in coordination with PES and social partners. Implementation often involves local VET providers or industry councils to ensure training relevance.

Takeaway

Systems increasingly use short, modular, and work-based formats combined with financial incentives to sustain participation among older workers. Yet, most policies analysed still frame upskilling primarily around employability rather than broader lifelong adaptability. Expanding recognition, portability and guidance mechanisms could help reframe skill development as a lever for active ageing, smoother transitions and purposeful engagement beyond work.

Advancing digital inclusion and adaptability

As societies and workplaces become increasingly digital, the ability to use technology confidently and purposefully has become a precondition for social participation and employability. However, digital divides remain widest among adults approaching retirement, who often face barriers of access, confidence, and perceived relevance. Policies promoting digital inclusion and adaptability therefore aim not only to provide older adults with basic digital skills, but also to foster agency, independence and trust in digital environments. Effective approaches combine technical training with social and motivational support, recognising that late-career learners benefit most when digital learning is practical, community-based and confidence-building.

Across countries, initiatives increasingly blend public, community and workplace channels to reach older adults where they are. Examples include the German-speaking community of Belgium's Digital Strategy, which provides community-level digital-literacy support for older adults, and Poland's Active+ programme, which establishes digital development clubs in libraries and community centres to support seniors' online literacy. Germany's DigitalPakt Alter initiative establishes local 'experience centres' where older adults can explore digital tools, receive one-to-one counselling and join peer-supported workshops, while Latvia offers basic information and communication technology (ICT) training for adults, delivered through public employment services (PES). Similarly, China's senior-friendly online platforms provide tailored digital content and training for older users. These initiatives provide insights on how combining national frameworks with community delivery can be used to enhance accessibility, confidence-building, and practical application of digital tools for everyday life and work.

- **Mechanisms and actions:** Common approaches include entry-level digital modules embedded in work time (e.g. Estonia, Latvia), senior-friendly online platforms that support blended or remote learning (e.g. China), and guided learning plans via public or community services (e.g. German-speaking community (Belgium), Germany, Poland).
- **Scope and timeline:** Most initiatives operate under national programmes but rely on local partnerships to reach disadvantaged groups. Timelines are often multi-year and include equity overlays to ensure inclusive participation (e.g. Poland, China).
- **Main actors involved:** Ministries of education, labour and digital affairs often co-lead with municipalities, libraries, universities, NGOs and local authorities to allocate funding and coordinate provisions.

Takeaway

Digital inclusion in later life is not only a skills issue, but a social participation strategy. Sustained impact depends on combining technical training with motivation, confidence and social connection, so that older adults see digital skills as tools for autonomy, connection and lifelong learning.

Creating the means for lifelong learning

Most policies for adults approaching retirement place a strong emphasis on **means**, understood here as the tangible enablers that make participation possible. These include financial incentives, flexible delivery systems, community learning hubs, and digital infrastructures that expand access to opportunities. This focus is understandable: governments can act most directly on these levers, and they often serve as entry points to engage older learners.

Across systems, a wide range of mechanisms seek to lower cost barriers, strengthen partnerships and improve accessibility. The main challenge for policymakers lies in ensuring that these supports reach not only those already motivated to learn but also those most disconnected. Few strategies systematically monitor participation by age or invest in trainer capacity for age-inclusive pedagogy – gaps that can limit equity and sustainability. The following subsections examine how countries are expanding access and participation and promoting equity and age-friendly workplaces.

Expanding access and participation through vouchers, subsidies, modular courses and community learning hubs

Expanding access and participation is one of the most consistent priorities across the policies analysed for adults approaching retirement. As people live and work longer, participation in learning serves both to maintain employability and to support well-being and inclusion. Yet older adults often face practical barriers such as limited time, financial constraints, and low awareness of available opportunities. To address these, many systems – as seen for the mid-career stage – combine financial incentives, flexible delivery, and community-based provision to make learning both feasible and meaningful.

OECD evidence indicates that policies combining funding and flexible provision within accessible structures are associated with higher participation among adults aged 55 and over (OECD, 2019[10]; OECD, 2025[5]). Financial incentives are common tools to lower cost barriers and individualise choice. Austria's Come Back hiring subsidy supports older jobseekers through wage and training cost subsidies; the Netherlands Action Plan 50+ Works provides learning vouchers that give individuals direct control over training decisions; and Sweden uses employment-conditional tax credits to extend working lives and promote participation among workers aged 65 and older.

