



European
Commission

Education and Training Monitor 2019

Lithuania



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EUROPEAN COMMISSION

Education and Training Monitor 2019

Lithuania

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

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

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

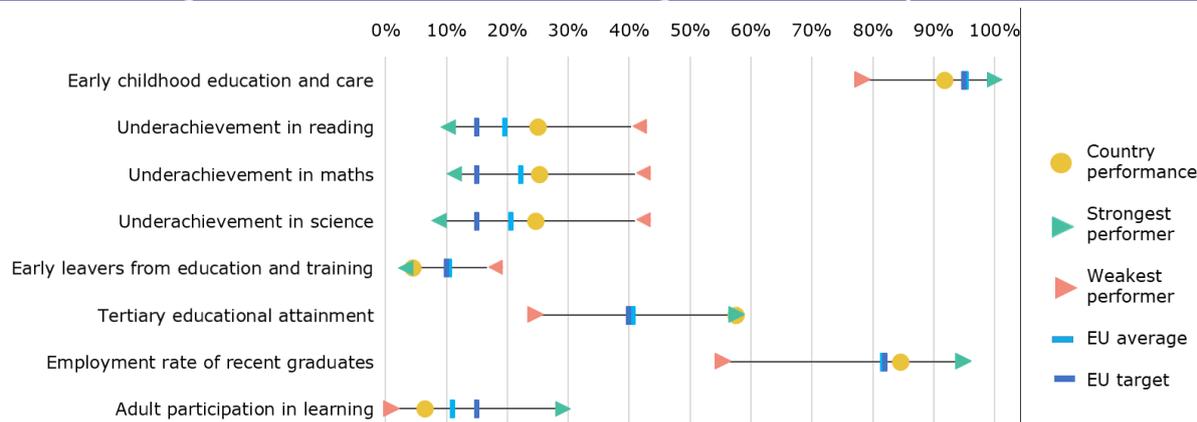
*The manuscript was completed on 26 August 2019.
Additional contextual data can be found online (ec.europa.eu/education/monitor)*

1. Key indicators

		Lithuania		EU average	
		2009	2018	2009	2018
Education and training 2020 benchmarks					
Early leavers from education and training (age 18-24)		8.7%	4.6%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		40.4%	57.6%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		84.3%	91.9% ¹⁷	90.8%	95.4% ^{17,d}
Proportion of 15 year-olds underachieving in:	Reading	24.4%	25.1% ¹⁵	19.5%	19.7% ¹⁵
	Maths	26.4%	25.4% ¹⁵	22.3%	22.2% ¹⁵
	Science	17.0%	24.7% ¹⁵	17.7%	20.6% ¹⁵
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	73.0%	84.7%	78.3%	81.6%
	ISCED 0-8 (total)	4.6%	6.6%	9.5%	11.1%
Learning mobility	Degree-mobile graduates (ISCED 5-8)	:	8.6% ¹⁷	:	3.6% ¹⁷
	Credit-mobile graduates (ISCED 5-8)	:	6.8% ¹⁷	:	8.0% ¹⁷
Other contextual indicators					
Public expenditure on education as a percentage of GDP		7.2%	4.9% ¹⁷	5.2%	4.6% ¹⁷
Education investment	ISCED 0	€3 567 ¹²	€4 409 ¹⁶	:	€6 111 ^{15,d}
	ISCED 1	€3 689 ¹²	€4 385 ¹⁶	€5 812 ^{12,d}	€6 248 ^{15,d}
	ISCED 2	€3 398 ¹²	€4 042 ¹⁶	€6 937 ^{12,d}	€7 243 ^{15,d}
	ISCED 3-4	€3 968 ¹²	€4 042 ¹⁶	:	€7 730 ^{14,d}
	ISCED 5-8	€6 542 ¹²	€5 357 ¹⁶	€10 549 ^{12,d}	€11 413 ^{15,d}
Early leavers from education and training (age 18-24)	Native-born	8.6%	4.6%	13.1%	9.5%
	Foreign-born	: ^u	: ^u	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	40.0%	57.8%	33.1%	41.3%
	Foreign-born	: ^u	47.7% ^u	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	57.8%	77.9%	72.5%	76.8%
	ISCED 5-8	83.9%	90.4%	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). 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

- 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.

