



European
Commission

Education and Training Monitor 2019

United Kingdom



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Volume 2 of the Education and Training Monitor 2019 includes twenty-eight individual country reports. It builds on the most up-to-date quantitative and qualitative evidence to present and assess the main recent and ongoing policy measures in each EU Member State. It therefore complements other sources of information which offer descriptions of national education and training systems.

Section 1 presents a statistical overview of the main education and training indicators. Section 2 briefly identifies the main strengths and challenges of the country's education and training system. Section 3 focuses on teachers and challenges of teaching profession. Section 4 looks at investment in education and training. Section 5 deals with policies to modernise early childhood and school education. Section 6 discusses measures to modernise higher education. Finally, section 7 covers vocational education and training, while section 8 covers adult learning.

The Education and Training Monitor 2019 was prepared by the Directorate-General for Education, Youth, Sport and Culture (DG EAC), with contributions from the Directorate-General of Employment, Social Affairs and Inclusion (DG EMPL) and the Eurydice Network. DG EAC was assisted by the Education and Youth Policy Analysis Unit from the Education, Audiovisual and Culture Executive Agency (EACEA), Eurostat, Cedefop and the JRC's Human Capital and Employment Unit, Directorate Innovation and Growth. The Members of the Standing Group on Indicators and Benchmarks (SGIB) were consulted during the drafting phase.

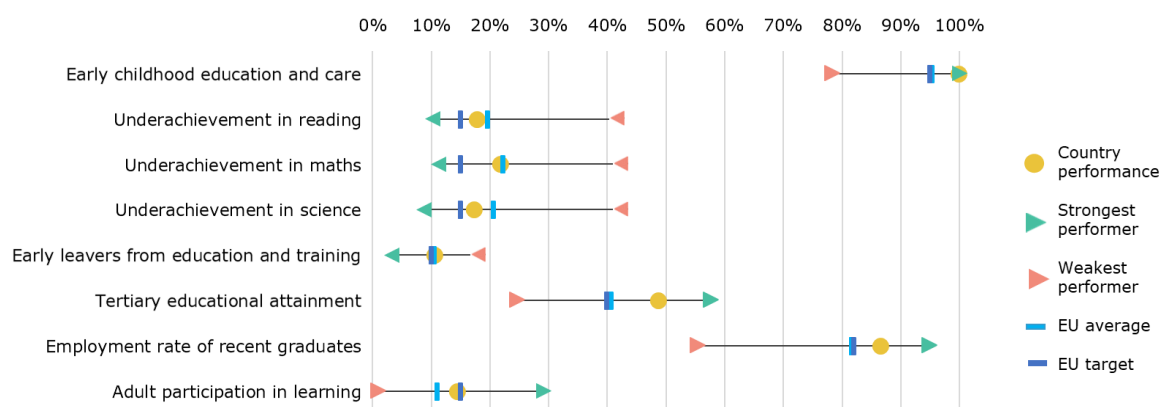
*The manuscript was completed on 26 August 2019.
Additional contextual data can be found online (ec.europa.eu/education/monitor)*

1. Key indicators

		United Kingdom		EU average	
		2009	2018	2009	2018
Education and training 2020 benchmarks					
Early leavers from education and training (age 18-24)		15.7%	10.7%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		41.4%	48.8%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		97.3%	100.0% ¹⁷	90.8%	95.4% ^{17,d}
Proportion of 15 year-olds underachieving in:	Reading	18.4%	17.9% ¹⁵	19.5%	19.7% ¹⁵
	Maths	20.2%	21.9% ¹⁵	22.3%	22.2% ¹⁵
	Science	15.0%	17.4% ¹⁵	17.7%	20.6% ¹⁵
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	80.1%	86.7%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	20.7%	14.6%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	0.8% ¹⁷	:	3.6% ¹⁷
	Credit-mobile graduates (ISCED 5-8)	:	3.3% ¹⁷	:	8.0% ¹⁷
Other contextual indicators					
Public expenditure on education as a percentage of GDP		6.2%	4.6% ¹⁷	5.2%	4.6% ¹⁷
Education investment	ISCED 0	€7 895 ¹²	€5 833 ¹⁶	:	€6 111 ^{15,d}
	ISCED 1	€7 498 ¹²	€8 140 ¹⁶	€5 812 ^{12,d}	€6 248 ^{15,d}
	ISCED 2	€7 688 ¹²	€7 945 ¹⁶	€6 937 ^{12,d}	€7 243 ^{15,d}
	ISCED 3-4	€7 458 ¹²	€7 997 ¹⁶	:	€7 730 ^{14,d}
	ISCED 5-8	€18 217 ¹²	€17 294 ¹⁶	€10 549 ^{12,d}	€11 413 ^{15,d}
Early leavers from education and training (age 18-24)	Native-born	16.3%	11.0%	13.1%	9.5%
	Foreign-born	11.6%	8.9%	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	41.9%	46.5%	33.1%	41.3%
	Foreign-born	39.6%	55.7%	27.7%	37.8%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	74.9%	83.1%	72.5%	76.8%
	ISCED 5-8	84.2%	88.4%	83.8%	85.5%

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre from UOE data. Further information can be found in Annex I and in Volume 1 (ec.europa.eu/education/monitor). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, := not available, 12= 2012, 14= 2014, 15 = 2015, 16= 2016, 17 = 2017.

Figure 1 Position in relation to strongest and weakest performers



Source: Calculations by the European Commission's Directorate-General for Education, Youth, Culture and Sport (DG EAC), based on data from Eurostat (LFS 2018, UOE 2017) and OECD (PISA 2015).

2. Highlights

- Efforts are being made to tackle the high proportion of teachers leaving the profession.
- In England, academies are growing in number, but many are facing financial pressures.
- The consequences of Brexit for UK higher education are unclear but policy responses to address the potential loss of EU research funding and reduced student inflows will be needed.
- England will introduce new qualifications as part of ongoing reforms of upper secondary VET.

3. A focus on teachers

Teachers in the United Kingdom are comparatively young. About 80% of teachers in early childhood education are below the age of 50, one of the youngest workforces in the EU. The proportion is 85% in primary schools (EU average 68%) and 78% at secondary level (EU average 61%). The gender balance is close to the EU average for all educational levels.

Teachers' working conditions place heavy demands. At 26 pupils, the average class size in primary schools is the highest in the EU (EU average 21) (OECD, 2018). Pupil-teacher ratios at lower and upper secondary levels are also among the highest in the EU, with 15.2 and 17.2 pupils per teacher respectively, compared with an EU average of 12.2 for both. In addition, teaching time is far above the EU average. In Scotland it is among the highest in the EU, with 855 teaching hours per year in 2017 for all levels, compared to EU averages of 633 hours in upper secondary, 665 in lower secondary, and 754 in primary (OECD, 2018). One explanation for this is the comparatively short school holidays. In England, lower secondary teachers report that they work 47 hours a week, the highest working time across EU countries participating in the OECD Teaching and Learning International Survey (TALIS)¹, of which 20 hours are devoted to teaching (OECD, 2019).

