



European  
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# Education and Training Monitor 2019

## Finland



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EUROPEAN COMMISSION

# **Education and Training Monitor 2019**

Finland

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.*

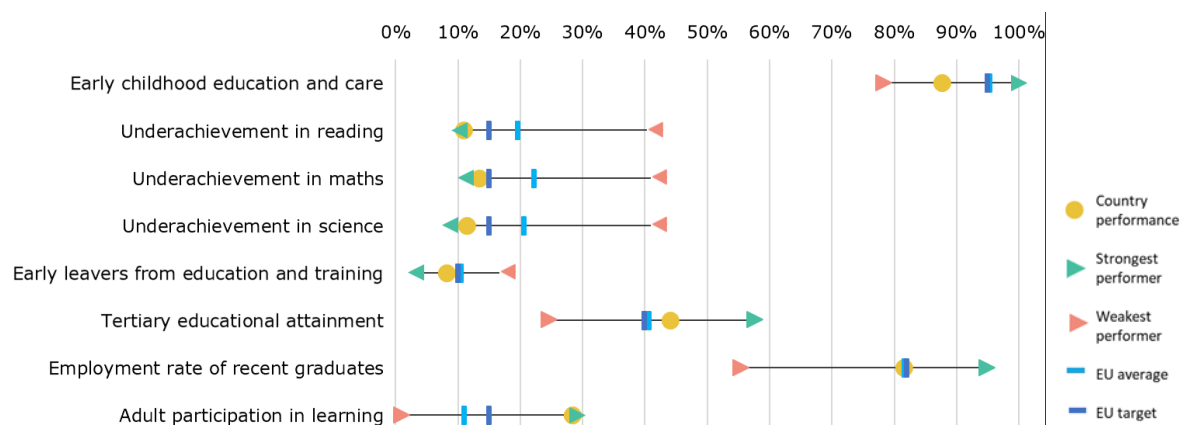
*The manuscript was completed on 26 August 2019.  
Additional contextual data can be found online ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor))*

## 1. Key indicators

		Finland		EU average	
		2009	2018	2009	2018
<b>Education and training 2020 benchmarks</b>					
Early leavers from education and training (age 18-24)		9.9%	8.3%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		45.9%	44.2%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		71.9%	87.8% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading	8.1%	11.1% <sup>15</sup>	19.5%	19.7% <sup>15</sup>
	Maths	7.9%	13.6% <sup>15</sup>	22.3%	22.2% <sup>15</sup>
	Science	6.0%	11.5% <sup>15</sup>	17.7%	20.6% <sup>15</sup>
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	77.8%	81.7%	78.3%	81.6%
	ISCED 0-8 (total)	22.1%	28.5%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	3.8% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)	:	15.2% <sup>17</sup>	:	8.0% <sup>17</sup>
<b>Other contextual indicators</b>					
	Public expenditure on education as a percentage of GDP	6.5%	5.7% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
Education investment	ISCED 0	€8 822 <sup>12</sup>	€9 326 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
	ISCED 1	€6 347 <sup>12</sup>	€6 873 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
	ISCED 2	€9 853 <sup>12</sup>	€10 943 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
	ISCED 3-4	€6 563 <sup>12</sup>	€6 451 <sup>15</sup>	:	€7 730 <sup>14,d</sup>
	ISCED 5-8	€13 634 <sup>12</sup>	€12 761 <sup>16</sup>	€10 549 <sup>12,d</sup>	€11 413 <sup>15,d</sup>
Early leavers from education and training (age 18-24)	Native-born	9.3%	8.1%	13.1%	9.5%
	Foreign-born	21.8%	12.7% <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	47.2%	46.4%	33.1%	41.3%
	Foreign-born	27.2%	25.9%	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	72.9%	76.7%	72.5%	76.8%
	ISCED 5-8	84.1%	88.3%	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](http://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; d = definition differs, u = low reliability, := not available, 12= 2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

**Figure 1 Position in relation to strongest and weakest performers**



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

## 2. Highlights

- 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.

