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Education and Training Monitor 2019

Belgium
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

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<td>Proportion of 15 year-olds underachieving in:</td>
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<td>81%</td>
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<td>Adult participation in learning (age 25-64)</td>
<td>ISCED 0-8 (total)</td>
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<td>Degree-mobile graduates (ISCED 5-8)</td>
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<td>Credit-mobile graduates (ISCED 5-8)</td>
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<td>Other contextual indicators</td>
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<td>ISCED 5-8</td>
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<td>Early leavers from education and training (age 18-24)</td>
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<td>Foreign-born</td>
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<td>Tertiary educational attainment (age 30-34)</td>
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<td>Foreign-born</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)</td>
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<td>87.8%</td>
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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 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

- The Flemish community (BEf) will implement reforms at all levels of education, including dual learning, starting in September 2019. The French community (BEfr) 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.

3. A focus on teachers

The Belgian communities are taking ad hoc measures to address teacher shortages. According to data from the 2018 Teaching and Learning International Survey (TALIS\(^1\)) (OECD, 2019b), the proportion of teachers satisfied with their job is around the EU average (89.2% (84.8% in BEfr, 92.9% in BEf) v 89.5% at EU level). However, only 16.3% ((5.3%, 25.8%) v 17.7% at EU level) believe that teaching is a valued profession in society. Shortages are increasing, but seem more acute in BEfr. The reasons include the growing pupil population and its increasing diversity, an ageing teacher workforce, fewer enrolments in teacher education, high exit rates among recent teacher recruits, poor conditions for lateral entry, and difficult working conditions. There are particular shortages in specific subjects and geographical areas, including in science, technology, engineering and mathematics (STEM) fields, and in BEfr also for modern languages and specific vocational education and training (VET) courses. Promotion campaigns are being launched to attract higher numbers of and more suitable students. In BEfr, measures include overtime, raising the retirement age, more favourable lateral entry conditions, and simplified recruitment procedures. In BEf, measures include intensive initial coaching for new teachers, quicker permanent appointments, collaborative platforms giving job security to temporary teachers in primary schools, and an extra salary step for end-of-career teachers.

The communities adopted reforms to improve the quality and relevance of initial teacher education (ITE). They will be rolled out from September 2019 in BEf and as of 2020 in BEfr. In BEfr, all new teachers will need a four-year academic master’s degree (ISCED 7); since pay is directly linked to degree level, this will increase the financial attractiveness of the job. Detailed indicators on how the measure is to be financed in the long term, are awaited. In BEf, a new first master’s degree for upper secondary education teacher training will replace the required additional second master’s degree (see Box 1 below).

Box 1: Initial teacher education reforms in the French and Flemish communities

In BEfr, pre-primary, primary and lower-secondary education teachers will require a master’s degree in education (ISCED Level 7). More focus will be put on training in digital and innovative technologies, on teaching a diverse and multilingual classroom, and on addressing inequalities and differentiated learning. New teacher trainers will need an additional one-year master’s degree.

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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.
In BEfr, higher education institutions will become the only providers of ITE. Professional bachelor’s programmes for pre-primary to lower secondary teachers will focus more on didactics, classroom management, language skills, multilingualism and diversity. ‘Dutch as a non-native language’ will be a new optional subject in the lower secondary bachelor’s degree to support the teaching of students from a migrant background (also in adult education). Teaching practical VET courses will require ITE at ISCED level 5. The programme for upper secondary teachers will involve a bachelor’s degree combining subject fields with elective courses in education studies, followed by a master’s programme in education. Lateral entry will become possible through a one-year conversion course. Teacher trainers will also take a specific training.