Salaries are slightly below the EU average. Teachers in England earn about 20% less than average tertiary-educated workers in pre-primary and primary, and 10% less at secondary level. Teachers in Scotland at all levels earn on average 17% less than similarly educated workers. On average in the EU, upper secondary teachers earn the same as tertiary-educated workers, and lower secondary teachers 7% less. School leaders in England are comparatively better paid, with secondary school leaders earning more than twice the average for tertiary-educated workers (the EU average is about 40% more). Primary school leaders are also above the EU average (earning 48% more, EU average 21%). In Scotland, the differential is 28% at all levels (OECD, 2018). Salary progression from minimum to maximum statutory salary for lower secondary teachers in England, Wales and Northern Ireland is close to the EU average of 64%, but in Scotland is well below the EU average at 33% (European Commission/EACEA/Eurydice, 2018).

¹ In 2018, 23 Member States participated in TALIS: Austria, Belgium fr, Belgium nl, Bulgaria, Croatia, Cyprus, Czechia, Denmark, England (UK), Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. TALIS 2018 covers lower secondary teachers and school leaders in mainstream public and private schools.

Figure 2 Working time of lower secondary teachers in comparison with actual salaries of those teachers relative to earnings of tertiary-educated workers, 2016-2018



■ Total working hours per week (2018) ◆ Actual salaries of teachers relative to earnings of tertiary-educated workers (2016)

Source: OECD, Education at a Glance 2018, Table D3.2, and OECD, TALIS 2018 Results, Table I.4.12. Notes: ratio of salary, using annual average salaries of teachers in public institutions relative to the earnings of full-time, full-year workers with tertiary education. Working time is self-reported. *Country-specific notes: FR, IT, NL, LT: Reference year for earnings of tertiary-educated workers is 2014. CZ, FI, BE: Reference year for earnings of tertiary-educated workers is 2015.

The number of teachers leaving the profession keeps increasing, and is a policy concern.

The proportion of teachers who left state-funded schools in England for reasons other than retirement was 8.3% in 2017, an increase of 2.5 pps since 2012 (Department for Education (DfE), 2018a, Table 7b). Workload is the reason most often cited for teachers leaving the profession (Sims, 2017). In the 2018 TALIS, although they were more positive than the EU average in terms of how their profession was valued in society (28.8%, EU average 17.7%), only 77.5% of teachers in England reported that they were satisfied with their job, the lowest result in the EU (EU average 89.5%) (OECD, 2019). In 2010-2018, 4 152 secondary school teachers in the UK sought formal recognition of professional qualifications for the purpose of permanent establishment within the EU Member States, EEA countries and Switzerland², a higher number than any other professional group, and a big increase on the 2 207 applications lodged in 2001-2009.

The government has flagged teacher recruitment and retention in England as a priority.

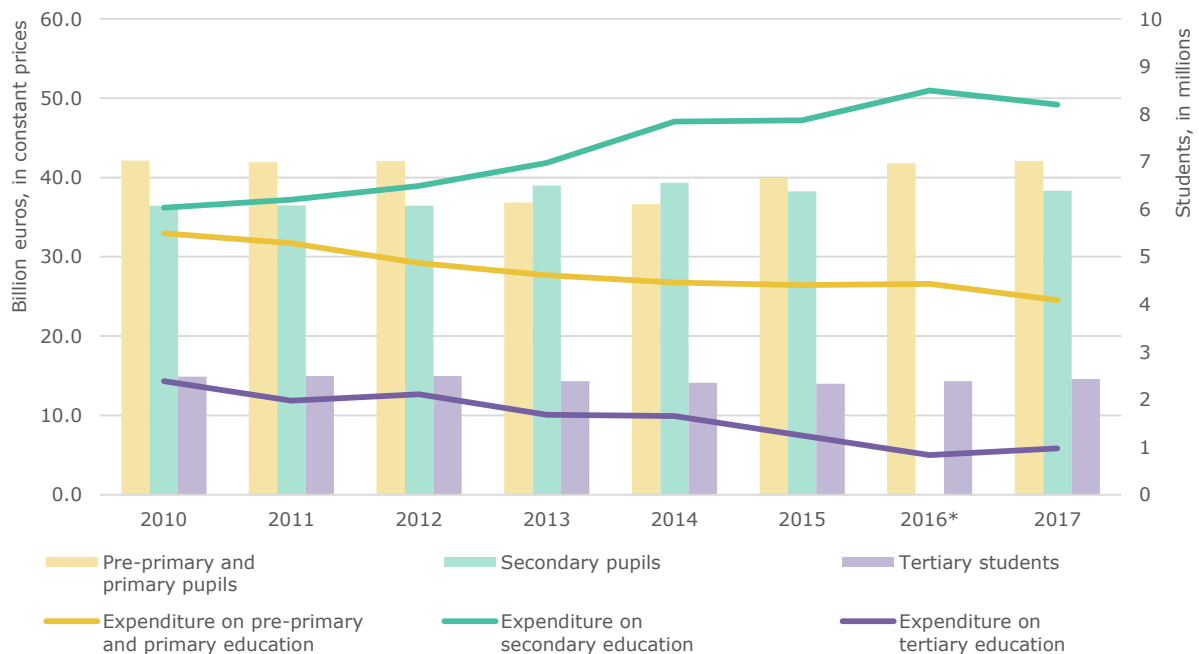
Authorities aim particularly to reduce departures during teachers' early careers, since 'over 20% of new teachers leave the profession within their first two years of teaching, and 33% leave within their first five years' (DfE, 2018a). A teacher recruitment and retention strategy has been developed together with teachers, head teachers, representative bodies and initial teacher training providers. The strategy includes pay increases to teachers each summer between 2018 and 2020. The 'Early Career Framework' aims to tackle the issue of teachers leaving the profession in the first few years. Early career teachers will be entitled to a fully-funded, two-year package of structured support, including funding and a guaranteed 5% off timetable in the second year of teaching, and training and support by mentors (DfE, 2019a).

² European Commission, Regulated professions database, <http://ec.europa.eu/growth/tools-databases/regprof/index.cfm>

4. Investing in education and training

UK's general government expenditure on education continues to fall, but remains close to the EU average. With a total budget of EUR 104 billion spent on education (a 2.3% decrease in real terms from the previous year), the UK allocates 4.6% of its GDP to education, the same as the EU average. This represents 11.3% of total general government expenditure, a fall of 0.3 pps. from 2016, but still above the EU average of 10.2%. Expenditure per pupil has fallen much more rapidly, by 13.4% in real terms in 2009-2016, reflecting the 10% increase in total pupil numbers in the same period. It is still comparatively high at primary level, at EUR 8 140 in purchasing power standards (PPS), comparable with Scandinavian countries. At secondary level, however, it is below the level of comparable countries, at EUR 7 945 and EUR 7 997 respectively for lower and upper secondary. The government spends 25% of the education budget on intermediate consumption (the purchase of goods and services by government), which is the highest proportion in the EU. It spends only 47.2% on compensation to employees (EU average 62%).

Figure 3 Evolution of expenditure and number of students per education level



Source: DG EAC calculations based on Eurostat, COFOG and UOE data. Online data codes: *gov_10a_exp*, *nama_10_gdp*, *educ_uae_enra01* and *educ_enr1tl*. Notes: *2016 data for number of students in secondary education is not available. Number of students is expressed in millions on the right-hand axis; real government expenditure per level of education is expressed in billion euros on the left-hand axis, valued at constant prices using the implicit deflator for final consumption of the general government.