3. A focus on teachers

The teaching workforce is ageing. The proportion of pre-primary and school teachers and academic staff aged 50 or more was 47% in 2017, up 4.9 pps since 2013. Unlike most other EU countries, in Lithuania retirement for teachers¹ is not compulsory on reaching the standard pension age. Approximately 6% of serving teachers were already at retirement age in 2016/2017 and this share is expected to reach 20% in 2021. A revision of the incentive system, which currently pays a lump sum² on retirement, may make it a more attractive option than staying on.

Lithuania has taken steps to monitor teacher supply and demand. Despite recent increases in the number of returning emigrants, negative demographic trends in Lithuania are resulting in teacher oversupply. However, future shortages due to the teacher age profile may be further aggravated as less than 15% of graduates from initial teacher education actually enter the profession. To anticipate shortages and oversupply, Lithuania developed in 2018 a pilot tool that provides short and mid-term forecasts of teacher demand (MOSTA, 2018a). Further development of this model and teaching planning practices may help ensure the continued entry of new talent into the profession, while maintaining control over the overall size of the teaching workforce.

Box 1: Forecasting the teaching workforce

Demographic trends in Lithuania are negative and the teaching workforce is ageing rapidly. To address these challenges and anticipate teacher shortages and oversupply, in 2018 Lithuania developed a forecasting pilot tool with support from the European Commission's Structural Reform Support Programme. This provides short-term (one-year) and mid-term (four-year) forecasts of the teaching workforce that accommodate changes in pupil numbers, the ageing teaching population, low graduation and transition-to-employment levels among initial teacher education graduates, and other policy changes such as an earlier start to primary education.

The model forecasted that 3 077 teachers working in 2018 will retire by 2022. Taking into account dropouts and the low numbers of students in initial teacher education actually becoming teachers, the model estimated that only 126 new teachers were likely to enter schools in 2018/2019. Even if all novice teachers found a job, there would be a shortage of over 100 teachers. The highest cumulative four-year shortage was forecast for primary school teachers, amounting to almost 700. If pupil participation in preschool education is to increase in rural areas, the shortage could be even higher.

However, these results are tentative. Lithuania is now planning to allocate more resources to support further model development to ensure the reliability and comparability of the forecasting results.

¹ The retirement age is moving towards age 65 (in 2026) and increases each year by four months for women and two months for men. In 2019, the retirement age for men is 63 years and 10 months, while for women it is 62 years and eight months.

² The size of the payment depends on the teacher's work experience in the school from which s/he will retire. The minimum available pay is two average monthly salaries if work experience is less than 36 months. If work experience is higher than 240 months, the maximum is six average monthly salaries.

Unattractive career prospects contribute to the low perception of the teaching profession in society. According to data from the 2018 OECD Teaching and Learning International Survey (TALIS), only 14.1% (v 17.7% at EU level³) of teachers believe that teaching is a valued profession in society. This is reflected in the low number of graduates who enter the profession (15%) and the low share of male teachers and early childhood education and care staff (11% v 23% at EU level). This may be due to the unattractive opportunities available for career progression. Teachers can voluntarily apply to obtain one of the higher qualification categories, namely senior teacher, teacher methodologist and teacher-expert, enabling them to earn higher salaries and take up different responsibilities. Selection for these categories is mainly based on experience and qualifications. Methodologists and experts are supposed to focus on spreading good practice and developing professional learning communities, but they often take on collaborative tasks at municipal level contributing to other schools or regional events (Shewbridge, C. et al., 2016).

Box 2: Time for Leaders

School principals in Lithuania have demanding and far-ranging responsibilities. This makes finding highly qualified and motivated school leaders crucial to ensuring good management of the teacher workforce and school infrastructure.