There is scope to strengthen teachers’ continuing professional development (CPD) and pedagogical support. Schools enjoy autonomy in CPD policy and planning. CPD is not well developed, not mandatory (BEfr), and not recognised for career development. In BEfr, CPD is limited and its impact is not measured. Belgian teachers took significantly fewer ICT-related CPD courses than teachers elsewhere in the EU (European Commission, 2019a). TALIS data show that teachers attend the more popular courses and seminars (64.4% (36.7%, 88%) v 71.3% at EU level) than the activities they themselves consider more impactful, such as peer learning and coaching (25.4% (15%, 34.4%) v 38.1% at EU level). Studies show that pedagogical support for new teaching methods in pre-primary education would be beneficial to manage the increasing number of non-Dutch mother tongue children (BEfr) (Peleman, 2019). An evaluation of centres for pedagogical support and guidance in BEfr made suggestions for improvement (Commissie Monard, 2019).

The role of school leaders is gaining more recognition. In BEfr, the government increased the budget for administrative support in primary education by more than 20% in 2018/2019. Salaries of school principals were raised and their teaching load cancelled or reduced, to free time for leadership tasks and to boost professionalisation and motivation. In BEfr, measures to improve the pedagogical leadership of school leaders and to increase administrative support will be implemented from September 2019. School principals reported in TALIS that shortage or inadequacy of time for instructional leadership (58.3% (80.1% in BEfr and 44.4% in BEfr) v EU average of 34.9%) and shortage of support staff (43.7% (63.4%, 31.1%) v 38.4%) hinder the quality of teaching in their school.

4. Investing in education and training

In 2017, Belgian general government expenditure on education as a share of GDP was among the highest in the EU at 6.3%, just behind Sweden and Denmark². Since 2010, expenditure rose from 6.0% to 6.3% (or EUR 27.8 billion). Over the same period, the share of public spending on education also rose from 11.3% to 12.1%. The real-term increase of 11.5% over the same period is well above the EU average of 0.2%. Spending increased most (12.4%) at pre-primary and primary level, thereby reducing spending between elementary and secondary level, but also at secondary (6.2%) and at tertiary level (7.7%). In 2015, the share of private funding in total educational expenditure was relatively low at 6.1%, reaching 14.2% at tertiary level³. Comparing Belgium’s spending with other ‘high spending’ countries, and noting that expenditure is set to remain high (see below), better educational outcomes should be possible (European Commission, 2019b). Authorities need to make more data available to underpin educational research and evidence-based policy.

Belgium has the second highest share of spending on employee compensation in the EU. It accounted for 80.9% of public education expenditure⁴ in 2017 (EU average 62%), having increased by 12.1% between 2010 and 2017 (EU average 3.4%). This high and growing share reflects the relatively low pupil/teacher ratio in primary and secondary education⁵ (10.7 compared with the EU average of 12.9) and higher average salaries at all levels (OECD, 2017). Teacher salaries are slightly below those of similarly educated workers in BEfr and 4-11 pps lower in BEfr

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² Eurostat, COFOG, 2017 [gov_10a_exp].
³ Eurostat, UOE, 2015 [educ_uoe_fine01].
⁴ Eurostat, COFOG, 2017 [gov_10a_exp].
⁵ Eurostat, UOE, 2017, [educ_uoe_perp04].
Belgium (teacher salaries are on average about 4% higher in BEfl) (OECD, 2018c). Gross capital formation (e.g. buildings, digital infrastructure and equipment) accounted for 5.5% of public expenditure (EU average of 6.4%). This category of expenditure increased by 25.3% between 2010 and 2017 in real terms, strikingly different from the EU average cut (-14.7%). Belgium is set to experience demographic growth, with an expected peak of 6-year-olds by 2021 and 11-year-olds by 2027. Therefore, measures to address infrastructure shortages, particularly in cities, will remain a clear priority.

BEfl has invested heavily in new school infrastructure and refurbishment in recent years (EUR 2.48 billion from 2015-2018) (Vlaams Parlement, 2019). In BEfr, EUR 463.9 million was invested from 2012-2014 (OECD, 2016). Nevertheless, recent initiatives to create additional school places in areas with shortages (EUR 20 million/year) are considered insufficient (Court of Auditors, 2019). There is also an acknowledged need for a school infrastructure register (also in BEfl) and more digital equipment (BEfr).

Figure 2  Categories of public education spending, 2017

Source: Eurostat, COFOG. Online data code: gov_10a_exp.

