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Education and Training Monitor 2019

Portugal
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

### Education and training 2020 benchmarks

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<td>Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year) ISCED 3-8 (total)</td>
<td>82.4%</td>
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<td>Credit-mobile graduates (ISCED 5-8)</td>
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### Other contextual indicators

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<td>Public expenditure on education as a percentage of GDP</td>
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### Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)

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<td>Early leavers from education and training (age 18-24) Native-born</td>
<td>31.0%</td>
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<td>Foreign-born</td>
<td>29.6%</td>
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<td>Tertiary educational attainment (age 30-34) Native-born</td>
<td>21.1%</td>
<td>33.1%</td>
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<tr>
<td>Foreign-born</td>
<td>22.6%</td>
<td>27.7%</td>
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<td>Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year) ISCED 3-4</td>
<td>79.7%</td>
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<td>ISCED 5-8</td>
<td>84.0%</td>
<td>83.6%</td>
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Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by the European Commission's Joint Research Centre (JRC) from UOE data. Further information can be found in Appendix I and Volume 1 (ec.europa.eu/education/monitor). Notes: The EU’s 2009 PISA averages do not include Cyprus; d = definition differs, : = not available, 12=2012, 14=2014, 15 = 2015, 16=2016, 17 = 2017.

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

Source: 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

- 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.

3. A focus on teachers

**Teachers are satisfied in their jobs but feel poorly valued in society.** TALIS 2018 (OECD, 2019a) reports that a higher proportion of teachers are satisfied with their job than the EU average (92.1% v 89.5%), and only slightly less after 5 years of work (91.9%). Overall, 64.8% of teachers say that if they had to decide again, they would still choose teaching (EU average: 77.6%). The proportion who report that teaching was their first career choice is the highest in the EU (84.2% v 65.7%), but somewhat lower for male teachers (78.8%). However, many teachers believe that teaching is not a valued profession in society (only 9.1% consider it is valued, against 17.7% at EU level).

**Initial teacher training is being modernised but the changes are not yet implemented.** Teacher training is undertaken in higher education institutions: universities prepare teachers mainly for secondary level, and polytechnics for pre-primary and primary levels. Training culminates in teaching practice of several weeks in ‘host schools’ under the supervision of a teacher and a professor. Pedagogical training for special education needs has recently introduced, but is not yet present in all programmes (CNE, 2018; Liebowitz et al., 2018). For higher education, the minimum requirement to start an academic career in both polytechnics and universities is a doctoral degree (National Assembly, 2009a, 2009b). However, a significant but declining proportion of polytechnics professors have only lower degrees.

**There are some barriers to continuing professional development (CPD).** In TALIS 2018 (OECD, 2019a), 40% of teachers report having participated in some kind of formal or informal induction when they joined their current school. 14% of novice teachers (with up to 5 years of experience) have an assigned mentor. Regarding CPD, 88% of teachers report have taken part in some kind of in-service training in the last 12 months, and 82% of them acknowledged that it had a positive impact on their teaching practice. TALIS also shows that the proportion of teachers who feel well or very well prepared to teach in a multicultural or multilingual setting is below the EU average (18.9% v 23.8%). 21.6% of teachers report a high need for CPD in this area (EU average: 13.4%). A high proportion of teachers report that their employers do not support their participation in CPD sufficiently (89.1% v 26.7% EU average) and that there are not enough incentives to participate (84.6% v 52.9% EU average). 77.2% report that their participation is restricted by schedule conflicts (52.4% EU average).

**Teachers feel quite confident in using information and communications technology (ICT).** According to TALIS (OECD, 2019a), the proportion of teachers who feel well or very well prepared in using ICT is just above the EU average (40.2% v 39.4%). The proportion reporting a high need for CPD in ICT is below the EU average (12.0% v 16.1%). However, fewer than half of teachers say this element was covered in their formal education (46.9% v EU average of 52.9%).

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

The ‘Continuous training for teachers and other members of the education and training system’ (Formação continua de docentes e outros agentes do sistema de educação e formação) programme aims to improve the quality of teaching by upskilling teachers, school administrators and other education and training staff.