## 3. A focus on teachers

**Teaching is an attractive profession.** Teachers are considered academic professionals and enjoy public respect (Simola, 2005). According to the OECD Teaching and Learning International Survey (TALIS)<sup>1</sup> (OECD, 2019a), the proportion (58.2%) of Finnish teachers who believe that theirs is a valued profession is the highest in the EU (17.7% at EU level). The proportion who are satisfied with their job is 88%, just below the EU average of 89.5%, but does not drop among teachers with over 5 years of work experience. Overall, 78.9% of teachers say that if they could decide again, they would choose to become a teacher (EU average 77.6 %), with teachers with more than 5 years of working experience slightly lower (78.0%, EU average 76.4%). The proportion reporting that teaching was their first career choice is lower than the EU average (59.3%, EU average 65.7%). This is lower for male teachers (56.8%) than for females (60.3%) (EU average: -11.5 pps). Few teachers leave the career in the early years, and they change career less often than other professionals.

**Teachers are predominantly female, and the profession is ageing.** As in other EU countries, most teachers are women. At primary level women make up 80% of teachers, at lower secondary 75% and at upper secondary 60% (85%, 68% and 61% respectively, for the EU). At tertiary level, women make up 52% of teaching staff. In vocational education and training (VET), slightly over half of teachers are women. More than a half of school leaders are men. In 2017, school teachers below the age of 30 make up less than 10% of the workforce (similar to the EU average of 9.4%). The proportion of teachers aged over 50 is smaller in primary (32%) and lower secondary education (32%) than upper secondary (48%) and tertiary education (48%)<sup>2</sup>. In VET, more than half of teachers are over 50 (Paronen & Lappi, 2018). Most school leaders are over 50. There are no policies to address the gender imbalance in teaching.

**Teacher salaries are broadly equivalent to those of other tertiary graduates, but lower in pre-primary and primary education.** Teacher salaries and employment conditions are agreed nationally as part of collective agreements between municipalities and other employers, and teachers' unions. In 2015, average pay of pre-primary and primary teachers was below that of other tertiary-educated staff (73% and 77% respectively), although the pay of lower secondary teachers and upper secondary teachers (84% and 99%, respectively) was higher (OECD, 2018). In 2017, salary progression is one of the lowest in the EU - for primary and secondary level, it is around 30%, but for pre-primary teachers it is only 8% (European Commission/EACEA/Eurydice, 2018a).

**There are shortages of special needs and kindergarten teachers.** The latest forecast of national demand for qualified teachers in primary, secondary and vocational schools in Finland was undertaken in spring 2018. It points to shortages of special education teachers (2.2% of the total workforce) and career counsellors (6.2%) (Nissinen & Välijärvi, 2018). An increasing need of

<sup>1</sup> 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.

<sup>2</sup> Eurostat, UOE, 2017.

special needs teachers was also seen in VET. The 2016 Survey of Teachers and Principals in Finland (Kumpulainen, 2017) had previously indicated shortages in these groups and for pre-primary teachers. There is broad agreement that the intake of trainees in these areas has to be stepped up<sup>3</sup>. Over the past seven years, the government has funded 100-200 extra places annually for pre-primary teachers in university programmes. Some municipalities, such as the city of Vantaa, have offered higher pay to attract pre-primary teachers (Helsingin Uutiset, 2018).

**There are no fixed teacher evaluation practices.** Assessment of teachers' performance is based on self-evaluations and on ongoing dialogue with their school leaders. Similarly, the approach to quality assurance in primary and secondary schools is not based on school inspections or systematic national testing but on self-assessment at school and municipality levels. The evaluation practices aim to support autonomy of teachers (European Commission/EACEA/Eurydice, 2018b).

**Participation in continuing professional development (CPD) has improved.** CPD is the responsibility of the municipalities, which organise in-service pedagogical courses. Teachers have to train for two days per year. Half of Finnish teachers believe that CPD is restricted by schedule conflicts (52.0%, EU 52.4%) and by lack of incentives (51.9%, EU 51.9%). The Finnish Teacher Education Forum (MEC, 2016) has prepared a Development Programme for Teachers' Pre- and In-service Education. Kumpulainen (2017) reports that Finnish teachers and school leaders participated more actively in CPD over the three preceding years, thanks to increased state funding.