5. Modernising early childhood and school education

In 2016, Belgium reached its national Europe 2020 target for early school leaving (ESL) of 9.5% and maintained the downward trend in 2018. The national ESL rate in 2018 dropped further by 0.3 pps to 8.6%, below the EU average of 10.6%, but with wide variations between groups and regions. The difference between regions has narrowed, with the significant drop to 10.7% in the Brussels region (-2.2 pps) and to 9.9% in Wallonia (-0.6 pps), unchanged in Flanders at 7.3% (+0.1 pps) (Statbel, 2018). The ESL rate continued to fall for women (6.5%), but increased slightly to 10.6% for men, a gender gap close to the EU average. The gap between the rates for non-EU born (19.2%) and native-born (7.2%) students remains high and slightly above the EU average (11.2 pps).

In BEfr, a comprehensive plan to address ESL, including measures to collect administrative data and set up a support system to combat dropouts (supported by the European Social Fund (ESF)), will be implemented as of 2020/2021. Improved school governance (see below) should also contribute to reducing both grade repetition (46%) and ESL. In BEfl, the rate of grade repetition fell slightly between 2012/2013 and 2017/2018 (at 26.7%, down 2.3 pps).

Belgium lowers the age of starting compulsory education to five, as quality early childhood and care (ECEC) is increasingly recognised as key to later success. Compulsory education in Belgium will start at 5 instead of 6 as of 2020/2021. Regular attendance in ECEC for 5-year-olds is already a prerequisite to access primary education. Although enrolment in ECEC increased further to 98.7% in 2017, attendance is much lower for children with a migrant background or with low-skilled parents in large cities. ECEC institutions and parents do not engage sufficiently with young children in early literacy activities (PIRLS, 2016). Longitudinal research shows that 5-year-old children from socio-economically disadvantaged families already show late acquisition of learning outcomes, which continues throughout primary school for language, mathematics and some social competences (Groenez, 2016). Different measures have been taken to increase participation in ECEC and boost literacy in BEfl (Education and Training Monitor 2018).
From 2019/2020, operating means per child will be increased to the amount at primary level (+ EUR 52 million/year). In BEfr, measures to improve participation include free ECEC as of 2019/2020, a first curriculum of ‘initial competences’ for ECEC as of 2020/2021, and an increase in the number of teachers and support professionals.

The average competence level of pupils is decreasing; improving both equity and excellence is a challenge. The 2019 European Semester country-specific recommendations to Belgium included a recommendation to ‘improve the performance and inclusiveness of the education and training systems and address skills mismatches’ (Council of the European Union, 2019). International assessments (PISA, PIRLS, TIMSS) and the 2018 proficiency tests (‘peilingen’) in primary and secondary education show a decrease in performance in basic skills and in pupils’ second language (BEfr). In parallel, nationwide results for digital skills also dropped over 2015-2017: in 2017, the proportion of people aged 16-24 with overall low digital skills (19%) was higher than the EU average (15%). In BEfr, the strategy for digital education in schools aims to close the achievement gap (FWB, 2018). In BEfl, the third strategic literacy plan (Strategisch Plan Geletterdheid 2017-2024) addresses literacy and digital skills of various subgroups. In addition, BEfl identified the need to improve systems skills, complex problem solving, and reasoning (OECD, 2019a).

