



European  
Commission

# Education and Training Monitor 2019

## Romania



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EUROPEAN COMMISSION

# **Education and Training Monitor 2019**

Romania

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.

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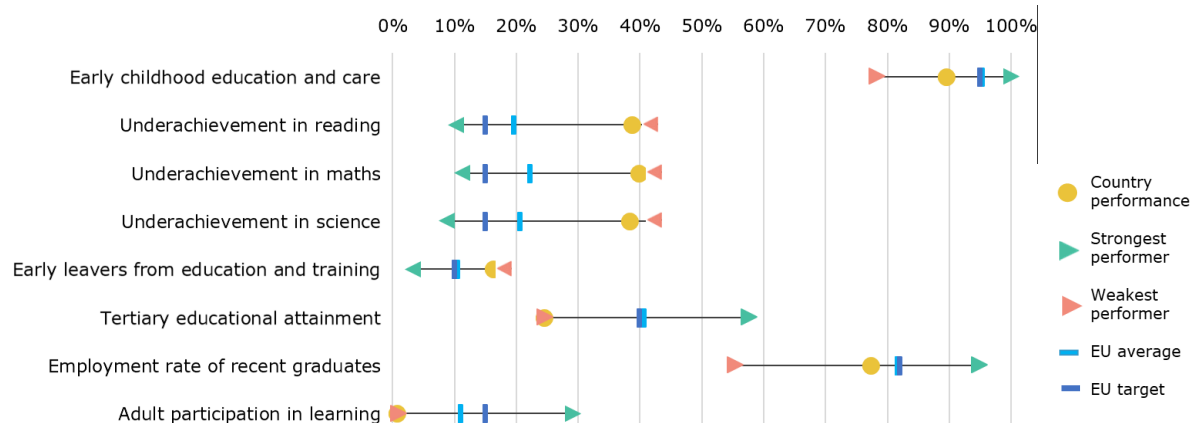
*The manuscript was completed on 26 August 2019.  
Additional contextual data can be found online ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor))*

## 1. Key indicators

		Romania		EU average	
		2009	2018	2009	2018
<b>Education and training 2020 benchmarks</b>					
Early leavers from education and training (age 18-24)		16.6%	16.4%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		16.8%	24.6%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		88.0%	89.6% <sup>17</sup>	90.8%	95.4% <sup>17,d</sup>
Proportion of 15 year-olds underachieving in:	Reading	40.4%	38.7% <sup>15</sup>	19.5% <sup>EU27</sup>	19.7% <sup>15</sup>
	Maths	47.0%	39.9% <sup>15</sup>	22.3% <sup>EU27</sup>	22.2% <sup>15</sup>
	Science	41.4%	38.5% <sup>15</sup>	17.7% <sup>EU27</sup>	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)	77.6%	77.4%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	1.8%	0.9%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	5.8% <sup>17</sup>	:	3.6% <sup>17</sup>
	Credit-mobile graduates (ISCED 5-8)	:	1.8% <sup>17</sup>	:	8.0% <sup>17</sup>
<b>Other contextual indicators</b>					
Public expenditure on education as a percentage of GDP		3.8%	2.8% <sup>17</sup>	5.2%	4.6% <sup>17</sup>
Education investment	ISCED 0	:	€2 094 <sup>16</sup>	:	€6 111 <sup>15,d</sup>
	ISCED 1	€1 600 <sup>12</sup>	€1 368 <sup>16</sup>	€5 812 <sup>12,d</sup>	€6 248 <sup>15,d</sup>
	ISCED 2	€1 740 <sup>12</sup>	€2 614 <sup>16</sup>	€6 937 <sup>12,d</sup>	€7 243 <sup>15,d</sup>
	ISCED 3-4	€1 769 <sup>12</sup>	€2 466 <sup>16</sup>	:	€7 730 <sup>14,d</sup>
	ISCED 5-8	€4 035 <sup>12</sup>	€4 688 <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	16.7%	16.4%	13.1%	9.5%
	Foreign-born	: <sup>u</sup>	: <sup>u</sup>	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	16.7%	24.6%	33.1%	41.3%
	Foreign-born	: <sup>u</sup>	: <sup>c</sup>	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	69.1%	67.7%	72.5%	76.8%
	ISCED 5-8	85.7%	88.9%	83.8%	85.5%