Lithuania's European Social Fund-financed 'Time for Leaders' project, launched in 2009, is now at its third stage. The overall aim is to develop an integrated system to develop leadership skills at all education levels. The project also involves staff from municipal authorities, school administrative staff, consultants and NGO members.

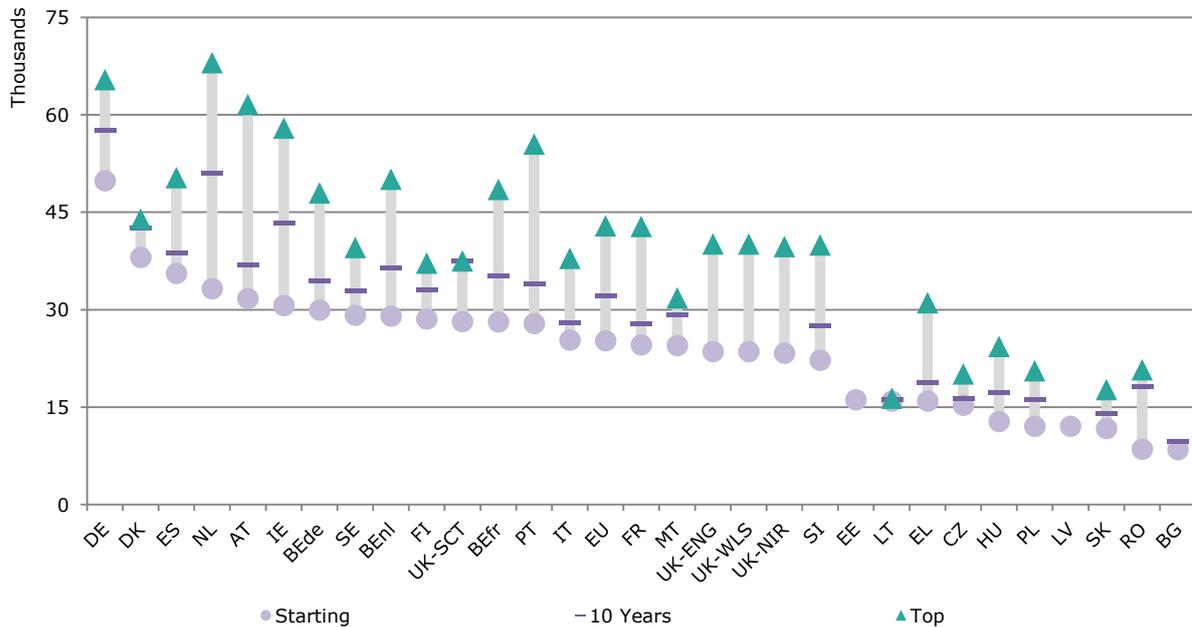
Participants are expected to strengthen their managerial skills by learning from managers at national, regional and school level, and by participating in traineeships and education networks.

<http://www.lyderiulaikas.smm.lt/en>

Measures have been put in place to improve working conditions and teacher salaries, but challenges remain. TALIS 2018 shows that teachers' motivation is comparatively low and tends to decrease over time. Fewer novice teachers (70.8% v EU average of 83.7%) report that if they could decide again, they would still become a teacher; the share dips further (63.9% v 83.7% at EU level) with more than five years of service. The average starting statutory⁴ salary of teachers at the lower general secondary level, expressed in purchasing power standards (PPS), is well below the EU average (PPS 15 981 v PPS 25 946 in 2016/2017). By career end it increases by only 2.6% (v 70% at EU level), the lowest salary progression in the EU (European Commission/EACEA/Eurydice, 2018) (Figure 2). A teacher's salary used to depend only on the number of lessons taught. However, with declining student numbers and school consolidation, many schools responded by lowering the number of contact hours, which resulted in lower salaries and pension rights. In response, teachers in small schools sometimes take on a second job (Shewbridge, C. et al., 2016). To address this issue and increase income stability, teachers are now allowed to teach two subjects, while a fixed monthly salary system was introduced in 2018. The new system allows for teachers to be paid for all work done for the school community. Discussion on further increases in teachers' salary are ongoing between teachers' union and government.