Other systems strive to strengthen institutional access through modular, state-funded learning. Estonia's national training programmes offer free or subsidised short and stackable courses through VET and higher education providers to help adults adapt to changing labour-market demands. Community-based models also extend participation beyond employment. The Slovak Republic's National Active Ageing Programme supports informal and intergenerational learning hubs, while universities of the third age in China, Lithuania and Türkiye are in place to provide flexible, low-cost opportunities for continuous learning that blend academic, cultural and social participation. In China, the University for Older Adults connects community education, senior learning, and vocational continuing education, widening access through national digital and local learning networks.

- **Mechanisms and actions:** Policies tend to combine financial incentives (vouchers, subsidies, tax credits) with flexible, modular delivery (e.g. Austria, Netherlands), while free or subsidised short courses expand reach (e.g. Estonia). Community and university-based hubs foster low-threshold access and social participation (e.g. China, Slovak Republic).
- **Scope and timeline:** Policies frequently adopt national/universal coverage but are locally implemented through VET and higher education providers, community centres or higher education institutions (e.g. Austria, China). Measures typically operate on multi-year or permanent horizons to maximise reach, visibility and predictability (e.g. Estonia).
- **Main actors involved:** Ministries of labour and education, public employment services (PES) and funding agencies lead implementation (e.g. Austria, Estonia, Sweden), supported by higher education institutions and community-based actors that provide delivery at the local level (e.g. China, Lithuania and Türkiye).

Takeaway

Expanding access and participation depends on pairing financial flexibility with locally relevant delivery. Incentives such as vouchers and subsidies can lower barriers, but their effectiveness depends on strong community networks, guidance and sustained outreach to reach those least engaged in learning.

Promoting equity and age-friendly workplaces

Policies promoting equity and age-friendly workplaces aim to build the social and organisational conditions that enable late-career adults to remain active, valued and employable. Operating at the intersection of employment policy, organisational culture and lifelong learning, these approaches focus on inclusion, retention and well-being alongside productivity.

Ensuring equity in workplace learning requires addressing disparities in access and participation across groups, and trade unions, through social dialogue and collective bargain, play a key role in identifying inequalities in training delivery and ensuring that learning opportunities are inclusive and accessible. Their engagement is particularly important for underrepresented groups, such as older workers in precarious or non-standard employment or those with negative prior learning experiences, who might otherwise be overlooked (OECD, 2025[3]).

Examples include Norway's tripartite Inclusive Workplace Agreement aimed at reducing early withdrawal and promote flexible, age-responsive HR practices. Slovenia's Comprehensive Support for Companies for Active Ageing, which supports mentoring, awareness, and workplace training. In the United States, the AARP Employer Pledge encourages voluntary age-inclusive employment commitments. Poland's Active+ Programme and initiatives in China seek to extend inclusion beyond workplaces, and to connect employment and intergenerational participation.

- **Mechanisms and actions:** Policies typically combine HR reforms, mentoring and flexible work with public pledges or outreach to normalise age-inclusivity (e.g. Norway, Slovenia, United States). Community and intergenerational initiatives (e.g. Poland, China) seek to connect workplace learning with broader social inclusion.
- **Scope and timeline:** The policies analysed tend to operate under national frameworks with firm-level action through multi-year cycles that support capacity building and organisational change (e.g. Norway, Slovenia).

- **Main actors involved:** Employers, unions and social partners typically share responsibility, supported by ministries of labour and local networks that coordinate implementation (e.g. Norway, Slovenia, Poland, China).

Takeaway

Embedding learning and flexibility within workplace culture strengthens retention and well-being. Lasting progress depends on formal coordination across labour, social and education policies to ensure that age-inclusive practices become systemic rather than project-based.

Considerations for the future

The years approaching retirement represent a decisive stage in the lifelong learning journey. As working lives extend and they prepare to transition into retirement, adults in this age group face growing risks of skill obsolescence, declining confidence and social disengagement, yet also hold critical experience that societies cannot afford to lose. OECD data confirm that participation in learning remains lowest among adults aged 55 and above, even as ageing populations make their continued engagement central to economic resilience, intergenerational solidarity and well-being.

Evidence from policy approaches analysed for this chapter show examples of how countries are connecting lifelong learning with active-ageing and employment strategies. These efforts indicate growing recognition that learning in later life supports not only employability but also health, purpose and social cohesion. However, progress remains uneven, particularly in sustaining motivation, addressing age bias, and building integrated systems that reach those least likely to participate.