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre (JRC) on UOE data. Further information can be found in Annex I and Volume 1 ([ec.europa.eu/education/monitor](http://ec.europa.eu/education/monitor)). Notes: The EU's 2009 PISA averages do not include Cyprus; c= confidential, 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

- 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.

## 3. A focus on teachers

**The attractiveness of the teaching profession is rather low.** 40.9% of Romanian teachers believe that their profession is valued by society, according to the OECD's Teaching and Learning International Survey (OECD, 2019a). This percentage is significantly above the average of the 23 EU countries surveyed<sup>1</sup> (17.7%) and the third highest after Finland (58.2%) and Cyprus (43.5%). In spite of this positive perception by teachers, a number of factors have affected the attractiveness of the profession, including low entry requirements for teacher education programmes and traditionally low salaries (OECD, 2017). Since 2017, teachers' salaries have been increasing following a new salary grid for public sector employees<sup>2</sup>. The grid also reduced from 40 to 25 years the time needed to reach maximum pay and introduced higher bonuses for certain staff categories, including teachers and school leaders in isolated localities. According to the initial 2019 budget, the amount allocated for salaries and other teachers' expenses<sup>3</sup> increased by almost 31%.

**The shortage of staff with proper qualifications in rural areas and the availability of support specialists remains a challenge.** Shortages are reported for qualified primary school teachers and for lower secondary school teachers in ICT, sciences, foreign languages and the arts. The number of candidates in the national competition for teaching positions (i.e. titularizare) would normally be sufficient to fill vacancies, but less than 50% of candidates obtain the required mark. In addition, the relatively high number of positions filled by staff without proper qualifications remains a challenge, particularly in schools in rural and remote areas. The number of support specialists (e.g. special education teachers, school counsellors, Roma mediators, etc.) is often insufficient. For example, a school counsellor is expected to work with 800 students, but in practice the student/counsellor ratio is 2.5 times higher.

**Teachers' career policies face significant challenges.** Initial teacher education offers very little preparation and practical training, particularly in modern teaching techniques or inclusive pedagogy; in practice, the certification exam and the tenure exam are used as the main method to screen candidates entering the profession (OECD, 2017). However, this has proved to be less effective than having high entry standards and comprehensive initial teacher education; in itself, the certification exam tends to assess theoretical knowledge without being an authentic measure of on-the-job competence (ibid). Merit-based allowance tends to encourage teachers to focus narrowly on preparing pupils for tests and academic competitions, rather than encouraging them to improve the outcomes of low achieving students or those from disadvantaged backgrounds.

**Strengthening continuing professional development gives an opportunity to improve teaching quality.** Unlike many European countries, which will see a significant proportion of their teachers retire within the next 10 years, in Romania less than 30% of school teachers<sup>4</sup> are older than 50 (EU average:37%). Therefore, raising teaching quality involves working primarily with existing teachers; moreover, as the overall number of teachers is expected to decline in line with

<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> Full implementation by 2022.

<sup>3</sup> e.g. food vouchers, holiday vouchers, retrospective recognition of salary rights (Law 85/2016).