³ 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.

⁴ Statutory salary is only one component of teachers' compensation. Other benefits, such as regional allowances for teaching in remote areas or family allowances may also form part of teachers' total remuneration. Statutory salaries of teachers can vary according to a number of factors, including the level of education taught, the qualification level of teachers, and the level of experience or the stage of the career of teachers.

Figure 2 Teacher salary progression in lower secondary public school in PPS, 2016/2017


Source: Eurydice, 2018. Note: Annual basic gross statutory salaries (starting salary, salary after 10 years and top of the salary range) for full-time teachers.

Efforts are being made to improve the quality of teacher education. Poor student outcomes in Lithuania could be also explained by outdated teaching practices and the low quality of teaching instruction. TALIS 2018 shows that Lithuanian teachers report the highest level of need in the EU for professional development in ICT skills for teaching (23.6% v 16.1% at EU level). The Teachers Training Regulation, adopted in 2018, sets quality requirements for initial education programmes and for the new induction programme covering the first year at school. The Regulation also specifies possibilities for continuing training and professional development and sets criteria for the new three national teacher training centres. Previously, any higher education institution was permitted to introduce a new programme. This centralisation aims to ensure higher quality in the courses provided.

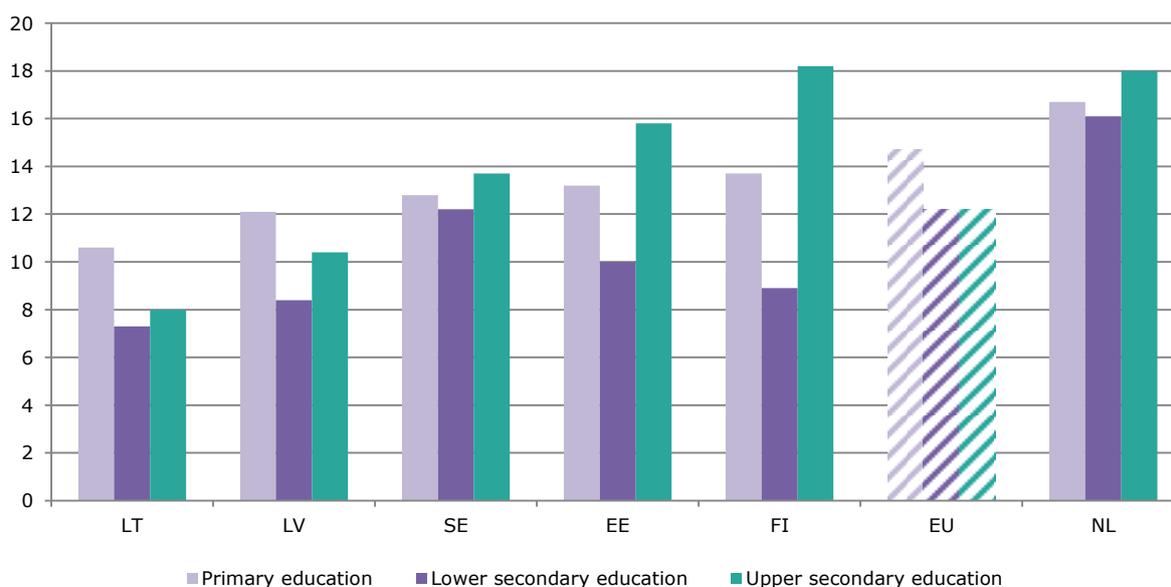
Teacher professional development appears fragmented and not associated with school development needs. Teachers are entitled to a minimum of five days of continuing professional development (CPD) during a school year. The payment of fees is mainly covered by the school budget and the European Social Fund. However, according to TALIS 2018, 43.0% of teachers (v 38.9% at EU level) consider that the CPD offered is not relevant. Professional development is provided by a range of different public and private providers, and the choice of courses is made by individual teachers. The lack of analysis through effective teacher appraisals and regular school self-evaluation limits the possibility to target CDP activities to individual and collective learning needs and establish a community of learners within schools. (Shewbridge, C. et al., 2016). It also results in inefficient use of public and European resources.