The programme (total budget EUR 6.8 billion) is supported by the European Social Fund. Over 2016-2018, 40 636 teachers and other professionals participated in training.

The main results are:

- more than 90% of teachers completed their professional development activities, with a strong positive assessment;
- participants agreed on the positive impact of this training on: changing how they work (74%); their performance (72%) in the classroom; updating their curricular knowledge (76.3%); promoting collaborative working (84.4%); and promoting change and innovation (61.4%);
- a lesser degree of agreement that the training would improve learning outcomes (40.2%); autonomy (30.3%) and overall performance of the school (42.5%).

See: https://www.dgae.mec.pt/gestrechumanos/pessoal-docente/formacao/formacao-continua/

Despite recent measures, there are many non-permanent teachers. The proportion of teachers on temporary contracts increased between 2015-2016 and 2016-2017, to 18.2% in primary education and 21.7% in secondary (DGEEC, 2017, 2018). In 2017-2018 the proportion was 16.9% in primary education and 21.4% in secondary (DGEEC, 2019a). In 2015/2016 the ‘stop-rule’ (norma-travão) became effective, which allowed all teachers with five successive annual contracts to obtain a permanent contract, benefiting 1 400 temporary teachers in the first year. The ‘stop-rule’ was extended to those with 4 annual contracts in 2017 and to those with 3 annual contracts in 2018. New permanent positions were created, enabling 3 260 teachers with temporary contracts to become permanent in 2017-2018, and 3 319 in 2018-2019.

The teacher population is ageing and predominantly female. Teachers below the age of 30 account for a very small proportion of the workforce in ISCED 1-3 (0.9% v 9.4% at EU level in 2017)\(^2\). The proportion aged 50 or older is 43.8% (EU average: 36%)\(^3\). Only 3.9% of tertiary-level staff were under 30 while 43% were 50 or older. More than two-thirds of teachers and academic staff across all levels of education are women, with the highest concentrations in the earlier years: at pre-primary level women make up 99% of the teaching staff, at primary level 81% and at secondary level around 70%. At tertiary level this drops to 44%.

A large gender gap also exists in schools and university managerial positions. There are more men than women in school leadership positions. In lower secondary education, fewer than 40% of principals are women (OECD, 2014a). Sample data from 2016 shows that only 36.9% of third-level faculty heads and only 28.6% of rectors were women (DGES, 2016). More than 70% of school principals are aged over 50 (OECD, 2014a, 2014b).

4. Investing in education and training

Education spending increased in 2017 and is above the EU average, but still below its pre-crisis level. In 2017 public expenditure on education was 5.0% of GDP, slightly more than in 2016 (4.8%) and above the EU average (4.6%)\(^4\). This is still far below its pre-crisis level (7.1% in 2010 and 5.9% in 2013). Public education expenditure between 2010-2017 fell by 23% in real (inflation-adjusted) terms (12-15% in primary and tertiary education and 25% in secondary)\(^5\).

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\(^2\) Eurostat, UOE, 2017.

\(^3\) In 2017, 41.0% of secondary teachers and 39.8% of primary teachers were 50 or older. The percentage of teachers under 30 was 1.1% for secondary teachers and 1.1% for primary education.

\(^4\) Eurostat, COFOG, 2017.

\(^5\) 2010 was an outlier regarding annual public education expenditure, with higher levels of investment than in previous and subsequent years. A significant part invested in a large adult education programme.
Annual expenditure per student at primary, secondary and tertiary levels is below the OECD average (OECD, 2019b).

Investment in school infrastructure is insufficient. Portugal allocates less than 2% of the education budget to building or upgrading school infrastructure (Liebowitz et al., 2018). In 2007-2016, an ambitious investment plan was set out for pre-primary, primary and secondary school infrastructure. However, budget cuts delayed the planned investment in around two-thirds of secondary schools, and school buildings currently show levels of disrepair that result in difficult learning conditions (European Commission, 2019). The Ministry of Education plans, under the state budget for 2019, improvements in 200 secondary schools and 300 pre-schools and primary schools (National Assembly, 2019a). The 2016-2020 requalification plan envisage an investment of EUR 744 million, benefiting 785 schools across the country.