Several strengths stand out. Many policies adopt broad national coverage and visibility, signalling political commitment and embedding lifelong learning within national ageing, employment and social strategies. Layered financial support for both workers and employers is another feature that appears promising, particularly when coupled with age-friendly workplace practices and mentoring schemes that strengthen retention (Picchio, 2021[6]; OECD, 2019[10]). Strong social dialogue and collective bargaining can further support equitable access to learning by helping address disparities in participation and ensure responsiveness to workers' and broader labour market needs. Moreover, several systems have increasingly moved to short-cycle, modular and work-integrated learning formats that seek to fit older adults' planning horizons and diverse life situations. These approaches seem to place learner needs, rather than programme structures, at the core of policy design.

At the same time, challenges persist. The policies collected tend to focus primarily on participation and employability but give limited attention to the recognition of prior experience, despite its crucial role for adults with long work histories and limited formal qualifications. Likewise, relatively few strategies seem to explicitly address age bias in recruitment, training and performance assessment, or promote awareness of the productivity and mentoring potential of senior workers. Another blind spot concerns an apparent weaker connection between learning, health and well-being. Despite international evidence showing that integrated lifelong-learning and active-ageing strategies can extend working lives, enhance mental health and reduce social isolation, such links are seldom made explicit in policy design (OECD, 2025[5]; Paccagnella, 2016[14]). Furthermore, persistent data gaps, particularly for older age groups (65+), can limit the evidence base needed to assess longer-term benefits and impacts. Monitoring and evaluation mechanisms also remain underdeveloped in many systems.

Addressing these challenges calls for a more coherent approach across the **will, skills and means** of lifelong learning, ensuring that policies reinforce one another throughout later life.

- **Fostering the will for lifelong learning:** Motivation to learn in later life depends as much on social recognition and organisational culture as on individual aspiration. Policies that embed mentoring, peer learning and community participation can reframe learning as renewal rather than obligation. Yet motivation often remains a by-product rather than an explicit design goal. Future strategies could make confidence, agency and purpose measurable outcomes, supported by stable funding and coordination across guidance, health and employment services.
- **Developing skills for lifelong learning:** Ensuring that older adults acquire skills that are recognised, transferable and meaningful beyond work is essential for sustaining engagement. Modular and short-cycle learning can fit older adults' planning horizons, but only if connected to coherent recognition and quality frameworks. Expanding recognition of prior learning and micro-credentials can valorise experience and enable transitions into mentoring, voluntary or part-time roles after retirement. Aligning skill policies with active-ageing and health strategies can turn upskilling into a pathway for autonomy and well-being, not just employability.
- **Creating the means for lifelong learning:** Financial incentives and flexible, locally anchored provision remain central to widening participation. However, these levers are most effective when combined with community networks and age-inclusive pedagogy that build trust among those least likely to learn. Data show that few systems disaggregate participation by age or evaluate long-term outcomes, limiting their capacity to identify persistent gaps. Strengthening monitoring and investing in trainer capacity for later-life learning will be key to ensuring equity and sustainability.

Next steps for policymakers. To strengthen learning engagement in later life and build lifelong-learning systems that support active and healthy ageing, countries could:

- **Integrate lifelong learning more deliberately** into ageing, employment, health and social strategies to align incentives, resources and accountability across sectors and ensure that public action supports individual and organisational initiative.
- **Foster the meaning and social value of learning in later life** by framing it as a source of purpose, identity and renewal, and by empowering older adults to self-manage their learning, share experience and contribute to social cohesion.
- **Promote age-inclusive workplaces** that embed mentoring, flexible work and intergenerational knowledge transfer within organisational culture and HR reform.
- **Institutionalise recognition of prior learning and micro-credential frameworks** to valorise experience and support smoother transitions beyond work, including into mentoring, voluntary or part-time roles after retirement.
- **Expand outreach, guidance and community learning hubs** to provide accessible, trust-based environments that help older adults identify learning goals and rebuild confidence among older adults least likely to engage in training.
- **Enhance data collection and evaluation** to track participation and outcomes by age and life stage.

Embedding these priorities can help countries reframe late-career learning from a short-term activation measure into a long-term investment in resilience, dignity and intergenerational cohesion – ensuring that lifelong learning continues to enrich societies well beyond working life.

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Annex 5.A. List of policy approaches

A list of policies reviewed for approaching retirement can be found below.