5. Modernising early childhood and school education

A third (33.2%) of children aged under 3 attended formal early childhood education and care (ECEC) in the UK in 2017. This is slightly below the EU average (34.2%), and represents a fall by almost 2 pps compared to the previous year. On the other hand, practically all children aged between 4 years and the starting age of compulsory education participate in ECEC.

The lack of resources in ECEC has worsened. Expenditure per pupil in ECEC fell from EUR 9 042 in 2012 to EUR 6 836 in 2016. The current level of spending per child of EUR 5 833 in PPS is far below Germany (EUR 8 529 in PPS) or Scandinavian countries (EUR 10 513 in PPS for Sweden). The pupil-teacher ratio grew from 17.6 pupils per teacher in 2014 to 23 in 2017, by far the highest rate in the EU³.

³ Eurostat, UOE, 2017. Online data code: *educ_uae_perp04*

Several policy initiatives have been taken in ECEC. The Scottish government launched its 'Leadership of early learning' programme in April 2019, which provides professional learning to school leaders in ECEC. Wales has a successful 'Flying start' programme⁴. Authorities in England have been rolling out the 30 hours of free childcare entitlement to three and four year olds children of working parents. Since 2017 the program has delivered support for over 600 000 children and was evaluated a success for families benefiting from it (DfE, 2018b). However, a review by a parliamentary committee concluded that funding was inadequate to deliver this commitment fully (NDNA, 2018).

Early school leaving varies between regions and populations. Overall, the rate of early school leaving (ESL) is at the EU average (10.6%) in 2018. Uniquely among EU countries, it is higher for native-born than foreign-born (2 pps difference). Among pupils born outside the EU, this rate falls to 6%, whereas the EU average for this group is 20.7%. The rate varies strongly by region, from 6% in London to almost 14% in the East of England. There is no major difference between Scotland, Wales, Northern Ireland and England. Wales, through its 'Youth engagement and progression framework', succeeded in reducing its ESL rate by 4.1 pps between 2013 and 2017 and at the same time has reduced the share of students not in employment, education or training (NEET)⁵.

In England, there is rising concern about the financial viability of academies. Academies are publicly funded independent schools which don't have to follow the national curriculum and can set their own term times. They're run by an academy trust which employs the staff and some academies have sponsors such as businesses, universities, other schools, faith or voluntary groups. About 8 600 of the more than 20 000 state schools in England have become academies (DfE, 2019b). However, the financial viability of many of them is in question, as surveys suggest that half of academies are accumulating debts, and 7.7% of trusts show cumulative deficits for 2018 (Kreston Academies Group, 2019).

Also in England, the rise in the number of school exclusions is worrying. The latest government statistics showed that schoolchildren were permanently expelled on 7 900 occasions in 2017/18, a rise of 3% compared to 2016/17, and the highest level since 2008/09 (DfE, 2019c).

In 2019, the Welsh government announced the content of the school reform to be implemented from 2022 to 2026⁶. This reform comprises a new curriculum, the introduction of a digital competence framework and more freedom in teaching. This comes along with a more rigorous inspection by the Inspectorate for Education and Training in Wales (at least twice in a 7-year period)⁷. Unions support this reform, but regret that teachers were not more involved in the consultation process⁸.

Scotland is addressing equity and poverty issues with the Scottish Attainment Challenge. GBP 750 million (EUR 840 million) has been dedicated to addressing socio-economic disadvantage and improving literacy and numeracy among disadvantaged children. A further GBP 120 million (EUR 135 million) will be available through the Pupil Equity Fund to schools with high numbers of children registered for free school meals⁹.

UK pupils' digital literacy skills fell back. According to a study by the University of Roehampton (Kemp & Berry, 2019), information and communication technology (ICT) skills have dropped: additionally, the number of hours of computing/ICT taught in secondary school dropped by 35.8% from 2012 to 2017. Meanwhile, the Department for Education announced the creation of the first ever National Centre of Computing Education. That centre will help improve teaching of the computing curriculum and is supported by a new programme which will train up to 8 000 computing teachers on the latest digital skills¹⁰.

⁴ See: <https://familypoint.cymru/flying-start-wales/>

⁵ See: <https://gov.wales/youth-engagement-and-progression-framework-implementation-plan>

⁶ See: <https://gov.wales/new-school-curriculum-overview>

⁷ See: <https://www.estyn.gov.wales/inspection>

⁸ NASUWT responds to draft curriculum for Wales, 7 May 2019, <https://www.nasuwt.org.uk/article-listing/nasuwt-responds-to-draft-curriculum-for-wales.html>

⁹ See: <https://www.gov.scot/policies/schools/pupil-attainment/>

¹⁰ See: <https://www.gov.uk/government/news/schools-minister-announces-boost-to-computer-science-teaching>

6. Modernising higher education

The higher education system remains one of the best in the EU and the world. UK higher education institutions (HEI) retain their reputation for global excellence, with no less than seven universities in the Top 50 of the Global QS Employability Rankings of HEIs¹¹. The tertiary educational attainment rate increased slightly to 48.8% in 2018 (52.0% for women). This is one of the highest rates in the EU. Access by students from low socio-economic backgrounds to higher education in England is still difficult (DfE, 2018c). Despite some efforts from top universities to ensure greater openness, diversity and inclusion at university level remain a policy concern¹².

Tertiary educational attainment is, unusually, higher among foreign-born than native-born. This can be at least partially explained by the great attractiveness of UK higher education: inward mobility in 2016 resulted in over 200 000 mobile graduates, of which 47 600 originate from other EU countries; this is a third of all mobile graduates in the EU. International students contributed GBP 11.9 billion (EUR 13 billion) to UK education exports in 2016. The Department for Education (DfE) and Department for International Trade (DIT) announced the launch of a new International Education Strategy in March 2019 which included an ambition to increase the number of international students to 600 000 by 2030 (DfE and DIT, 2019) and diversify the country of origin of students in favour of emerging economies, in particular China, India, and countries from South East Asia and Africa (Hinds, 2019). The reasons for this include the spending potential of those students, the anticipated falling age cohort of young Britons and the potential impact of Brexit on inflows of EU students.

Outward mobility remains low among tertiary students. Only 3.3% of graduates in 2017 undertook credit mobility during their studies, and 0.8% went abroad to take their whole degree. The UK government has started to address this, with the launch of the 'UK strategy for outward student mobility 2017-2020', which aims to double the number of students undertaking international placements as part of their higher education programmes (Universities UK (UUK), 2017).

Box 1: Universities UK International (UUKi) and promoting outward student mobility

UUKi's 'strategy for outward student mobility' aims to double the percentage of UK-domiciled, full-time first-degree students who undertake international placements as part of their higher education programmes to just over 13% of students by 2020.

UUKi's 'Go International' programme helps implement the strategy by working with different stakeholders (UK HEIs, the Erasmus+ National Agency for the UK, sector agencies, careers services, employer representatives, UK government, overseas governments and professional, statutory and regulatory bodies).