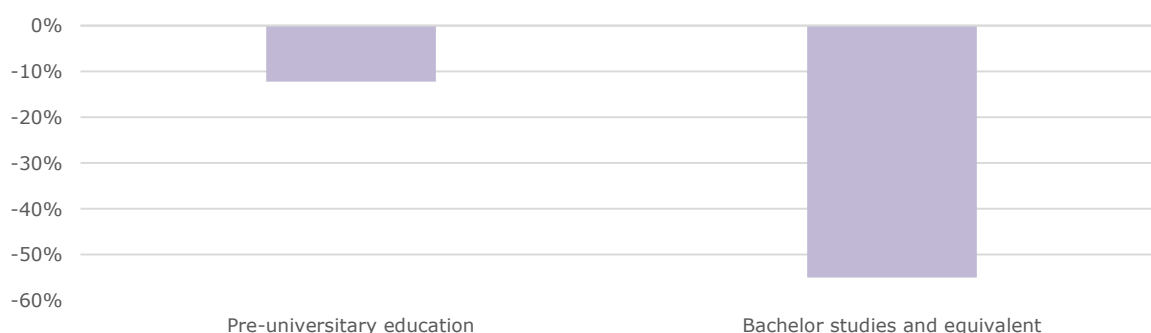
<sup>4</sup> ISCED 1-3.

the student population, any reform of recruitment or initial teacher education will only affect a minority of the profession in the next few decades (OECD, 2019b). A high percentage of Romanian teachers report taking part in professional development, although the content and delivery of courses is not perceived as sufficiently adapted to their needs (IŞE, 2018; OECD 2019b). 70% of teachers report that participation in continuing professional development is restricted by high costs (EU-23 average: 44%). In particular, Romanian teachers reported a high development need in ICT skills for teaching (21.2%), approaches to individualised learning (21.5%), teaching students with special educational needs (35.1%) and cross-curricular skills (22.8%)<sup>5</sup> (OECD, 2019a).

## 4. Investing in education and training

**Investment in education remains low in EU comparison, and funding mechanisms to support equity are weak.** In 2017, general government spending on education was equivalent to only 2.8% of GDP, significantly below the EU average of 4.6% and the lowest percentage in the EU. This low level of funding reflects both the underfunding of education policies at national and local levels and Romania's strong GDP growth in 2017. Traditionally, underinvestment is particularly felt in pre-university education<sup>6</sup>. Basic funding and existing correction coefficients are insufficient to meet schools' needs. As a result, excessive enrolment leading to overcrowding is often used as a solution by schools in rich urban areas to hire top teachers. Because schools in small cities and in rural areas tend to have less students and smaller classes, they are not able to attract highly qualified teachers even if they receive more funding per student. In any case, the attractiveness of schools in rural and disadvantaged areas for highly qualified staff is usually limited. The system of complementary funding by local authorities tends to favour schools in richer municipalities, thus reinforcing inequalities in the system (World Bank, 2018). Nevertheless, it should be said that the initial 2019 state budget envisaged a significant increase for education and training policies compared to 2018.

**Figure 2 Percentage change in the number of students in 2017 compared to 2007**



Source: National Institute for Statistics

**The school network is lagging behind demographic trends, and the need for modernisation is high.** Since 2010, the number of students in pre-university education fell by a quarter. Faced with demographic decline, between 2000 and 2016 Romania closed down 25%<sup>7</sup> of its schools with legal personality and 17% of satellite schools<sup>8</sup> (World Bank, 2018). However, 58% of schools, providing education for 34% of students, still have a surplus of building space given the number of students enrolled (MEN, 2018). The situation is particularly striking in rural areas, but some urban areas also face similar challenges. In contrast, 22% of students study in overcrowded schools (which account for 10% of total). The need to improve sanitary conditions<sup>9</sup> and provide students with modern learning spaces (e.g. science laboratories, gym halls, libraries) is also high (ibid.). With declining demographic trends likely to persist<sup>10</sup>, and given the poor state of physical

<sup>5</sup> Training on these topics are provided by the County Teacher Training Centres.

<sup>6</sup> In 2016, about 57% of expenditure went to pre-university education (approx. 3 million students), while 41% of spending went to universities, i.e. for a number of students that was about 6 times lower (World Bank, 2018).

<sup>7</sup> The figures cover pre-school up to post-high schools, except special education schools.

<sup>8</sup> These account for two thirds of the network.