The gap in educational outcomes due to socio-economic and migration background is high. TALIS data from 2018 show that diversity in the classroom is higher than the EU average. Teachers work in classes with at least 10% of students being non-native speakers (35.4% (31.7% in BEfr, 38.5% in BEfl) v 19.4% at EU level), having special needs (51.5% (49.3%, 53.4%) v 30.8%), or being migrants or with a migrant background (34.6% (36.9%, 32.5%) v 20.8%). Over 30% of students come from socio-economically disadvantaged homes (19% (24.5%, 14.3%) v 13.6%), and at least 1% of students are refugees (28.0% (25.7%, 30%) v 15.7%). The proportion of teachers who feel well or very well prepared to teach in a multicultural and/or multilingual setting is lower than the EU average (15.7% (14.2%, 17%) v 23.8%). According to principals, more than in other EU countries, shortages of qualified teachers (46.5% (65.6%, 34.2%) v 24.6%) and shortages of teachers competent to teach students with special needs (55.6% (80.9%, 39.4%) v 37.8%) hinder schools’ capacity to provide quality instruction. Performance gaps between schools persist: half of students from disadvantaged backgrounds attend schools characterised as disadvantaged (European Commission, 2017, 2019b). The persistent poverty rate among children below 18 years also doubled between 2007 and 2017 (14.4% above the EU average of 13.9%). Pupils from a disadvantaged background and with another mother tongue are more at risk of having a problematic school career (Onderwijs Vlaanderen, 2018). The new decree on enrolment in secondary education (BEfl) will abolish the mandatory social mix of pupils within schools as of 2020/2021. The impact of replacement mechanisms on social segregation remains unclear.

School reforms to improve basic skills, tackle inequalities and improve efficiency and governance will be implemented from 2019/2020 in BEfr. The ‘Pact for Excellence in Education’, a systemic and long-term school reform stretching to 2030, aims to improve basic skills, reduce grade repetition, inequity and high dropout rates. Work on the first pillar of the reform (changes to school and system governance) is the most advanced. Central governance is being reinforced, but combined with greater autonomy and accountability for schools. From 2019-2021, all schools must set six-year plans contributing to the objectives of the Pact, including the objectives on performance and inequality, exclusion of disadvantaged groups, differences in individual school performance, early school leaving, grade repetition and collaborative teaching. The second pillar of the reform (a common, multi-disciplinary and poly-technical curriculum) will be rolled out from 2020/2021, first in pre-primary (see above) and then in higher grades, reaching 9th grade in 2028/2029. Two hours per week of individualised child support will be provided from 2019/2020. Benchmarks for this new curriculum still need to be decided. Its successful implementation will depend on political commitment and sustained financing, but also on finding sufficient teachers, giving them stronger pedagogical support, and on the new initial teacher education.

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6 [isoc_sk_dskl_i]
7 Systems analysis, judgment and decision making and systems evaluation.
8 Definition: see page 122 of OECD (2018a).
9 Eurostat, EUSILC, [ilc lié21].
Reforms in secondary education will be implemented in the Flemish community from September 2019. New curricula, based on the EU key competences framework, have been developed by the different school networks focusing on fewer but more ambitious and clearer final attainment levels for first grade: all children will need to meet a baseline literacy level. Pupil guidance will be mandatory and an additional criterion for recognition of schools. Final attainment levels are currently being developed for second and third grades, including for the first time subject-specific attainment targets for Vocational Education and Training (VET). The range of subjects on offer in second and third grades has been streamlined and should result in a better transition to higher education or the labour market. However, early tracking remains a concern (OECD, 2018b).

6. Modernising higher education

In 2018, Belgium reached its Europe 2020 national target for tertiary attainment of 47%, but disparities remain between regions and groups. The rate increased from 45.9% in 2017 to 47.6%. The increase of 1.8 pps was higher in Flanders (48.2%) and in the Brussels region (56.2%) than in Wallonia (+ 1.6 pps to 42.5%) (Statbel, 2018). Though the attainment rate for men fell slightly from 40.8 to 40.6%, it increased for women from 50.9 to 54.5%. There are wide disparities related to socio-economic and migrant background, which can also be linked to grade repetition at school. Although 49.2% of the native-born population aged 30-34 had completed tertiary education, only 35% of the non-EU born population had done so. In 2016, the attainment gap for people with disabilities far exceeded the EU average (25.5 pps against 13.2 pps).