Stakeholders have expressed concerns about the impact of Brexit on the UK's higher education and research. The Welsh government has expressed its concerns about a drop in funding linked to the end of access to European structural and investment funds. The UK government has announced a UK Shared Prosperity Fund to help compensate for this cut and has expressed its openness to continue participation in Horizon 2020 and Erasmus+. Universities UK has stated that a 'no deal' exit from the EU would be bad for their students, researchers and its 136 member universities (UUK, 2019). The House of Lords has emphasized the importance of securing association to the EU programmes, warning that it would be a challenge to try to replicate their benefits at a national level (House of Lords, 2019).

In England, the level of tuition fees is under review. The government-commissioned independent panel report on the review of post-18 education and funding, known as the Augar review, presented in May 2019, recommended a reduction of tuition fees to a maximum of GBP 7 500 (EUR 8 400) a year, with the shortfall to be bridged by additional grant funding (UK Government, 2019). However, universities fear that this would cause difficulties in their financial

¹¹ QS, Graduate Employability Rankings 2019. <https://www.topuniversities.com>

¹² See: <https://www.educationopportunities.co.uk/>

planning¹³. Meanwhile, the UK Government has increased the annual fee caps and maximum fee loans for accelerated degree courses (those that are completed at least one year sooner than their standard equivalents) for the 2019/2020 academic year, with the aim of incentivising wider provision and uptake of these courses (DfE, 2018d). The objective is to decrease the amount of the tuition fees and living costs for students. Meanwhile, the gap between future earnings of postgraduate and undergraduate degree holders is widening while the 'graduate earnings premium' is decreasing. The differential in median salaries between young graduates (age 21-30) and non-graduates decreased by GBP 1 500 (EUR 1 638) since 2017 whereas the gap between those of graduates and postgraduates increased by GBP 1 000 (EUR 1 092) (DfE, 2019d).

Student mental health remains a preoccupation. NHS England is working closely with UUK via the 'Mental health in higher education' programme, and announced a particular focus on mental health of young adults through prevention and early intervention in their long term plan released in January (NHS, 2019).

7. Modernising vocational education and training

Vocational Education and Training (VET) has become more attractive. In 2017, 1.3 million new students entered formal VET programmes, an increase of almost 8% on 2016. The enrolment rate in upper secondary VET remains below the EU average (46.6%, EU average 47.8%). The employment rate of recent VET graduates in 2017 increased slightly to 84.2% (82% in 2016), above the EU average of 79.5% in 2018.

In 2018, policy developments in England included a strong investment in the further education (FE) sector. The FE Commissioner role has been expanded and strengthened since it was established in 2013. The 'National Leaders of Governance' and 'National Leaders of Further Education' initiatives were launched to share expertise between colleges across the country. A new innovative funding scheme, the Strategic college improvement fund, launched in 2018 for a period of 2 years, allocates GBP 15 million (EUR 17 million) for funding partnerships between top colleges and ones in need of improvement, to share best practices and drive up standards. Building on the 2016 Post-16 skills plan, and as part of a reform of upper secondary VET qualifications in England, a new technical qualification called T level, equivalent to three A-levels, will be introduced as of September 2020 in specific sectors (digital industry, construction industry, education and childcare) for learners after the general certificate of secondary education (GCSE) exam.

Campaigns around the UK aim to make VET more attractive. In Scotland, a new TV campaign was launched in November 2018 to raise the profile of colleges as first training options, and to assist national recruitment activities. A national apprenticeship network has also been launched. It targets former and current apprentices willing to engage in networking activities and share their experiences, in the hope of inspiring others to enrol in apprenticeships. In Wales, the 'The answer is apprenticeship' campaign aimed at youth (including NEETs) and their parents ran in summer 2018, to publicise the benefits of apprenticeships for gaining skills and qualifications needed to start a career.

Box 2: Graduate Apprenticeships as part of the Developing Scotland's workforce strategic intervention

Graduate apprenticeships provide a new way into degree-level study for individuals who are currently employed, or who want to go straight into work. Employees can equip themselves with higher levels of academic learning and industry accreditation, which helps them progress as professionals. By investing in their staff through such apprenticeships, employers can develop their workforce and help staff develop their skills to industry and professional standards.

14 of Scotland's universities and colleges will be delivering Graduate Apprenticeships, in 12 subject areas including ICT/Digital, Cyber Security, Data, Civil Engineering, Engineering, Construction and Business. Graduate Apprenticeships as part of the 'new work based learning models operations' have a combined budget of GBP 20.6 million (EUR 23.1 million), with support from the European Social Fund of GBP 8.5 million (EUR 9.5 million) in Phase 1 of delivery to December 2018.

¹³ 'Tuition fee cut will send universities into crisis, leading vice-Chancellors warn'. Daily Telegraph, Published November 23. <https://www.telegraph.co.uk/education/2018/11/23/tuition-fee-cut-will-send-universities-crisis-leading-vice-chancellors/>

8. Developing adult learning

Adults in the UK are more likely to frequently update their knowledge and skills. 14.6% of adults aged 25-64 have had a learning experience in the past 4 weeks, (EU average 11.1%). Of adults aged 25 or above, 151 328 acquired an upper secondary qualification in 2017. UK adults are on average better educated than their EU counterparts: 80.4% of adults have acquired at least an upper secondary qualification, compared with the EU average of 78.1%. However, the proportion of low-qualified adults in employment in the UK is high, at 65.7% compared with the EU average of 56.8%. This is excessive, given the low number of jobs requiring such qualifications, and highlights the need for a more substantial upskilling and reskilling effort. In this context, the Council of the European Union addressed a country specific recommendation to the UK in 2019 calling on it to 'focus investment-related economic policy on [...] training and improving skills' (Council of the European Union, 2019).

National initiatives to promote adult learning are emerging. In England, a national initiative 'Taking teaching further'¹⁴, was launched in 2018 for a pilot period of 2 years. It aims to raise the profile and attractiveness of the further education teaching profession to attract highly experienced industry professionals from key industry sectors to teach full or part-time. To increase the attractiveness of the construction sector – which has experienced skills shortages and a productivity gap in recent years – a GBP 22 million (EUR 25 million) construction skills fund was launched in June 2018 in England¹⁵. A digital skills partnership was set up in 2018 by the UK Department for Digital, Culture, Media and Sport, which supports implementation of the UK digital strategy in England. Skills advisory panels are being formed to provide information on skills needs and challenges in specific sectors and areas across England. In Scotland, the science, technology, engineering and mathematics (STEM) bursary programme 2018-19, an initial teacher education support scheme, was funded by Skills Development Scotland¹⁶. In Wales, a GBP 10 million (EUR 10 million) skills development fund was launched in September 2018 to support skills provision in areas where job-specific skills gaps have been identified by regional skills partnerships. The 'Inclusive apprenticeship action plan 2018-2021' also feeds into the Wales employability plan¹⁷.