<sup>9</sup> EUR 65 million (approx. EUR 13.7 million) were allocated in the initial 2019 budget to improve sanitary conditions in 1 489 schools.

<sup>10</sup> In Romania, the school age population (3-18 year-olds) is projected to fall by 10% by 2030 compared to Eurostat's baseline projections for 2020.

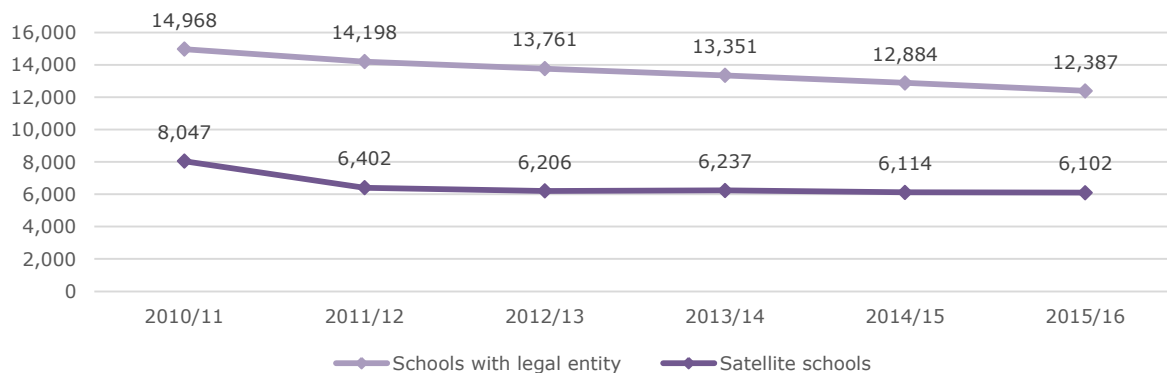
learning environments in many schools<sup>11</sup>, redesigning the school network could help improve efficiency and free up resources for quality improvements. However, any plans to reorganise the school network need to take account of the already high equity challenges. These are echoed in low enrolment rates in early education and care for children from lower socio-economic groups, high early school leaving and large gaps in educational outcomes between schools with legal personality and satellite schools. Already, long walking distances to kindergartens in rural areas and commuting costs are barriers to accessing quality education, while school transportation services are insufficient, particularly in rural areas.

### Box 1: EU funds support the modernisation of educational infrastructure

Some EUR 350 million were earmarked in 2014-2020 under the European Regional Development Fund for investments in educational infrastructure in Romania. Priority is given to areas where enrolment rates in pre-school education are low and early school leaving is high. Investments in vocational education and training and higher education are also financed.

In general, funding is available for the modernisation of existing infrastructure, the construction of new buildings and purchase of equipment. The funding scheme was based on the Strategy on the Modernisation of Educational Infrastructure 2017-2023 and has raised a lot of interest among local and central government authorities and public universities. By the third quarter of 2018, 814 projects had been submitted totalling a non-reimbursable value of EUR 1.3 billion.

Figure 3 Optimisation of the school network, 2010-2016



Source: World Bank (2018).

## 5. Modernising early childhood and school education

**Participation rates in early childhood education and care are improving but there are still challenges linked to access and quality.** Good quality early childhood education and care is crucial for the development of key competences. The participation rate for children aged 4 to compulsory school age has been increasing and reached 89.2% in 2017, but is still below the EU average (95.4%). Disparities between regions<sup>12</sup> and between rural and urban areas<sup>13</sup> persist. To improve quality, a new curriculum for children aged 0-3 and 4-6 years was developed and aligned with the new school curriculum. A standard cost for nurseries was developed and awaits approval. Its implementation could pave the way for expanding services for children under 3, for whom enrolment rates are particularly low (16% in 2017, about half the EU average), with negative consequences for women's labour market participation. This is due to a combination of factors, including lack of nurseries and other formal care arrangements. A project<sup>14</sup> co-funded by ESF was launched in April 2019 aiming to increase participation rates in ante-preschool education.