Private spending on education is among the highest in the EU. The proportion of expenditure on education (from primary to tertiary) from private sources (20.8%) is among the highest in EU OECD countries. Between 2012 and 2015 private expenditure as a proportion of GDP decreased from 1.18% to 0.86%.

5. Modernising early childhood and school education

Universal participation in early childhood education and care (ECEC) will be possible only with further public investment. The government aims to provide pre-primary education for all 3 year-olds by 2020 (in 2017, the participation rate was 83.4%). Participation in ECEC for children aged between 4 and the start of compulsory primary school was 94.2% in 2017, up from 92.5% in 2016 and almost at the EU average of 95.4%. There is a lack of places, in urban areas in particular (European Commission, 2019). In 2017, in the Lisbon area only 88.8% of children were enrolled. The government plans to open more than 5,000 pre-primary school places in urban areas by 2019.

High grade repetition is a major problem. Official data (DGECC, 2019b) show that grade repetition happens to a significant number of students (7%) from the second year of primary education, and to decreasing numbers in fourth and fifth grades (respectively, 2% and 6% of students each year). Because of this, a growing number of students are older than the expected school age at each level; pupils tend to accumulate multiple repetitions (CNE, 2018). Leibowitz et al. (2018) recommended exploring alternative strategies to respond to students' difficulties, for example, an early-warning system to identify students at risk of failure and provision of timely and effective educational support. The national programme for school success, supported by the European Social Fund, follows such a preventive approach and supports tailor-made local solutions, linked to school autonomy policies. The National Education Council (CNE, 2018) has advocated a reorganisation of primary education by merging the first and second cycles into one. This would smooth the sudden transition from being taught by a single teacher to having around 10 teachers, learning more subjects and changing school premises and peers. While this idea has gathered some support, policymakers also point out that it would be complex to deliver, requiring an overhaul of teaching and physical infrastructure. Portugal is among the countries where the proportion of pupils in compulsory education learning two or more languages is the lowest.

Early school leaving is now close to the EU average, although large differences persist. The percentage of early leavers from education and training has decreased again from 12.6% in 2017 to 11.8% in 2018, approaching the EU average (10.6%). Large gender disparities persist (14.7% for males against 8.7% for females in 2018). There are also very significant regional differences (28.3% in the autonomous region of Azores v 11.2% in the continental area, in 2018).
The curricular autonomy and flexibility programme for secondary studies has been extended to all schools. After a pilot phase, all schools can now benefit from a degree of flexibility in curriculum management (from 0% to 25% of weekly teaching workload) (National Assembly, 2018). There is no official data yet on its impact.

Box 2: The profile - a national key competences framework

The profile of students at the end of compulsory education (Perfil dos Alunos à Saída da Escolaridade Obrigatória), adopted in 2017, outlines what individuals should know, understand and be able to do at the end of secondary education (broadly, age 18). The profile draws on input by key stakeholders such as teachers’ unions, students and parents associations, education researchers, schools council and the National Education Council. The Ministry of Education developed tools that show how this profile is being implemented at local level (using some schools as case studies). The Ministry has also made the ‘Curriculum Autonomy and Flexibility’ website available as a space for reflection and sharing of practices. It compiles innovative practices on topics like collaborative and pedagogical practices; projects developed with and for the community; education for citizenship; and learning assessment.

A monthly bulletin addresses issues such as: interconnection of knowledge from different disciplines; the importance of continuous and systematic evaluation; and the active involvement of students in learning and in the daily life of the school.

This key competences framework in the profile is based on the European Qualifications Framework (EQF) and complemented by guidance documents (Aprendizagens Essenciais - AE) on essential learning for each education level. These list the knowledge, skills and attitudes to be developed by students for each year and subject.

One third of teenagers do not like school and over half of them are not self-confident about their level of performance. A recent survey of students in upper primary and lower secondary studies shows that 30% of them do not like school. Only 4.2% of respondents consider themselves ‘very good’ students, while 52% see themselves as students ‘with little or no academic success’. The main difficulties with school identified are: very extensive programmes (87.2%), boring programmes (84.9%), very hard subjects (82%) and stress related to assessment (77%).