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¹⁴ See : <https://www.et-foundation.co.uk/supporting/support-teacher-recruitment/taking-teaching-further/>

¹⁵ See : <https://www.gov.uk/government/news/22m-fund-launched-to-boost-construction-skills>

¹⁶ See : <https://www.gov.scot/publications/science-technology-engineering-mathematics-education-training-strategy-scotland/>

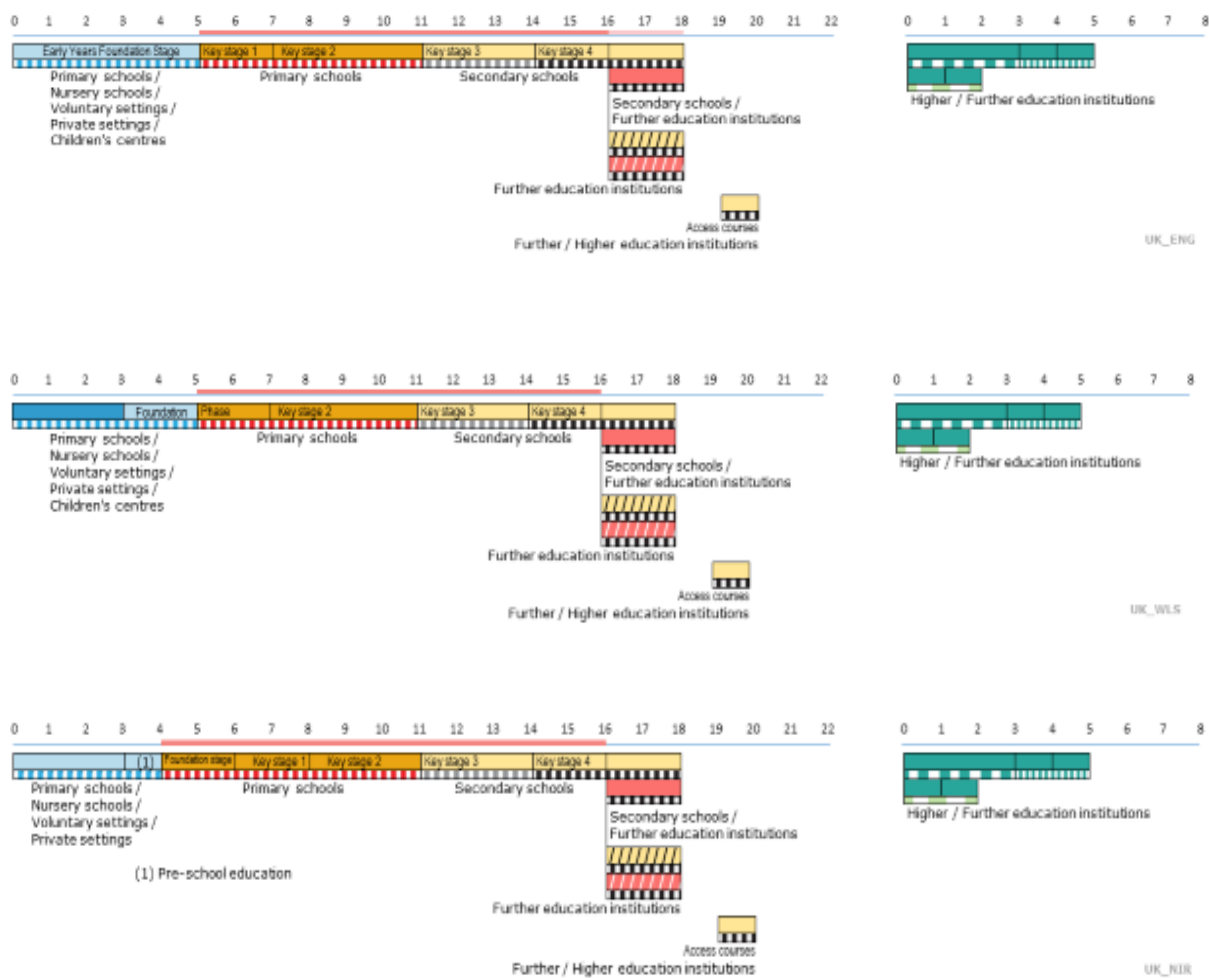
¹⁷ See : <https://gov.wales/sites/default/files/publications/2018-11/inclusive-apprenticeships-disability-action-plan-for-apprenticeships-2018-21-1.pdf>

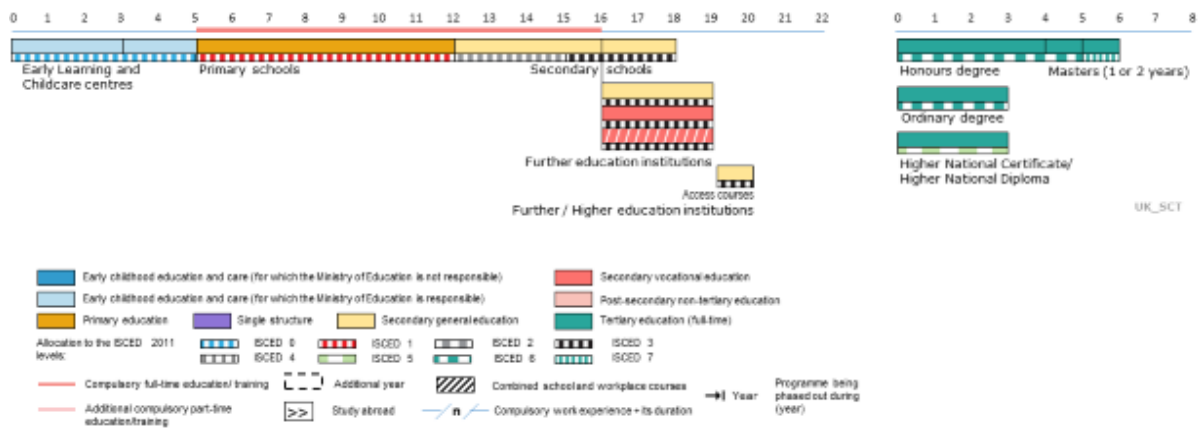
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Annex I: Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_14 + edat_lfse_02
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
Underachievement in reading, maths, science	OECD (PISA)
Employment rate of recent graduates	edat_lfse_24
Adult participation in learning	trng_lfse_03
Public expenditure on education as a percentage of GDP	gov_10a_exp
Expenditure on public and private institutions per student	educ_uoe_fini04
Learning mobility:	
- Degree-mobile graduates	JRC computation based on Eurostat / UIS / OECD data
- Credit-mobile graduates	

Annex II: Structure of the education system





Source: European Commission/EACEA/Eurydice, 2018. The Structure of the European Education Systems 2018/19: Schematic Diagrams. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

Comments and questions on this report are welcome and can be sent by email to:

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Highlights of the cross-national analysis

Among all factors in the school environment, teachers are considered to have the greatest impact on students' learning outcomes. At the same time, more than 60%¹⁸ of public expenditure in education in the EU is spent on teachers. Any policy effort seeking to improve educational outcomes – or the efficiency of education and training – is bound to take a close look at the role of teachers and look for ways to help teachers excel in their demanding profession. New evidence from the OECD TALIS survey sheds more light on teachers. The recent survey data inform the 2019 Education and Training Monitor, which contains a dedicated analysis of school teachers in the EU. Being a unique source of information on teachers' motivations, lifelong learning and careers, the new evidence from TALIS 2018 can help policy-makers harnessing the full potential of teachers by preventing and addressing challenges.