4. Investing in education and training

Spending in education has decreased but is still comparatively high. In 2017, Lithuania spent 4.9% of its GDP on education, down from 6.4% in 2010, but slightly higher than the EU average (4.6%). As a percentage of total public expenditure, at 14.8%, Lithuania has the third highest share spent on education after Cyprus and Latvia (EU average: 10.2% in 2017), but private investment into education is rather very small. In 2017, Lithuania spent only 18.4% of its education expenditure on pre-primary and primary schools, which was the lowest share in the EU (32.0%), while expenditure on secondary (40.4%) and tertiary education (15.0%) were both around the EU averages (41.0% and 14.8% respectively). Moreover, the share of 'other expenditure', which includes items such as school transport and meals, was the highest in the EU (26.2% v 12.2% at EU level). A better allocation of resources among different education levels could help improve access to early childhood education and care (see Section 5) and reduce the amount spent on maintaining schools with a low number of students.

Lithuania is committed to increasing spending efficiency, but the impact of measures taken is not yet clear. The number of pupils and students in the education system declined by 21.8% over 2010-2017. In 2017, Lithuania posted some of the EU's lowest teacher/student ratios at primary (10.6 v 14.7 at EU level) and secondary level (7.3 v 12.2 at lower secondary and 8.0 v 12.2 at upper secondary levels) (Figure 3). This calls for strategies to preserve and improve quality while ensuring the system's efficiency. In this context, the Council of the European Union addressed a country specific recommendation to Lithuania called on it to 'improve quality and efficiency at all education and training levels', (Council of the European Union, 2019). In 2018, a 'class and quality basket system', under which funds are allocated based on the number of classes in a school and on quality indicators, was introduced to improve school efficiency and reduce disparities between schools. In the new system municipalities must add extra funding for extremely small classes if they want to maintain them, but this was mitigated by setting the minimum number of students per class at 8 at primary and 12 at secondary level. No information is as yet available on this measure's impact. Municipalities are reluctant to close down schools because of the impact on rural communities. Moreover, extra funding to ensure more equitable distribution of resources will target only 180 out of 1 125 schools, with a risk of limited impact and ever increasing disparities between rural and urban areas (MOSTA, 2019). Achieving higher efficiency while ensuring quality will require greater coordination between municipalities – which separately plan their educational budgets and enjoy great autonomy in allocating resources – and government. Similarly, for higher education, efforts to optimise the network of institutions are slow because of the high decentralisation of decision-making (see Section 6).

Figure 3 Teacher-to-student-ratio at primary and secondary level, 2017



Source: Eurostat, UOE, 2017.

5. Modernising early childhood and school education

Despite increasing participation in early childhood education and care (ECEC), ensuring equal access remains a challenge. The participation of children between 4 years old and compulsory school age was 91.9% in 2017, up 8.1 pps since 2010. This remains below the EU average of 95.4%. Participation in formal childcare by children aged less than 3 also improved between 2010 and 2017: by 2017 it had reached 20.3% in 2017 (14% in 2010), still well below the EU average of 34.2%. If we compare the participation of children aged 3 to the mandatory school age from households at risk of poverty and social exclusion with children from a more advantaged background, we find a gap of 15.7 pps. This is above the 11.3 pps EU average gap in 2016⁵. Access to early education is not ensured for all children: in 9 out of 60 municipalities, kindergartens do not have enough places for all wanting to attend. Only 37 municipalities ensure transportation

⁵ For further details see Education and Training Monitor 2019 – Volume 1, Section 2.

for children in remote rural areas (where children are at a higher risk of poverty and exclusion) (National Audit Office, 2018). The increasing number of private centres is making ECEC service more accessible, but mainly in urban areas. Moreover, the proportion of the costs of privately provided ECEC reimbursed through public subsidies varies by municipality, and not all families receive a subsidy (European Commission, 2019).