6. Modernising higher education

Measures aim to ease access to higher education. The government took measures to widen higher education enrolment in less densely populated regions and increased the offer of two-year short-cycle higher education professional courses (Cursos Técnicos Superiores Profissionais) and master programmes. Other measures due to start in 2019-2020 strengthen funding and social support to students. They include a reduction in tuition fees and more grants and housing for low-income students (National Assembly, 2019b,c). Only 24% of students currently benefit from grants for first-cycle studies (EC/EACEA/Eurydice, 2018) and families contribute 70% of total spending. Other measures include the extension of the term to pay tuition fees and capped fees or free tuition for students receiving social grants. Although tertiary education attainment for people aged 30-34 almost doubled in 10 years (from 18.3% in 2006 to 34.6% in 2016), the national goal of reaching 40% in 2020 seems unattainable.

The learning mobility of Portuguese graduates is close to the EU average. The proportion of secondary graduates who obtain a tertiary degree outside Portugal (3.6%) was equal to the EU average in 2017; the proportion who participate in short-term study periods and/or work placements abroad (7.5%) is close to it (8.0%).

A gradual abolition of tuition fees at bachelor level is being debated. Higher education institutions consider that eliminating tuition fees would hurt the financial sustainability of...
universities, which already face difficulties due to insufficient public funding, without fully alleviating students’ economic difficulties.

**Companies have difficulties finding ICT specialists.** In 2018, 34.6% of companies report hard-to-fill vacancies requiring ICT skills\(^\text{14}\). In 2017, the proportion of ICT specialists in the total workforce was 2.2%, one of the lowest in the EU and well below the average (3.8%). Almost half of these have tertiary education\(^\text{15}\) (below the EU average of 62.3%), and only 14.4% are female (EU average: 17.2%). In 2017, there was 30% growth in students graduating from upper secondary vocational ICT studies (around 1,000), and 73% growth (over 600) in graduates from tertiary ICT studies\(^\text{16}\). The number of university students enrolled in ICT also grew in 2017 (by 11%), but only represents 2.6% of total students and the gender gap remains wide (only 17% female)\(^\text{17}\). The Council of the EU’s 2019 country-specific recommendation to Portugal included: ‘Increase the number of higher education graduates, particularly in science and information technology’ (Council of the EU, 2019).

**Both the academic and business sectors desire further cooperation.** A recent survey\(^\text{18}\) shows that higher education institutions tend to cooperate with small and micro-sized companies in their region, focusing on students’ mobility, joint research and curriculum co-delivery. Over 60% of academics do not undertake cooperation with businesses. Academics perceive the lack of funding and insufficient work time as the main barriers to further cooperation. 77% of business respondents cooperate to a medium-high extent with universities in joint R&D, around 60% in valorisation and management activities and 50% in consulting\(^\text{19}\). More than two thirds are involved in mobility of students, fewer in mobility of staff. Cooperation is above the EU average in mobility of students, dual education programmes, curriculum co-design and co-delivery and lifelong learning. Cultural differences, different time horizons, a lack of business knowledge within universities and their focus on producing scientific outcomes are the main barriers to further cooperation identified by business. Both academics and businesses show a strong commitment to increasing or maintaining cooperation (99% of the survey’s respondents).

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**Figure 2 State of cooperation from the higher education and business viewpoints**

![Image of cooperation state](image-url)

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

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\(^{14}\) See: [https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/visualizations](https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/visualizations)


\(^{16}\) Eurostat, UOE, 2017.

\(^{17}\) Instituto Nacional de Estatística Portugal: Alunas/os inscritas/os no ensino superior (N.º) por Localização geográfica (NUTS - 2013), Sexo e Área de educação e formação (CITE-F 2013); Anual - Direção-Geral de Estatísticas da Educação e Ciência

\(^{18}\) State of University-Business Cooperation Portugal: University Perspective. [https://ub-cooperation.eu/index/portugalhe](https://ub-cooperation.eu/index/portugalhe)

\(^{19}\) State of University-Business Cooperation Portugal: Business Perspective [https://ub-cooperation.eu/index/portugalsbus](https://ub-cooperation.eu/index/portugalsbus)
7. Modernising vocational education and training

Although nearly 40,000 new students entered formal VET in 2017, this was a decline of almost 4% from 2016. Total enrolment in upper secondary VET (40.7% of all students at that education level) also saw a slight decline in 2017 and is below the EU average of 47.8%. The employment rate among recent VET graduates declined to 77.4% in 2018 from 78.9% in 2017, marginally below the EU average of 79.5%.