Annex Table 5.A.1. List of policies for approaching retirement

System	Year	Policy title	Links to further information provided by education systems
OECD countries			
Austria	1998	"Come Back" hiring subsidy	Link 1 Link 2 Link 3 Link 4 Link 5
Czechia	2004	Decree on Retraining of Job-seekers and Employees (Decree No. 519/2004)	Link
Estonia	2009	State-Commissioned Short Courses	Link 1 Link 2
	2002	Expansion of Education and Training Measures in Active Labour Market Policies (ALMPs)	Link 1 Link 2 Link 3
	n.d.	Lifelong Learning Strategy 2021–2027	Link 1 Link 2
Germany	n.d.	DigitalPakt Alter	Link 1
	n.d.	U3L - Universitäten des Dritten Lebensalters, Seniorenstudium, Gasthörerstudium, Seniorenakademien	N/A
Japan	2002	Lifelong Learning Promotion Act	Link 1 Link 2
Latvia	2021	Education Development Guidelines 2021-2027	Link 1
	2024	Individual Learning Accounts Platform Stars	Link 2
Lithuania	2025	Public Support for Third Age Universities	Link
Luxembourg	n.d.	Financial Aid for In-Company Continuing Vocational Training	Link
Netherlands	2013	Action Plan 50+ Works - Network Training (Netwerk training "Succesvol naar werk")	Link 1 Link 2 Link 3
	2013	Action Plan 50+ Works - Training Vouchers (Scholingsvouchers)	Link
	2023	Sectoral Development Pathways (Sectorale Ontwikkelpaden)	Link
	2023-2027	Programme Learning Culture (Programma Leercultuur)	N/A
	2020-2029	SLIM-regeling (Stimuleringsregeling Leren en Ontwikkelen in het MKB)	Link 1 Link 2 Link 3
Norway	2001	Inclusive Workplace Agreement (IA-avtalen)	Link 1 Link 2 Link 3 Link 4

System	Year	Policy title	Links to further information provided by education systems
Poland	2014	Employment Support for 50+	Link 1 Link 2
	2021	Active+ (Aktywni+) programme (2021–2025)	Link
	2023	The Programme for Development of Digital Skills	Link
Slovak Republic	2025	National Active Ageing Program for 2021 - 2030	N/A
Slovenia	n.d.	Comprehensive Support for Companies for Active Ageing of Employees Programme	Link
Sweden	2007	Tax Reductions for Workers over 65-year-olds	Link 1 Link 2
	2022	Student Finance Scheme for Transition and Retraining	Link 1 Link 2
Türkiye	2019	University of the Third Age (Üçüncü Yas Üniversitesi)	Link 1 Link 2 Link 3
United States	n.d.	AARP Employer Pledge Program	Link 1 Link 2
	2002	Osher Lifelong Learning Institutes	Link
	1965	The Senior Community Service Employment Program (SCSEP)	Link 1 Link 2 Link 3
Other economies			
German-speaking Comm. (Belgium)	2023	Mission Statement 2040 (Leitbild): Education and Lifelong Learning for Everyone	Link
	2024	Digital Strategy	Link
England (United Kingdom)	n.d.	50 PLUS Choices (previously, Fuller Working Lives - FWL)	Link 1 Link 2
Partners and/or accession countries			
China	2015	University for Older Adults (UOA)	Link
	2016	Development Plan for Elderly Education (2016-2020)	Link
	2021	Action Plan for the Development of Smart Health and Elderly Care Industry (2021-2025)	Link
	2024	Opinions on Developing the Silver Economy to Enhance the Well-being of the Elderly	Link

Source: Education Policy Outlook: Short National Questionnaire for Comparative Policy Analysis: Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Education Policy Outlook 2025

Nurturing Engaged and Resilient Lifelong Learners in a World of Digital Transformation

Lifelong learning is essential for building inclusive, resilient and future-ready societies. Yet, rapid digitalisation and demographic shifts are changing how, when and why people learn throughout life. This report explores how countries and economies can strengthen individuals' agency as lifelong learners, supporting people to take an active role in identifying, acquiring and applying new knowledge and skills across diverse contexts. It views lifelong learners as individuals who mobilise their will, skills and means to keep learning and adapting.

The report identifies four critical life moments when individuals are particularly open to learning – or at risk of disengagement – and when well-targeted policy support can make the greatest difference: early childhood, mid-to-late adolescence, mid-career and approaching retirement. Drawing on analysis of 230 policies across 35 education systems, as well as international evidence and policy developments, the report explores how countries design and implement lifelong learning policies. In doing so, the report aims to support countries in advancing the goals set by the 2022 OECD Declaration on Building Equitable Societies Through Education.

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