**Teachers do not feel sufficiently prepared in ICT or to teach in multicultural and multilingual settings.** TALIS (OECD, 2019a) reports that the proportion of Finnish teachers who feel well or very well prepared to use ICT for teaching is the second lowest in the EU (21.5%, EU average 39.4%). 19% say they need professional development in this area (EU average 16.1%). However, more than half report that this is covered in their formal education (55.6%, EU average 52.9%). TALIS also reports that the proportion who feel well or very well prepared to teach in a multicultural and/or multilingual setting is among the lowest in the EU (13.9%, EU 23.8%). The proportion (6.9%) who report a high level of need for CPD in this area is lower than the EU average of 13.4%.

#### Box 1: Improved continuing professional development for teachers

The 'Development programme for teachers in pre- and in-service education' aims to improve participation in, and quality of, continuing professional development. It responded to the finding in the 2013 TALIS survey which showed low levels of continuing professional development and limited teacher collaboration and networking.

The development programme sets out three strategic competence goals for the pre- and in-service education of teachers. It includes six strategic action guidelines to shape the development of teacher education. 31 pilot projects were started at the end of 2016, costing around EUR 15 million in 2017 and EUR 12 million in 2018.

The Finnish Education Evaluation Centre monitors these pilot projects. They conclude that the reform model prepared at the Teacher Education Forum has several strengths, such as networking and bringing together different experts and stakeholders. The evaluation also noted challenges and further requirements for successful implementation, such as creating a clear plan. The effectiveness of the projects will be fully evaluated on completion in 2023–2024.

## 4. Investing in education and training

**Education spending fell in 2017, and, while above the EU average, is still well below pre-crisis levels.** In 2017, public expenditure on education was 5.7% of GDP, less than in 2016 (6.1%) but well above the EU average (4.6%). This is well below pre-crisis levels (between 6.6% in 2010 and 6.4% in 2013). In real terms, general government education expenditure 2010–2017

<sup>3</sup> See: <https://yle.fi/uutiset/3-10352591>

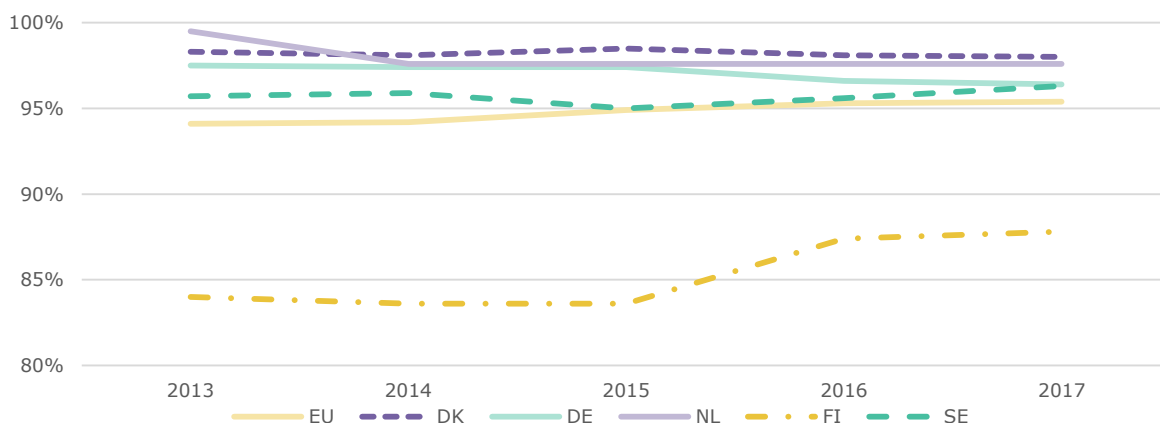
fell by 8% (2.8%<sup>4</sup> in primary, 7.4% in secondary and 10.1% in tertiary education). Public expenditure per pupil/student as a percentage of per capita GDP is below other Nordic countries in primary, upper secondary and tertiary levels.

**The proportion of private spending on education in Finland is the lowest in the EU.** At 1.6% of overall spending, it is well below other EU OECD countries<sup>5</sup>.

## 5. Modernising early childhood and school education

**Participation in early childhood education and care (ECEC) keeps growing, but remains low by international comparison.** Provisional 2017 data<sup>6</sup> show an increase in participation from 2010 for children under 3 (33.3%, up from 28%, now close to the EU average of 34.2%). Finland remains among the EU countries with the lowest participation rate for children aged between 4 and the starting age of compulsory education (87.8%, EU average 95.4%) in 2017.