Portugal needs to better align the VET offer to labour market needs. Upskilling has become an economic imperative due to deep changes in the nature of work. VET has been a national political priority for some time and the provision of training opportunities has improved considerably over the past decade. Nevertheless, a significant structural deficit persists in the qualifications of the labour force. More systematic collection and dissemination of data on VET is necessary to keep improving access to programmes as well as their quality and their labour market relevance. The OECD National Skills Strategy reports also acknowledges important improvements on this area, especially through the guidance to adjust VET offer through the System of Anticipation of Qualification Needs, involving different public and private stakeholders on the identification of skills needs.

Important steps were taken regarding curricula and training of VET teachers and trainers. In 2018, new principles for upper secondary curricula, including VET programmes, gave more autonomy to training providers. Schools can now adapt curricula to local needs and deliver them in a more flexible way. With the adoption of three pedagogical training standards, Portugal aims to increase the quality of CPD for VET teachers and trainers. Such standards also concern the continuous training of in-company trainers and e-trainers.

8. Developing adult learning

Adult participation in lifelong learning is growing but still far from the EU benchmark. In 2018, the participation rate of adults in education and training (10.3%) was close to the EU average (11.1%), but still well short of the EU benchmark (15%). The rate is higher than the EU average for those with primary to lower secondary education (4.7% v 4.3%), for upper secondary and post-secondary non-tertiary graduates (11.2% v 8.8%), and for tertiary graduates (20.7% v 19.0%). The 2019 country-specific recommendation to Portugal included: ‘Improve the skills level of the population, in particular their digital literacy, including by making adult learning more relevant to the needs of the labour market’ (Council of the EU, 2019).

![Figure 3 Adult participation in learning in Portugal and in the EU, 2011-2018](image)
Developing a coherent strategy remains a major challenge. The action phase of the national skills strategy, with a particular focus on strengthening adult-learning, is currently ongoing. Its successful implementation will be crucial to ‘help the country recover fully from the last recession and meet the challenges of an increasingly global and digital economy’ (OECD, 2018). The start of the ‘Qualifica’ programme in 2017 was an important milestone. Adult learning funding increased, as did hiring and training of staff for the 294 Qualifica centres, which will be monitored by regional teams. Promotion of Qualifica among businesses and to create local qualification networks is also underway. The launch of the ‘READ+Qualifica’ (LER+Qualifica) programme took place in October 2018, alongside the National Reading Plan 2027; a national adult literacy plan is under development. The new national information campaign also targets groups most in need in order to raise awareness of the value of skills development. Digital skills are a particular focus because, in spite of efforts under the ‘Portugal INCoDe.2030’ programme, ICT skills gaps continue to grow significantly. The effectiveness of all these measures requires both thorough monitoring and the support of qualified teachers and trainers. However, the career of ‘adult educator’ still needs to become a recognised, attractive and long-term option, supported by specialised courses and academic degrees for teaching/training of adult educators.

9. References


DGES (2016), Data on higher education institutions. Portugal: Directorate-General of Higher Education (DGES)


National Assembly (2019a), State Budget for 2019. Draft Law no. 156/XIII.


OECD (2019a), TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners, TALIS

OECD (2019b), Education Policy Outlook
Annex I: Key indicator sources

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Learning mobility:
- Degree-mobile graduates
- Credit-mobile graduates

JRC computation based on Eurostat / UIS / OECD data

Annex II: Structure of the education system


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

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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% 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

22 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
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. 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 participants of their entrepreneurial skills. However, available data show that participation in entrepreneurship education in the EU is mostly optional, and only a handful of countries make it compulsory.

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

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23 Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.
24 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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