In a context of budgetary constraint and rising student populations, the higher education system is expected to better balance equity, effectiveness and efficiency. Belgium’s universities (11 out of 12) in the U-Multirank perform strongest in the research, knowledge transfer, international orientation and regional engagement dimensions, but only average (6 universities) on teaching and learning (U-Multirank, 2019). Higher education institutions (HEI) are increasingly forming clusters with other institutions to improve efficiency, visibility and competitiveness. BEfr has passed legislation in 2019 (‘décret Transparence’), enforcing private HEI to inform students on the formal value of their degree. From 2019/2020 in BEfl, new short-cycle programmes will provide increased opportunities for vocational education students to access higher education. Teacher education programmes within centres of adult learning will also be incorporated into HEIs. From September 2019, the new quality assurance framework will give HEI more autonomy and responsibility. With the same objective, BEfr has launched in 2019 a large-scale participatory reflection to deliver a new quality assurance framework by end 2021. Nationally, course dropout and year repetition rates are high (De Witte and Hindriks, 2018). Degree completion time has increased, linked to the introduction of flexible education pathways. Though currently every HEI has its own diversity policy, from September 2019, BEfl will start collecting data on disadvantaged/underrepresented groups to develop more strategic policies. In Belgium, adults with tertiary-educated parents are 9 times more likely to complete tertiary education than those with low-educated parents (OECD, 2018a).

The communities are taking action to increase the uptake of STEM studies, but they lack comprehensive strategies to meet labour market demand. The 83.4% employment rate of recent graduates from education in 2018 was above the EU average (81.6%). The employment rate of tertiary education graduates (90.3%) is also above the EU average (85.5%), but below average (70% compared to 76.8) for upper secondary and post-secondary non-tertiary graduates. In 2017, Belgium ranked 26th in the EU for tertiary graduates in STEM (16.7%) and last for female graduates in IT. In BEfr, though a number of initiatives are being launched to promote STEM uptake, an overall strategic plan is lacking. In BEfr, implementation of the STEM action plan for 2012-2020 is progressing well (Onderwijs Vlaanderen, 2019). In the German-speaking community (BEde), measures include promoting science in schools and more cooperation with universities and vocational training centres.
Modernising vocational education and training

The share of upper secondary students in vocational education and training (VET) is slowly but steadily decreasing. In 2017, the share of students in VET (ISCED 3) was 57.8%, about 10 pps above the EU average. However, the proportion of students in work-based learning was only 6% (EU 27%) and the employment rate of recent VET graduates was 76.7% (EU 79.5%).

All communities took action to improve dual learning. In BEfl, after a three-year pilot, dual learning will be rolled out from September 2019 as an education pathway in mainstream secondary education. BEfl also adopted a decree to start dual learning in special needs education (Onderwijs Vlaanderen, 2018). In 2018/19, a first pilot to run two courses was set up, to be extended to 30 courses in the next school year. The Walloon government approved a plan to renovate and create IFAPME training centres to become centres of excellence in dual learning both for young people and for adults. In August 2018, an agreement was signed with more than 21 sectoral federations and sector funds to increase awareness of these measures among employers and to develop collaborations with stakeholders (Gouvernement Wallonie, 2018). In the Brussels region, a one-stop shop called the ‘Cité des métiers’ (City of trades) provides access to all types of lifelong learning, including VET. In BEde, a new training offer called apprenticeship contract ‘29 Plus’ is aimed at persons with a replacement income to improve their chances on the labour market.

Developing adult learning

With low participation in adult learning, Belgium is not well prepared to tackle its high exposure to digitalisation. In 2018, participation in adult learning stagnated at 8.5% (EU average of 11.1%). To improve participation, BEfr has reduced enrolment costs for unemployed and disadvantaged groups. BEfl will further reform training incentives for workers. By September 2019, coordinated actions will be put in place to compensate the employer, the employee in training and the cost of training by issuing vouchers. In January 2018, the development of a Flemish skills strategy was launched in cooperation with the OECD (OECD, 2019a). As Belgium is ahead of other countries regarding exposure to digitalisation (OECD, 2019c), public investment in lifelong learning and reskilling to address the digitalisation challenge will be essential. 61% of

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10 [educ_uoe_enrs04]
11 [educ_uoe_perp04]
12 Institut wallon de Formation en Alternance et des indépendants et Petites et Moyennes Entreprises.
individuals between 16 and 74 years have only basic digital skills, above the EU average of 57% (European Commission, 2019). The share of adults without an upper-secondary qualification is 21.8%, close to the EU average. However, their employment rate is among the lowest in the EU, highlighting the need for more substantial action on upskilling and reskilling for this target group. Addressing skills mismatches is one of the 2019 country-specific recommendations for Belgium (see section 5).