After the teacher-dedicated part, the 2019 Monitor sets to analyse the existing targets adopted by the Council of the European Union under the strategic framework for European cooperation Education and Training 2020 ('EU benchmarks'). This part of the report presents latest data on participation in early childhood education and care; early leaving from education and training; tertiary educational attainment; underachievement in basic skills; employment rate of recent graduates; adult learning; and learning mobility in higher education. Next, the 2019 Monitor offers analysis on education indicators used in other well-established or emerging priorities, including entrepreneurship education; digital education; multilingualism. The report concludes with a section analysing public investment in education and training.

At the core of learning: the teachers

Across the entire EU, education systems are confronted with a number of challenges relating to teachers. Several countries already face or are about to face shortages of teachers, either across the board or in particular subject areas (typically science, technology, engineering and maths); or in particular geographical areas. In view of the proportions of teachers aged 50 or plus, the 23 EU countries participating in TALIS 2018 will have to renew about one third of their teaching population in the next decade or so. At least five EU countries will have to renew around half of their secondary school teachers in the same period (Italy, Bulgaria, Lithuania, Estonia, Greece and Latvia; and the same applies to primary school teachers in the former three countries).

Successfully renewing the teachers' population requires acting upon key factors such as the number of students deciding to embark on teacher education, the number of new teachers starting in the job and the number of teachers stopping to work. To address this challenge, there is a need to improve the attractiveness of the profession and offer good working conditions for sustained professional activity.

According to survey data, only 18% of lower secondary school teachers in the EU consider their profession as valued by society; and their proportion lowers with longer years of teaching experience. Similarly, the share of teachers would still choose to work as teachers, declines significantly, in several EU countries, among more experienced teachers. Overall, there is a specific challenge in attracting men into teaching; and particularly so for primary and pre-primary education, where the proportion of female teachers reaches 85% and 96% respectively.

Salaries of teachers do not always compare favourably to salaries of other equally qualified professionals. Among EU countries with available data, in four countries (Czechia, Slovakia, Italy and Hungary) teachers at all education levels earn less than 80% of what other tertiary-educated workers do. In most Member States, primary (and especially pre-primary) teachers earn less than secondary level teachers. In secondary education, teachers' statutory salary tends to be higher at upper-secondary level than at lower-secondary level.

There are also shortages of teachers with specific profiles. Nearly 40% of principals in lower secondary schools in the EU declare that the shortage of teachers teaching students with special

¹⁸ DG EAC calculation on Eurostat's general government finance statistics, reference year 2017 ([gov_10a_exp](#)).

needs hinders the quality of instruction at their school. Principals also point to shortages of teachers who have competences in teaching in a multicultural or multilingual setting (the largest shortages are in France, Italy and Portugal); and competences in teaching students from socio-economically disadvantaged homes (largest shortages in France, Italy, and Portugal). This second type of shortage is driven by change (technology; diversity in classrooms) and points to a need to improve training (initial and continued).

Furthermore, against an evolving technological and demographic background, teachers need new skills more than ever, including for dealing with cultural and linguistic diversity in the classroom, teaching in a technology-rich environment, and adopting collaborative teaching practices. While 92% of teachers report regular participation in professional development, 21% of them declare a further need for training on teaching students with special needs; 16% report a further need for training on the use of information and communication technology (ICT) for teaching; and about 13% report a further need for training in teaching in multilingual and multicultural environments.

Growing participation in education and educational attainment: main achievements in the last decade

In the last decade, the EU experienced a massive increase in tertiary educational attainment and met its target of having at least 40% tertiary graduates in the 30-34 year-old population – up from 32% in 2009. Despite this increase, there are clear patterns of inequalities in educational attainment. For example, on average, women's tertiary educational attainment (45.8%) is higher than men's (35.7%) – and the gap has been continuously increasing over recent years. Typically, women complete tertiary education earlier than men do. Also, young adults born in the reporting country or elsewhere in the EU, graduate more than their peers from non-EU countries (41.0% against 35.8% respectively). Yet, an overview of policy measures to broaden tertiary educational attainment shows that less than half of EU countries set specific targets to support participation in higher education of under-represented groups, such as, for example, people with disabilities, migrants or students from disadvantaged background.

The attendance of children from the age of 4 in early childhood education has expanded, and is, by now, almost universal. There are also high rates of participation in early childhood education by children from the age of 3. Yet the 90% participation rate for the general population decreases to 77.8% in the group of children at risk of poverty or social exclusion. Experiencing education in the early years of life has been found to be beneficial for better learning outcomes later on in life, and particularly so for children from socio-economically disadvantaged homes. The challenge of ensuring equal access to education in the early years needs to be addressed.

Since the EU cooperation framework in education and training started in 2009, the proportion of young adults leaving education and training without obtaining at least an upper secondary qualification has considerably reduced. Nonetheless, at EU level this process came to a halt after 2016. Comparing 2016 and 2018, there was progress on this indicator in large countries such as Spain or Poland, as well as in other countries such as Romania, the Netherlands and Portugal. However, this was countered by negative developments in other countries – for example, Italy, Sweden, Denmark, Slovakia, and Estonia (in descending order by size of population). Furthermore, in the past 2 years, early school leaving rates increased for both young adults born in the EU (between 2016 and 2017) and those born outside (between 2017 and 2018). Reducing early leaving remains a priority and a target of the EU, as those who leave education and training before obtaining an upper-secondary diploma will struggle with lower employment rates and lower rates of participation in adult learning.

The main challenge for the next decade: improving learning outcomes at school, and increasing adult participation in learning

Participation in education can be measured by data on enrolments, qualifications, or performance test. The latter show that reducing the number of underachieving 15-year-olds to meet the EU

target of less than 15% by 2020¹⁹ remains a challenge, particularly for pupils from disadvantaged socio-economic backgrounds. Failing to achieve basic mathematics, reading or science tasks at the age of 15 impacts on individuals' chances to continue studying, find and maintain employment later in life, cope with fast-paced technological change, and develop as citizens. Between 2012 and 2015, the EU has actually moved further away from meeting this target. Approximately one fifth of pupils in the EU cannot complete basic reading tasks, and the share is slightly higher for science and maths (2015 data). Despite less favourable or sometimes adverse background conditions, around a quarter of socio-economically disadvantaged pupils born in another country are considered academically resilient. Individual factors associated with higher resilience include high academic expectations, and not repeating grades; while disengagement from school (for example skipping classes, and abusing substances) has a negative association with resilience. At school level, the use of school evaluations, connecting the students' test results to teachers' performance, adequate provision of study rooms and being surrounded by pupils with higher socio-economic status are all factors correlating positively with resilience.

Over the years, there has been limited growth in the share of adults participating in education and training during the last 4 weeks in the EU – from 9.5% in 2008 to 11.1% in 2018. In addition, in practically in all EU countries people with little or no qualifications in education – those most in need of access to learning – are the least likely to benefit from it. Age and educational attainment matter when it comes to adult participation in learning. Young adults (25-34) are more than four times more likely to participate in learning as those aged 55-64. Similarly, those with a tertiary degree are more than four times more likely to participate in learning than those holding at most an upper-secondary diploma.