**Figure 2 Participation in ECEC of children below 4 and the age of starting compulsory ISCED 1, 2013-2017**



Source: Eurostat, UOE.

**Implementing the Act on ECEC will require increased spending.** A new law entered into force in September 2018 simultaneously with the Government Decree on ECEC<sup>7</sup> (FNBE, 2016), aiming to increase quality and participation. Several measures have been implemented since then. Enrolment fees for low-income and middle-income families were reduced. As participation increases, the number of children per classroom has grown. Steps have been taken to increase the number of ECEC teachers with master's degrees<sup>8</sup>. However, local and regional authorities estimate that hiring more such staff will require strong additional investment at municipality level. The Education Minister has proposed additional resources for quality assurance of ECEC (MEC, 2019a).

**Implementation of the national core curricula for primary and secondary education faces challenges.** National education and teacher fora (MEC 2018 a,b) have identified challenges at student, classroom, school and city level in implementing the national core curriculum for basic (FNBE, 2014) and upper secondary education (FNBE, 2015). To address these challenges, the Basic Education Forum<sup>9</sup> published a development plan for primary comprehensive schools (MEC, 2018a). For upper secondary level, a new Act on General Upper Secondary Education will enter into force in autumn 2019. It aims to increase the attractiveness of general upper secondary education and make transition to higher education smoother (MEC, 2018b). In 2019, the Finnish National Agency for Education will release an upper secondary framework curriculum for public consultation.

<sup>4</sup> It does not include the primary education investment incurred by municipalities, which represents around two-third of the total investment. According to the estimates of the municipalities, the overall spending cuts on primary education are equivalent to those of tertiary education.

<sup>5</sup> OECD, <https://data.oecd.org/eduresource/private-spending-on-education.htm#indicator-chart>

<sup>6</sup> Eurostat, EUSILC, [ilc\\_caindformal](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1)

<sup>7</sup> <https://minedu.fi/en/legislation-ecec>

<sup>8</sup> Finnish universities report that approximately 1 000 new study positions for kindergarten teachers will be created.

<sup>9</sup> A stakeholder consultancy group nominated by the Ministry of Education.



**There is evidence that educational inequalities have worsened.** Although Finland is acknowledged as one of the most equal societies in educational terms (OECD, 2018b), the PISA surveys (OECD, 2016) showed that inequalities in educational outcomes linked to gender, migration, socio-economic background and area of origin had increased. According to the Finnish Education Evaluation Centre (FINEEC, 2018), parents' socio-economic status and the view of education in a family influence learning outcomes in basic education.

**The early school leaving rate remains stable.** Despite support measures to students at risk of dropping out, early school leaving in 2018 remained almost unchanged (8.3%, 8.2% in 2017) and higher in males (9.2%) than in females (7.4%). However, according to Statistics Finland, in 2015 about 15% of 20-24 year-olds were neither in education nor in the labour market. In 2018, they report that this rate had fallen to 11.8% (MEC, 2019b).

**Teachers' digital competence has markedly improved, but differences persist in the use of digital tools.** A national survey on digital learning at school in 2017-2018 indicates positive but slow progress in the use of digital tools in teaching and learning (Tanhua-Piironen et al., 2019). Progress may be related to the 2016-2019 Finnish government 'Knowledge and Education' and 'Digitalisation' programmes. In 2017-2018 around EUR 10 million were allocated to municipalities to hire mentor teachers to support use of digital tools<sup>10</sup>. According to trade unions, the temporary nature of this measure raises concerns about its sustainability (OAJ, 2018). There are clear differences in progress towards school digitalisation between and within municipalities.

## 6. Modernising higher education

**Tertiary education attainment is high but has fallen slightly, and there are regional and gender imbalances.** The percentage of the population aged 30-34 with a tertiary degree has remained stable since 2017 (44.6% in 2017, 44.2% in 2018), above the EU average of 40.7%. This ranges from 51.9% in Helsinki-Uusimaa to 35.3% in Etelä-Suomi (southern Finland). The gender gap (16.3 pps) was well above the EU average (10.1 pps) in 2018.