Socially disadvantaged groups are underrepresented in adult learning. Both Flanders and Wallonia have initiatives to address this, for example, implementing the decree on the financing of formal adult education in BEFl, and an increased budget for adult education schools in BEFr.

Recognition and validation of skills is high on the agenda. In BEFl, the decree on the integrated policy for the recognition of prior learning (Vlaams Ministerie Onderwijs, 2019) will ensure that individuals can have their competences tested in a special test centres in addition to the systems in higher education. A decree on quality control for vocational pathways based on a common framework was also adopted. A pilot project has been funded to assess up to 100 adult skills in bottleneck occupations and to certify them upon successful evaluation. BEFr is implementing the recommendation on upskilling pathways. BEdE continues to develop validation of non-formal and informal learning through a working group of education, training and labour market stakeholders (see Box 2).

Box 2: An ESF-funded project makes skills visible and useful in BEdE

The 'Zukunftsweg gestalten' project has been put in place to support low-skilled jobseekers, workers and migrants whose foreign qualifications could not be recognised. The project provides for competence assessments and the development of personal competency profiles, guidance and advice on finding training, and recognition of professional skills (Das Bildungsportal, 2019).

9. References


Cité des Métiers, 6-6-2019. https://www.citedesmetiers.brussels/


European Commission (2017), European Education and Training Monitor 2017

European Commission (2018), European Education and Training Monitor 2018


Annex I: Key indicator sources

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Annex II: Structure of the education system


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

Highlights of the cross-national analysis
Highlights of the country analysis
Highlights of the cross-national analysis

Among all factors in the school environment, teachers are considered to have the greatest impact on students’ learning outcomes. At the same time, more than 60% 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

13 DG EAC calculation on Eurostat’s general government finance statistics, reference year 2017 (gov_10a_exp).
needs hinders the quality of instruction at their school. Principals also point to shortages of teachers who have competences in teaching in a multicultural or multilingual setting (the largest shortages are in France, Italy and Portugal); and competences in teaching students from socio-economically disadvantaged homes (largest shortages in France, Italy, and Portugal). This second type of shortage is driven by change (technology; diversity in classrooms) and points to a need to improve training (initial and continued).

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

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

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

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

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

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

Participation in education can be measured by data on enrolments, qualifications, or performance test. The latter show that reducing the number of underachieving 15-year-olds to meet the EU
target of less than 15% by 2020\textsuperscript{14} remains a challenge, particularly for pupils from disadvantaged socio-economic backgrounds. Failing to achieve basic mathematics, reading or science tasks at the age of 15 impacts on individuals’ chances to continue studying, find and maintain employment later in life, cope with fast-paced technological change, and develop as citizens. Between 2012 and 2015, the EU has actually moved further away from meeting this target. Approximately one fifth of pupils in the EU cannot complete basic reading tasks, and the share is slightly higher for science and maths (2015 data). Despite less favourable or sometimes adverse background conditions, around a quarter of socio-economically disadvantaged pupils born in another country are considered academically resilient. Individual factors associated with higher resilience include high academic expectations, and not repeating grades; while disengagement from school (for example skipping classes, and abusing substances) has a negative association with resilience. At school level, the use of school evaluations, connecting the students’ test results to teachers’ performance, adequate provision of study rooms and being surrounded by pupils with higher socio-economic status are all factors correlating positively with resilience.

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

**Developing competences for future life and employment**

Research has long established the positive outcomes of being able to study abroad. Transnational learning mobility is associated with future mobility, higher earnings, and lower risk of unemployment. ‘Making learning mobility a reality for all’ is one of the objectives of the European Education Area\textsuperscript{15}. 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

\textsuperscript{14} Data for this benchmark come from the OECD PISA survey. Students scoring below level 2 are considered underachievers.

\textsuperscript{15} 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**
Enterment 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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