<sup>11</sup> National programmes to modernise educational infrastructure (crèches, kindergartens, schools) include PRET (Proiectul privind Reforma Educației Timpurii), PNDL (Programul Național de Dezvoltare Locală), PRIS (Proiectul privind Reabilitarea Infrastructurii Școlare).

<sup>12</sup> Participation rates range from 94.4% in the North-West region to 77.5% in the Bucharest capital region.

<sup>13</sup> Gross enrollment rates in kindergarten (ages 3-6) were almost universal in urban areas (97.4%) compared to 85% in rural areas (National Institute for Statistics).

<sup>14</sup> 'Development of ante-preschool services' has a budget of EUR 168 million (approx. EUR 35.7 million) and aims to support



**Early school leaving is high, with repercussions for the labour market and the economy.**

In 2018, the rate of early leavers from education and training (age group 18-24) decreased for the second consecutive year to 16.4%. Although well below its peak of 19.1% in 2016, the rate remains one of the highest in the EU (EU average: 10.6%). Therefore, reaching the national target of 11.3% by 2020 is unlikely. Early school leaving persists due to a combination of factors, including socio-economic aspects and gaps in the provision of quality education. In rural areas — where poverty is highest and the quality of education tends to be lower — one in four people aged 18-24 has left school too early. By contrast, the rate is 15% in towns and only 4.2% in cities. Authorities are currently developing an early warning mechanism that could help improve data collection and strengthen coordination between schools, inspectorates and other relevant institutions (social assistance, NGOs, the police, the church, etc.). Through the ESF calls recently launched, the availability of second chance programmes is improving. However, the need remains to adapt programmes to the needs of adult learners.

**The acquisition of basic and digital skills is still problematic.** PISA 2015 shows that about 40% of Romanian 15 year-olds lack basic competences in either reading, mathematics or sciences (OECD, 2016). Implementation of the new school curriculum continues alongside the retraining of teachers<sup>15</sup>. However, individualised approaches for students remain insufficiently developed. The percentage of young people (ages 16-19) who assess their digital skills as basic or above basic is below the EU average (52% compared to 83% in 2017). There are substantially fewer highly digitally equipped and connected schools in Romania than the EU average (European Commission, 2019b).

**Improving equity in education remains a major challenge, alongside raising quality.** An analysis of 2015 PISA scores shows that most of the gap in performance between Romania and high performing EU countries is explained by the clustering of students in schools with students of similar socioeconomic background; poorer students are not only socially segregated together, but they also attend lower quality schools (World Bank, 2018). Apart from socioeconomic background, equity challenges disproportionately affect Roma and students from rural areas, who tend to have lower educational outcomes. The percentage of Roma children attending kindergarten is less than half the national average; young Roma are more likely to drop out early from education (FRA, 2016). The monitoring methodology to tackle school segregation is delayed but expected to be piloted in the school year 2019/2020. Taking account of these challenges, the 2019 European Semester country-specific recommendations call on Romania to 'improve the quality and inclusiveness of education, in particular for Roma and other disadvantaged groups' (Council of the European Union, 2019).

**Box 2: Plans to overhaul the education and training system**

The Ministry of Education and the Presidential Administration have both put forward their own visions for comprehensive reform of the education and training system.

**Education unites us:** Among the proposals of the Education Ministry is an overhaul of initial teacher education and a revision of teacher policies. Compulsory education would start at age 3 and end at 18/19, following five distinct stages (preschool, lower primary, upper primary, lower secondary, upper secondary). The focus would be on building cognitive and socio-emotional skills and knowledge in different subjects and on overcoming learning gaps through personalised learning. Four types of baccalaureate are envisaged: A1 and A2 for sciences and humanities, V for vocational education and T for the professional track — the latter giving access only to non-tertiary education.