**While the number of ICT specialists is high, graduate output does not match business demand, and there are large gender imbalances.** Finland has the highest percentage of ICT specialists in the labour force in the EU (6.8% of total employment in 2019), but the percentage of enterprises reporting hard-to-fill vacancies for jobs requiring ICT specialist skills is above the EU average (6.95%, EU average 4.64%)<sup>11</sup>. The recent trend in graduation rates will further exacerbate the shortage: in 2017 the share of graduates in ICT fell from 7.1% to 6.3% (EU 3.6%), while those in natural sciences, mathematics and statistics remained low at 4.8% (EU 7.6%). The gender gap (around three times more males than females) is much higher than the EU average<sup>12</sup>. The Ministry of Education aims to boost learning of science, mathematics and technology in schools through the EUR 5 million for the LUMA-SUOMI programme 2013-2019<sup>13</sup>.

### Box 2: Fostering learning of science, technology, engineering and mathematics (STEM) and improving teachers' skills in these areas

The national LUMA centre Finland, established in 2013, is an umbrella organisation for cooperation between schools, universities and business, coordinated by the University of Helsinki. The objective is to motivate children to study STEM by promoting the latest pedagogical methods. It also supports the life-long learning of teachers and strengthens research-based teaching. The main activities are continuing professional development for teachers, including an annual LUMA science day, the national LUMA activation week for schools, Mathematics, Science and Technology camps for children, and resource centres for mathematics and science.

Currently, there are 13 LUMA centres from different Finnish universities and university campuses. See: <https://www.luma.fi/en/centre/>

<sup>10</sup> Opetushallitus – valtionavustukset.

<sup>11</sup> See: [https://digital-agenda-data.eu/datasets/digital\\_agenda\\_scoreboard\\_key\\_indicators/visualizations](https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/visualizations)

<sup>12</sup> Eurostat, UOE, 2017

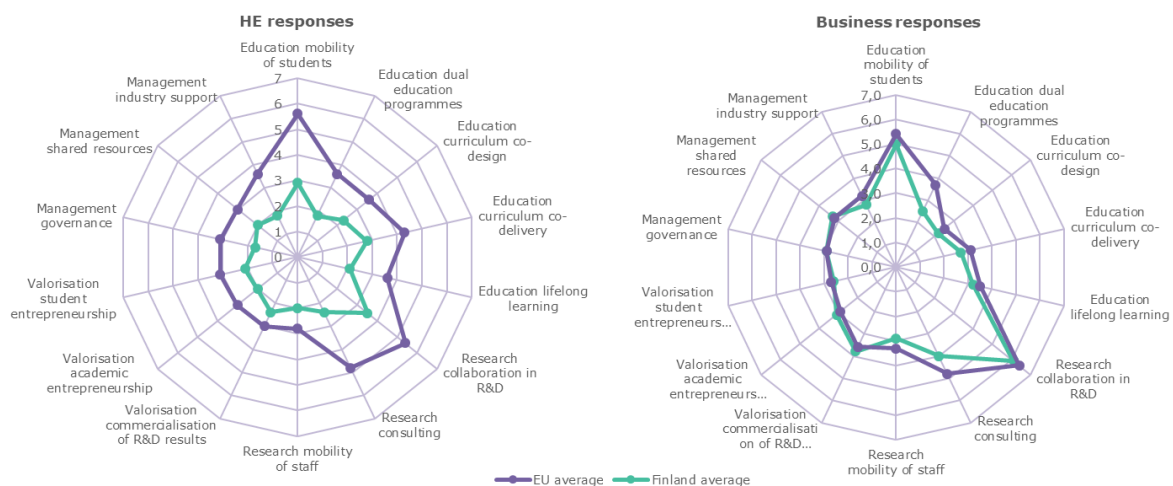
<sup>13</sup> Luma Suomi – ohjelma: <https://suomi.luma.fi/blogi/>

**A new Higher Education Act aims to increase the quality, effectiveness and internationalisation of teaching, research and innovation.** The new Act, published in early 2019, aims to implement the strategic 'vision for higher education and research in Finland 2030' adopted in October 2018<sup>14</sup>. The Act emphasises strengthening continuing learning opportunities in universities and polytechnics, aims to facilitate access to higher education, and seeks better internationalisation of teaching and research (Finnish government, 2018). For this purpose, universities are discussing their strategic profiles and the areas in which they should focus, coordinated by the Association of Finnish Universities (UNIFI) and the Rectors' Conference of Finnish Universities of Applied Sciences Arena, with funding support from the Academy of Finland (Finnish Academy, 2018). Some mergers of institutions have taken place (Aalto and Tampere universities, for instance). Another action will make bachelor studies more focused on 'generic competences' and suitable for several careers, while making master studies more oriented towards specific fields.