While the structural reform programme⁶ aims to improve quality and efficiency at school and university, measures to improve ECEC quality are lacking. A recent audit showed that the salary of preschool teachers is on average 36% lower than that of teachers in general education. Coupled with poor working conditions⁷, this may contribute to the profession's low attractiveness and fuel the current staff shortage. Moreover, a monitoring system, which could help ensure that children receive high quality pre-education and care, is lacking (National Audit Office, 2018).

Lithuania continues to perform well in preventing early leaving from education and training (ESL). With an ESL rate of 4.7% (EU average: 10.6%), Lithuania was the second-best performer in 2018. The rate has decreased by 3.3 pps since 2010, and in rural areas fell by 5.0 pps from 11.6% in 2010 to 6.6% in 2018.

School curricula and assessment practices are being reformed. To meet the objectives in the structural education reform programme, an updated competency framework was designed in 2018 and negotiated with the stakeholders in the first half of 2019. Nine working groups will develop new syllabuses to be piloted in 100 schools. There are plans to develop a new aligned evaluation and assessment framework, which should ensure a good balance between formative and summative assessment, currently lacking, and collect information to monitor learning outcomes. Enhancing at the same time teacher assessment practices and principals' appraisal will be key challenges of this reform.

6. Modernising higher education

The tertiary attainment rate is still the highest in the EU. In 2018, tertiary attainment among those aged 30-34 was 57.6%, above the EU average of 40.7% and the national EU2020 target (48.7%).

Skills mismatch and over-qualification are widespread among tertiary graduates. Recent tertiary graduates have a high employment rate (90.4% v 85.5% at EU level in 2018), but at the beginning of their career they tend to work in less qualified jobs because they lack job relevant skills (MOSTA, 2018b). Furthermore, among businesses that have recruited or tried to recruit ICT specialists, 40% reported hard-to-fill vacancies (European Commission, 2019). 21.2% of people aged 15-64 had a qualification higher than that required by their job, above the EU average of 14.7% in 2016. To attract highly qualified academic staff, between 2017 and 2018 the average salary of staff working in public universities increased by 18%. The quality of tertiary programmes may benefit from a regular framework for anticipating and monitoring skills demand and from enhanced cooperation between businesses and universities⁸.

Optimising the university network has been an objective, but there is a lack of central steering of the process. In 2018, Parliament approved the merger of three universities. Although the initial plan outlined specific aims, guiding criteria and expected results, implementation so far has not complied with these principles. The fact that mergers of two or more institutions into one require the agreement of rectors and university staff is watering down the process. Although one of the plan's principles was to avoid duplicating fields of study in the same city, one recent merger failed to eliminate the duplication of law studies in Vilnius. Furthermore, the reforms of funding and quality assurance systems, which were also included in the comprehensive reform launched in 2017 and planned to be finished in 2020, remain at the planning stage.

⁶ For more on the structural education reform launched in 2018, see [http://lr.v.lt/uploads/main/documents/files/LRV%206%20reformas%20spaudai%20sutvarkytas%20\(1\).pdf](http://lr.v.lt/uploads/main/documents/files/LRV%206%20reformas%20spaudai%20sutvarkytas%20(1).pdf)

⁷ Last audit showed that a third of all the audited pre-primary schools breach hygiene norms.

⁸ According to the Centre for Quality Assessment in Higher Education (SKVC), only 6% of the higher education study programmes evaluated between 2010 and 2015 received the highest evaluation scores.

7. Modernising vocational education and training

In 2017, just over 7 300 new students entered formal VET programmes, a slight increase on 2016. Total enrolment in upper secondary VET was largely unchanged in 2017, with 27.4% of students at that level attending vocational programmes, still well below the EU average of 47.8%. Students enrolled in VET had limited exposure to work-based learning — none of the formal VET educational programmes are reported to combine school and work-based programmes. Several ESF projects provide support for apprenticeships and work-based learning, but this maybe not reported or outside the formal education system and thus not covered by official statistics. The employability of recent VET graduates saw a notable increase in 2018, reaching 79.2% v 71.5% in 2017 and the EU average of 79.5%.