**Educated Romania:** Following a two-year consultation process, the Presidential Administration put forward two scenarios to revise the school structure. Teachers would play a key role in the reform, whose overarching aims are to improve quality and equity in education. Modernisation proposals are made around seven key topics: the teaching profession, equity, school leadership, vocational education and training, higher education, early education and care, and student evaluation. The Presidential Administration aims to gain political support for the reform.

access to ante-preschool services for 14 000 children.

<sup>15</sup> Through the project 'Relevant curriculum, open education for all (CRED)'.

## 6. Modernising higher education

**Participation in higher education is generally low.** In 2018, tertiary attainment for the 30-34 age group — measured as a European benchmark— declined to 24.6% from 26.3% in 2017. This is significantly below the EU average of 40.7% and below Romania's national Europe 2020 target of 26.7%. Gross enrolment rates have not only remained low but have been decreasing since 2009 (European Commission, 2018). The number of students entering higher education is limited by factors including demographics, the persistence of early school leaving and a low, though improving, pass rate for the bacalaureate exam. The Romania Upper Secondary Project (ROSE), which aims to reduce dropouts and improve the transition to higher education by giving grants to low performing high schools, has continued, yielding some positive results in targeted high schools. Data shows that less than 5% of students enrolling in a bachelor programme come from families where their parents' level of education is low (European Commission, 2018). To improve access, dedicated places for students from rural areas have been introduced<sup>16</sup>, scholarships have increased and dedicated places for Roma students are financed.

**Ensuring that graduates possess high-quality labour market-relevant skills remains a challenge.** The ICT sector is expected to continue to grow in the coming years but will face labour shortages; skills shortages also exist in the health sector, in skilled trades, engineering, transport and distribution (Manpower Group, 2015; Cedefop 2017; Cedefop 2018). Although the percentage of graduates in science, technology, engineering and mathematics (STEM) as a total of higher education graduates is among the highest in the EU, the actual number of graduates is low. Employers report that graduates often lack soft skills but possess good, though overly theoretical knowledge (World Bank, 2018b). Work on developing the methodology for external evaluation of PhD programmes has continued, although reaccreditation of doctoral schools is still pending. The employment rate of recent tertiary education graduates is high and increasing (89% in 2018, EU average: 85.5%). Nevertheless, these figures should be seen in the context of the low number of graduates and high economic growth. The authorities have developed a methodology to track whether graduates occupy jobs requiring a higher education degree in their field of study, but as yet no graduate tracking system is in place. For the moment, there is no global or sectoral assessment of skills needs (European Commission, 2019b). Therefore, the 2019 country-specific recommendations also call on Romania to 'improve skills, including digital, notably by increasing the labour market relevance of vocational education and training and higher education' (Council of the European Union, 2019).

## 7. Modernising vocational education and training

**Efforts to expand dual vocational education and training continue but the labour market relevance of VET remains limited.** The total enrolment in upper secondary VET in Romania was stable at 56.2% in 2017 and above the EU average of 47.8<sup>17</sup>%. Students enrolled in VET had limited exposure to work-based learning, with only 10% of them enrolled in combined school and work-based programmes. Recent VET graduates' employability saw a slight increase in 2018 to 69.0% (67.2% in 2017), but remains below the EU average (79.5%). To increase the attractiveness of professional education, students following this path can obtain scholarships. Out of the VET students enrolled in upper secondary education in 2017/2018, 1.5% chose the dual VET pathway, which is currently only provided at European Qualification Framework (EQF) level 3. Despite strong interest from businesses, dual education is rather unattractive for students. Moreover, retaining students in these companies is difficult and the required financial investment by companies is high. ESF supports partnerships between VET schools and businesses and is expected to fund the VET reform. The recruitment rules for VET school teachers are being improved and simplified. Some efforts were made to upgrade teacher competences and develop the initial and continuing training of in-company trainers.

<sup>16</sup> 2 000 places, equivalent to 3.2% of the total number of publicly funded study places.