Developing competences for future life and employment

Research has long established the positive outcomes of being able to study abroad. Transnational learning mobility is associated with future mobility, higher earnings, and lower risk of unemployment. 'Making learning mobility a reality for all' is one of the objectives of the European Education Area²⁰. In 2017, 11.6% of higher education graduates 'were mobile', meaning that they studied partially or entirely abroad. About 8% of them were abroad for short-term periods, while 3.6% graduated in another country. The Erasmus+ programme supported about half of the short-term study periods spent abroad by EU graduates. Overall, Luxembourg, Cyprus, the Netherlands, and Finland (in descending order) have high shares of mobile graduates. As to inward mobility, capturing the volume of students coming into a country for a period of study, it can be read as a measure of the attractiveness of the education system. On this indicator the United Kingdom leads the way – both in percentage of inward graduates and in absolute numbers.

There are a number of key competences (or combination of knowledge, skills and attitude) that can support an individual's life chances and also easier transition to the labour market and career job prospects. For example, participation in entrepreneurship education increases the likelihood of engaging in entrepreneurial activities later in life by 35% on average. Of this 35%, a 7 percentage point increase is due to improved self-perceptions by participants of their entrepreneurial skills. However, available data show that participation in entrepreneurship education in the EU is mostly optional, and only a handful of countries make it compulsory.

Furthermore, the potential of digital technologies in improving educational practices is being held up by challenges that education systems still face. To successfully undergo digital transformation, schools need to support teachers' digital competence for pedagogical use, design innovative pedagogical approaches, and provide digital equipment as well as better connectivity. Capacity

¹⁹ Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

²⁰ In November 2017, EU leaders met in Gothenburg to discuss the social dimension of Europe, including education and culture. As part of the debate on the Future of Europe, the Commission set out its vision and concrete steps to create a European Education Area by 2025. One of the main objective of the European Area of Education is 'making mobility a reality for all', by building on the positive experiences of the Erasmus+ programme and the European Solidarity Corps and expanding participation in them, as well as by creating an EU Student Card to offer a new user-friendly way to store information on a person's academic records. Other measures to boost mobility under the European Education Area include initiating new processes to ensure the mutual recognition of diplomas; improving language learning; creating a network of European universities; and supporting teachers and their mobility.

building for digital assessment needs to be implemented for learners, teachers, schools and education systems.

Moreover, speaking several languages can increase individuals' employment prospects. Overall in Europe, between 2005 and 2015, the number of pupils who experienced compulsory language learning grew both in primary and secondary education. As to the former, 83.7% of primary school children learned at least one foreign language in 2014, against 67.3% almost a decade before. At lower secondary level, 59% of pupils learned two languages in school in 2015, against 46.7% in 2005.

After reaching the lowest point in 2013 (75.4%), the employment rate of recent graduates has been continuously increasing in the EU. With 81.6% in 2018, the rate is now close to the pre-crisis 2008 level of 82%. However, some countries still suffer from the effects of the crisis on employability of recent graduates – in particular Greece and Italy, where employment rates of recent graduates are around 55%. As compared to secondary graduates holding a vocational qualification, those with a general orientation qualification have a less easy transition into the labour market (66.3% against 79.5%). The employment rate of tertiary graduates was at 85.5% in 2018.

Public investment in education

In 2017, EU Member States invested, on average, 4.6% of their gross domestic product (GDP) in their education systems. This proportion has been slightly but continuously decreasing in the last few years, down from 4.9% in 2014. On average, EU countries spend about one third of their public expenditure for education on pre-primary and primary education; 41% on secondary education; and 15% on tertiary education. Looking at different education sectors, real expenditure on secondary and post-secondary education decreased (-1.3%, between 2016 and 2017) and increased in pre-primary and primary education (+ 1.4%), as well as tertiary education (+ 1.7%). So far trends in education expenditure have been largely independent from demographic developments, with the partial exception of expenditure on tertiary education. Due to the predicted school-age population decline in many EU countries, even constant spending on education is likely to result in an increase in spending per student.

Highlights of the country analysis

Austria

To avoid teacher shortages, Austria needs to attract enough students into initial teacher education and improve continuing professional development. Investment in higher education aims to improve the study environment. Improving digital competence is a priority in the education and training system. Discontinued recent reforms may weaken efforts to integrate students with migrant backgrounds and to improve education outcomes of students from a socially disadvantaged background.

Belgium

The Flemish Community (BE fl) will implement reforms at all levels of education, including dual learning, starting in September 2019. The French Community (BE fr) will also implement school reforms, starting with changes to governance, then the new extended common curriculum and reforming initial teacher education from September 2020. Education spending in Belgium is among the highest in the EU, but educational outcomes are comparatively low, suggesting room for increased efficiency and effectiveness. To reduce inequality and improve outcomes, teachers need more support to manage diversity in the classroom. Tertiary educational attainment is high but disparities remain between regions and groups.

Bulgaria

The modernisation of the education and training system continues while quality, labour market relevance and inclusiveness remain challenging. Demographic trends and rising skill shortages suggest that Bulgaria needs to invest better in the skills of its current and future workforce. The need to upskill and reskill the adult population is high while participation in adult learning is low. The status of the teaching profession is low, and the teacher workforce is ageing. Salaries are being increased as a means to boost the attractiveness of the profession. Steps have been taken to increase the labour market relevance of vocational education and training (VET).

Croatia

Pilot implementation of curricular reform and ambitious preparations for full implementation are under way. Reforms are under way in vocational education and training. Participation in early childhood education and care is held back by shortages of teachers and places. Plans to expand the very short average instruction time could help to improve low education outcomes.

Cyprus

The teaching profession is highly attractive. Reforms to upgrade it are promising but need to be sustained and expanded. Reforms are implemented to foster high-quality public early childhood education and care. However, provision is insufficient for the early years. Tertiary education attainment has risen further but underutilisation of skills remains a challenge given the specific features of the Cypriot labour market. Measures have been taken to upgrade vocational education and training and adult learning, but attractiveness of both sectors and participation in them remain low.

Czechia

Czechia continues to make vocational education and training more relevant to the needs of the jobs market. Authorities are making good use of EU funds to support reforms. Inclusive education is progressing but measures targeted at Roma remain limited. The attractiveness of the teaching profession remains low.

Denmark

Changes to university education are making it more flexible and labour market friendly, but the need for more STEM graduates remains. The number of apprenticeships has been increased and measures are being taken to promote adult learning. Reduced education spending is having an impact on schools and universities. There is considerable local variation in the education performance of young people from migrant backgrounds.

Estonia

Estonia is developing an education strategy for 2021-2035, aiming to bring gradual changes to the system to respond to changes in the labour market and society. Due to demographic trends and

the limited responsiveness of the education and training system to labour market needs, aligning skills supply and labour demand remains a challenge. The ageing of the teaching population coupled with the low attractiveness of the teaching profession are a long-term challenge for the functioning of the education system. Participation in adult learning has reached a record high but the need for upskilling and reskilling remains high.