Further implementation of VET reforms continued throughout 2018. New modular programmes were introduced and 300 outdated programmes were terminated. In addition, a new regulation was put in place in October 2018 to organise 18 sectoral professional committees to ensure cooperation between relevant stakeholders in specific sectors of the economy.

In 2018 Lithuania continued to develop continuing professional development for vocational teachers and adult educators. As part of a national project launched in 2016, 150 vocational teachers and school leaders were trained in 2018 on competences related to communication and cooperation, working culture, creativity development, organisation of distance learning, assessment of learning outcomes, digitalisation of curricula and training of learners with special needs.

8. Developing adult learning

Opportunities for adults to participate in learning in Lithuania are limited. Only 6.6% of adults aged 25-64 have had a recent learning experience during the last 4 weeks, against the EU average of 11.1%, with almost no progress over the decade.

Despite the recognition that adult learning is an important challenge in Lithuania, concrete policy initiatives remain scarce. The structural reform of education, adopted in July 2018, includes only one action targeted at adult learning — the training of municipal adult learning coordinators. The mandate of the Non-formal Adult Education Council expired in 2017 and has not been renewed. While some financing is available, including from EU structural funds, lack of impact suggests the need to better leverage such investment, for example through more significant co-financing of learning by employers. Limited availability of information and guidance services for adults is another barrier. In November 2018, a new draft law on non-formal adult education was proposed and formal deliberations on it started in Parliament. The draft law aims to narrow the scope of existing legislation, focusing on basic and transversal skills to avoid overlaps with the existing VET Law.

Some steps have been taken towards establishing the profession of adult teacher, but further development is needed. The Law on non-formal adult education and continuing education established the concept of 'adult teacher' as a person who has acquired state-defined education and competences attesting to his or her ability to teach adults. However, there are very few dedicated university programmes, in part likely due to lack of public co-financing for such programmes. The profession of adult teacher/educator is not included in the Lithuanian Classification of Occupations (a national version of the International Standard Classification of Occupations ISCO-08). Overall, existing arrangements do not ensure that professionals involved in the provision of adult learning possess at least basic pedagogical skills for teaching adults.

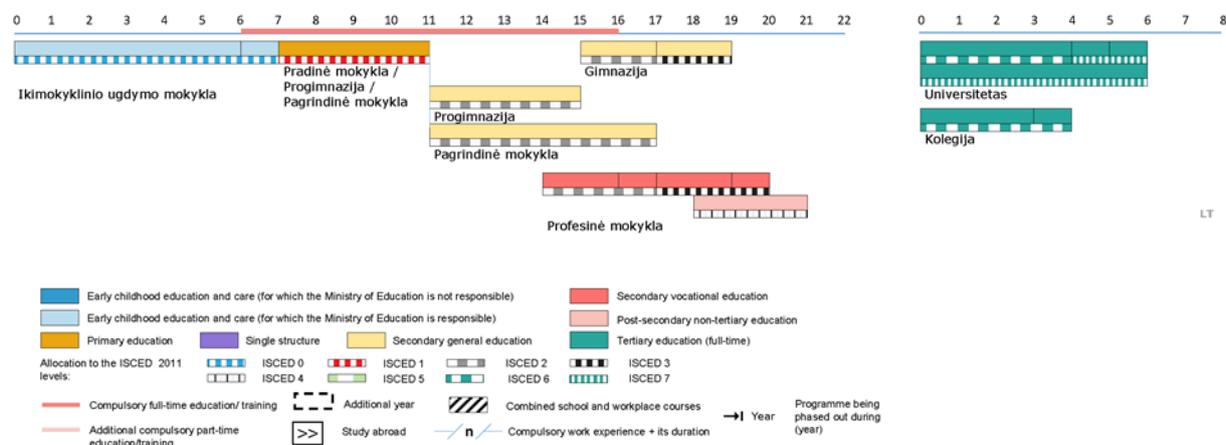
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Annex I: Key indicator sources

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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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%⁹ 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

⁹ 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 2020¹⁰ 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 Area¹¹. 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

¹⁰ Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

¹¹ 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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