<sup>17</sup> VET enrolment figures given as a percentage of total student enrolment figures at the upper secondary level.

## 8. Developing adult learning

**Recent developments represent a step forward in promoting adult learning.** The national programme *'Invest in yourself'* offers financial support to access education, training and culture through a state-guaranteed loan. The governmental and presidential policy documents offering a long-term vision for education include references to lifelong learning, although not in a consistent way and not specifically to adult learning. To facilitate access to upskilling for low-qualified adults, the level of qualification 1 was introduced in the national qualifications framework. The classification 'unqualified workers' was renamed 'elementary occupations' and a list of such occupations was developed. Government Ordinance 96/2018 introduced the possibility of a six-month apprenticeship programme at EQF level 1. However, this programme is not yet available. With the support of ESF, the Ministry of Labour is in the process of establishing occupational standards for EQF level 1 and an appropriate training offer.

**The need for upskilling is high.** Nearly 2.4 million adults (or 21.5% of adults aged 25-64) had only a low level of educational attainment in 2017. The share of low-qualified adults in employment (55.6%) was also close to the EU average of 56.8%. However, the likelihood that adults update their knowledge and skills through adult learning is low: in 2018, only 0.9% of adults aged 25-64 have had a recent learning experience during the 4 weeks preceding the Labour Force Survey (EU average: 11.1%). This is particularly worrying given the much smaller number of jobs which require only a low level of education. With only 824 000 such jobs deemed 'elementary occupations' in 2017, this clearly highlights the need for substantial upskilling and reskilling.

**Further efforts are needed to increase participation in adult learning.** Community centres for adult education are still to be extended, while quality assurance mechanisms have not yet been developed. A system for continuing professional development of adult learning professionals is not yet in place. The system of adult learning might also benefit from a more reliable and comprehensive data collection system, clearer institutional arrangements and the establishment of a coordination body.

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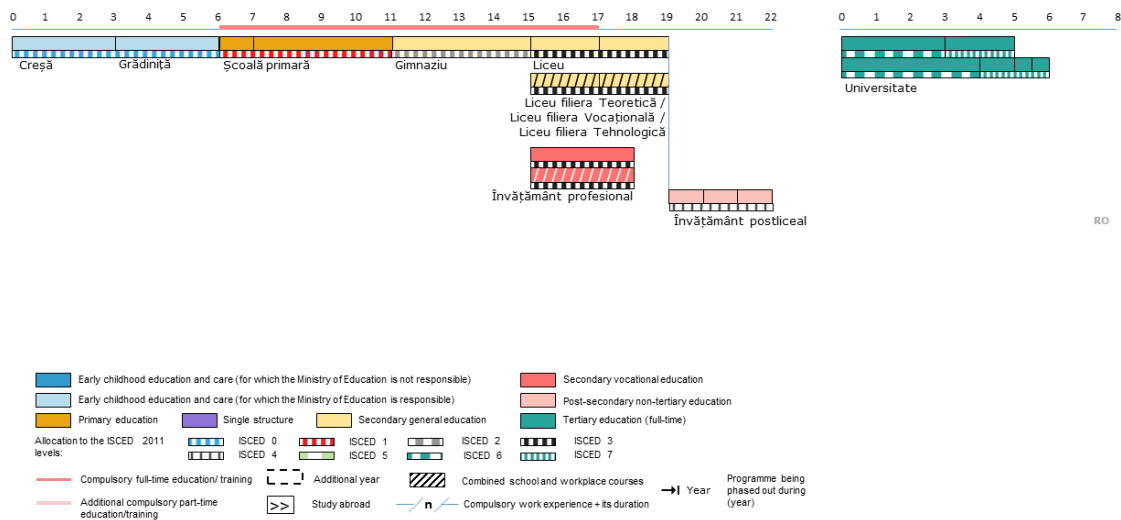
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## Annex I: Key indicator sources

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.

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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>18</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>18</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>19</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>20</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

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

<sup>20</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.

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