Finland

While teaching is a prestigious and attractive profession, there are teacher shortages for kindergarten and special needs education. There has been some growth in education inequalities, and spending on education has fallen. New policy measures aim to improve the quality, effectiveness and internationalisation of higher education. Demand for graduates in Information and Communications Technology (ICT) is high and difficult to meet. Implementation of vocational education and training reform is ongoing, and reforms are planned to foster adult learning.

France

Work continues on improving educational outcomes and reducing inequalities, with support for teaching staff and funding measures. A new law on education extends the length of compulsory education and training to 3-18. Authorities are faced with the challenge of combining the rapid pace of reforms with the need to consult stakeholders to ensure good ownership and optimal impact. Implementation of the vocational education and training reform is in full swing.

Germany

Germany has announced significant investments in digitalisation, higher education and research in the decade ahead, but as well in school education. Germany is preparing for fundamental change in the skills of its workforce by carrying out digital initiatives and by refocusing the system of adult learning. The teaching workforce is aging and Germany faces a challenge to replace a large number of teachers. Young people from disadvantaged socio-economic and/or migrant backgrounds continue to lag behind in educational attainment.

Greece

The teaching profession is highly attractive in Greece but opportunities and incentives to improve professionalism are lacking. Education expenditure is lower than in most EU countries and largely spent on salaries. Early school leaving has been further reduced, particularly in rural areas. Finding employment after education remains difficult, including for highly qualified people. Measures to tackle the brain drain of tertiary graduates are being implemented but internationalisation of Greek universities is underdeveloped.

Hungary

Recent measures have raised the qualification levels of staff in early childhood education and care. Measures to reduce performance gaps between pupils have been strengthened. Admission conditions for entry to higher education have been made more restrictive. A new medium-term strategy aims to modernise vocational education and training and adult education.

Ireland

Ireland has a strong framework to ensure highly qualified teachers and further plans to meet emerging needs, including teacher shortages. Early school leaving has continued to decline, and participation in early childhood education and care is to be supported by new national schemes. Despite increased public spending on education, investment in higher education has not kept up with rising student numbers. Ireland implements initiatives aimed at upskilling and increasing adult participation in learning and training but the numbers of low-skilled adults in the population remain sizeable.

Italy

Italy invests well below the EU average in education, particularly in higher education. The share of teachers satisfied with their jobs is among the highest in the EU, but only a small share believe that theirs is a valued profession. Compulsory work-based learning in vocational education and training could help provide more structured training for apprentices and ease the transition from education to work. The level of tertiary educational attainment is low, and the transition from education to work remains difficult, even for highly qualified people.

Latvia

Latvia has already met and exceeded its Europe 2020 education targets. Latvia should achieve further improvements in learning outcomes through the new competence-based curriculum, a stronger individual approach to students at risk and support for inclusion of students with special educational needs. Enrolment in vocational education and training (VET) is increasing and the employment rate of VET graduates is improving, although both remain below the EU average. In higher education, a gradual increase in investment and incremental changes in quality assurance are welcome, but the sector remains fragmented and international competitiveness low.

Lithuania

Current trends in student population and teacher workforce call for a comprehensive strategy to manage teacher supply and demand. Improving key competences and relevant skills remains a priority at all levels. Further development of monitoring and evaluation systems may help improve the quality of education and training. Measures have been put in place to increase the education system's overall efficiency, but further efforts are needed to ensure their implementation. Policy measures to address low participation in adult learning are lacking.

Luxembourg

In 2018, more flexible entry requirements for the recruitment competition for early childhood and primary education teachers attracted more candidates. Pupils' performance is heavily influenced by their ability to cope with the trilingual system. A reform of the orientation process at the end of primary education may have stopped a trend whereby many pupils were being guided to the lowest track in secondary education. Employment rates among recent graduates from all types of education are significantly higher than the EU average.

Malta

Work is underway to improve the quality of teaching and the attractiveness of the profession. Improving the quality of investment in education and developing monitoring and assessment are key challenges. Increased participation in early childhood education and care and the new secondary system may help reduce the number of early school leavers. While participation in tertiary education is increasing, its labour market relevance is still a challenge.

Netherlands

The early school leaving rate is below the Europe 2020 national target but has slightly increased. The Netherlands faces an increasing shortage of teachers, both in primary and secondary education. The 2019-2022 Quality Agreements aim to improve the quality of vocational education and training. Dutch tertiary education increasingly attracts foreign students.

Poland

Early school leaving continues declining and participation in early childhood education and care among children under 3 remains low. The higher education reform has been launched, bringing major changes to the functioning of higher education institutions. Implementing the 2017 school system changes is causing organisational, financial and curricular challenges. Further challenges relate to teachers' pay, emerging shortages, and initial and continuing training. Participation in adult learning remains low.

Portugal

Teachers are satisfied with their jobs, but the ageing teacher population, the high proportion of non-permanent staff and weaknesses in induction and continuing professional development remain challenging. Investment to upgrade infrastructure is insufficient, particularly for early childhood education and care in metropolitan areas. Regional disparities in education outcomes, grade repetition and early school leaving rates are improving. Tertiary educational attainment has grown but business demand for ICT specialists exceeds supply. There is a significant proportion of low qualified adults while participation in adult learning remains low.

Romania

Concrete ideas have been presented for major reform of the education and training system. Clear steps need to be taken for the implementation of the reform. Public spending on education is low in EU comparison, while the sector's investment needs are high. Any major reform is likely to require additional funding linked to stronger equity and efficiency mechanisms. Better support for teachers – in particular by redesigning initial teacher education and strengthening continuing professional

development – can help improve quality and equity. Efforts were made to expand dual education. Participation in adult learning remains low despite the high need for upskilling and reskilling.

Slovakia

Slovakia is improving early childhood education and care, which is particularly positive for children from deprived families. Slovakia is taking a more strategic approach to lifelong learning, upskilling and reskilling. The early school leaving rate has continued increasing since 2010, approaching 14% in Eastern Slovakia. Investment in education and training is insufficient, and this is reflected in teachers' still low salaries despite recent increases.

Slovenia

Enrolment in early childhood education and care is approaching the EU benchmark. The proportion of Slovenian upper secondary students enrolled in vocational education and training is one of the highest in the EU, and the employment rate of such graduates is high. There are enough new entrant teachers but large numbers are approaching retirement and shortages already exist in certain categories. Tertiary educational attainment is high, but the differences between men and women and the native-born and foreign-born population are large.

Spain

The teaching profession is attractive, but working conditions differ among regions and between public and private education systems. Private spending in education is significant, while public spending is static compared to GDP. Planned reforms, reflecting political uncertainties, have been slowed down. The process to modernise vocational education and training is ongoing. Adult participation in education is slowly rising.

Sweden

Tertiary educational attainment and graduate employment rates are high. The population's digital skills are among the best in the EU. There is a serious teacher shortage, and a large number of teachers lack formal qualifications. School segregation and inequality are serious and growing concerns.

United Kingdom

Efforts are being made to tackle the high proportion of teachers leaving the profession. In England, school academies are growing in number but many are facing financial pressures. The consequences of Brexit for UK higher education are unclear but policy responses to address the potential loss of EU research funding and reduced student inflows will be needed. England will introduce new qualifications as part of ongoing reforms of upper secondary VET.

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