**Finland has strong university-business cooperation, but with room for improvement.** According to a recent survey<sup>15</sup>, higher education institutions cooperate with business mainly on research and development, student mobility and curriculum co-delivery. Businesses are interested mostly in research-related cooperation, consulting activities and supporting mobility of students. There is low involvement in curriculum co-design, dual education programmes and valorisation and management activities. Less than 50% of academics cooperate with businesses. Academics perceive the limited funding available to be the main barrier, while businesses consider finding appropriate collaboration partners, cultural barriers such as different time horizons and motivations, and the strong focus of universities on scientific outcomes and their lack of business knowledge to be the most difficult aspects. Both academia and business are strongly committed to increasing their cooperation.

**Learning mobility is high.** The proportion of higher education graduates who obtain a tertiary degree outside Finland (3.6%) is around the EU average (3.1%). In 2016, participation in short-term study periods and/or work placements abroad (15.8%), usually for the purpose of gaining academic credit, is twice the EU average (7.6%) (Flisi, S. & Sánchez-Barrioluengo, 2018).

**Figure 3 State of cooperation from the higher education and business viewpoints**



Source: DG EAC calculations, based on data from *State of University-Business Cooperation in Europe 2019*. Code: 0: Not at all; 1-4: Low; 5-7: Medium; 8-10: High.

## 7. Modernising vocational education and training

**Vocational education and training (VET) is an attractive learning pathway in Finland, and its effectiveness is gradually improving.** In 2017, more than 52 500 new students entered formal VET programmes in Finland, representing 74.4% of all new upper secondary students, similar to 2016<sup>16</sup>. Total enrolment in upper secondary VET in Finland also remained at

<sup>14</sup> Ministry of Education and Culture - Korkeakoulutuksen ja tutkimuksen visio 2030

<sup>15</sup> <https://ub-cooperation.eu/index/finlandhei>

<sup>16</sup> Eurostat, UOE, 2017.

approximately the same level in 2017, with 70.6 % of students enrolled in VET, well above the EU average of 47.8%. The share of VET students who were enrolled in combined school and work-based programmes was 13%<sup>17</sup>. The employment rate of recent VET graduates in 2018 saw a slight improvement, rising to 78.5% from 77.7% in 2017, but still not reaching the 2018 EU average of 79.5%<sup>18</sup>.

**Finland continues to implement the 2018 VET reform.** The reform<sup>19</sup> covers a wide range of issues, including the abolition of the division between vocational training for youth and adults and a system of continuous admission into VET training. Public funding is allocated based, among other criteria, on employment rate at the end of the studies. The reform restructures vocational qualifications from January 2019, decreasing their number from 351 to 164. This is expected to provide greater flexibility to learners and help them organise their competence development according to their needs and in line with the changing demands in the jobs market. As of 2018, key competences are no longer addressed separately, but are included in all vocational competence and skills requirements and assessment criteria of all vocational qualifications.

**Efforts are being made to increase the participation of teachers in CPD.** The 2016 CPD program allocates EUR 60 million over 3 years to increase creativity and learner-centred approaches, and to support work in diverse learning environments. The most recent (2016) survey of teachers and school principals indicates that VET teachers' participation rate in CPD has declined. VET teachers participate more frequently in professional development placements in companies, but only 17% of VET teachers had taken part in such placements, although every teacher is encouraged to undertake such placements every 5 years.

## 8. Developing adult learning

**Increased participation in adult learning.** Although adult learning policies targeting low-qualified adults have resulted in steadily increased participation by this group, there is a need to continue upskilling and reskilling efforts in order to meet the changing needs of labour market. At 55.4%, the proportion of low-qualified adults in employment in Finland was slightly lower than the EU average of 56.8%. Participation in adult learning was 28.5% (EU average 11.1%). During 2017, almost 36 000 adults aged 25 or more acquired an upper-secondary qualification. This is still a limited proportion, however, of the nearly 330 000 adults (aged 25-64) in Finland who have only a low level of educational attainment. In 2017 there were only 155 000 jobs in elementary occupations, indicating a strong need to ensure upskilling and reskilling for this population group<sup>20</sup>. The 2019 country-specific recommendation to Finland included: 'Improve incentives to accept work and enhance skills and active inclusion, notably through well-integrated services for the unemployed and the inactive' (Council of the EU, 2019).

**A working group with dedicated national funding was established in February 2019 to reform lifelong learning into continuous learning.** By December 2019, measures will be introduced to encourage the systematic development of work-related skills throughout the entire career, to focus on vulnerable groups and to use skills anticipation forecasts for upskilling and reskilling. The working group consists of all relevant stakeholders, including ministries, labour market organisations, student and teacher unions, and representatives of higher education and VET. In addition, the Ministry of Education and Culture granted EUR 30 million in November 2018 to universities to provide for continuing and lifelong learning. Digital services supporting continuous learning are being developed.

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<sup>17</sup> Eurostat, UOE, 2017.

<sup>18</sup> Eurostat, Labour Force Survey, 2018

<sup>19</sup> Ministry of Education and Culture - Ammatillisen koulutuksen reformi

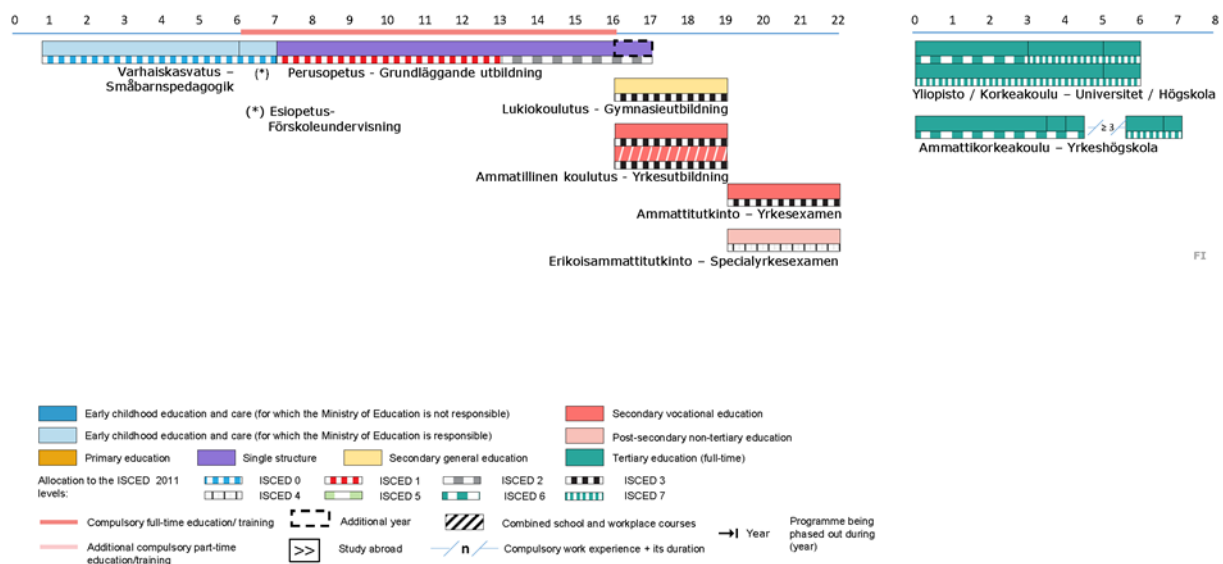
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## Annex I: Key indicator sources

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



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

Highlights of the cross-national analysis

Highlights of the country analysis



## 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%<sup>21</sup> 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

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<sup>21</sup> 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 2020<sup>22</sup> 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 Area<sup>23</sup>. 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

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<sup>22</sup> Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

<sup>23</sup> 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.

## **FINDING INFORMATION ABOUT THE EU**

### Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: [https://europa.eu/european-union/index\\_en](https://europa.eu/european-union/index_en)

### EU publications

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