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**COMMISSION STAFF WORKING DOCUMENT**

**Education and Training Monitor 2022**

*Accompanying the document*

**Communication from the Commission to the European Parliament, the Council, the  
European Economic and Social Committee and the Committee of the Regions**

**on progress towards the achievement of the European Education Area**

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# **Education and Training Monitor 2022**

LUXEMBOURG



The Education and Training Monitor's country reports present and assess the main recent and ongoing policy development at all education levels in EU Member States. They provide the reader with more in-depth insight of the performance of countries with regard to the EU level targets agreed within the EEA. They are based on the most up-to-date quantitative and qualitative evidence available.

Section 1 presents a statistical overview of the main education and training indicators. Section 2 focuses on how the Member State has addressed or is addressing one of its education challenges. Section 3 covers early childhood education and care. Section 4 deals with school education policies. Section 5 covers vocational education and training and adult learning. Finally, Section 6 discusses measures in higher education.

The Education and Training Monitor's country reports were prepared by the European Commission's Directorate-General for Education, Youth, Sport and Culture (DG EAC), with contributions from the Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL).

The document was completed on 30 September 2022

More background data at:

<https://op.europa.eu/webpub/eac/education-and-training-monitor-2022/en/>



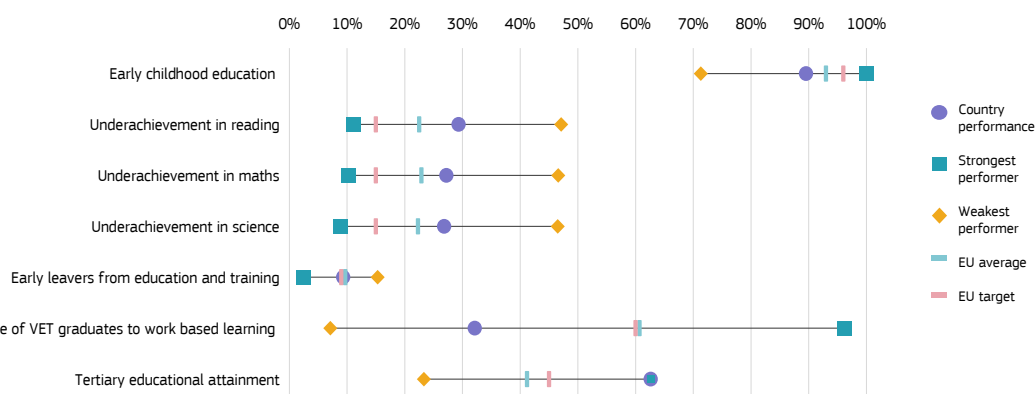
# 1. Key indicators

**Figure 1: Key indicators overview**

			Luxembourg		EU	
			2011	2021	2011	2021
<b>EU-level targets</b>			<b>2030 target</b>			
Participation in early childhood education (from age 3 to starting age of compulsory primary education)	≥ 96 %		89.9% <sup>13</sup>	89.5% <sup>20</sup>	91.8% <sup>13</sup>	93.0% <sup>20</sup>
Low achieving eighth-graders in digital skills	< 15%		:	50.6% <sup>18</sup>	:	:
Low achieving 15-year-olds in:	Reading	< 15%	26.0% <sup>09</sup>	29.3% <sup>18</sup>	19.7% <sup>09</sup>	22.5% <sup>18</sup>
	Maths	< 15%	23.9% <sup>09</sup>	27.2% <sup>18</sup>	22.7% <sup>09</sup>	22.9% <sup>18</sup>
	Science	< 15%	23.7% <sup>09</sup>	26.8% <sup>18</sup>	18.2% <sup>09</sup>	22.3% <sup>18</sup>
Early leavers from education and training (age 18-24)	< 9 %		6.2%	9.3% <sup>b</sup>	13.2%	9.7% <sup>b</sup>
Exposure of VET graduates to work-based learning	≥ 60 % (2025)		:	32.1%	:	60.7%
Tertiary educational attainment (age 25-34)	≥ 45 %		46.6%	62.6% <sup>b</sup>	33.0%	41.2% <sup>b</sup>
Participation of adults in learning (age 25-64)	≥ 47 % (2025)		:	:	:	:
<b>Other contextual indicators</b>						
Equity indicator (percentage points)			:	26.9 <sup>18</sup>	:	19.30 <sup>18</sup>
Early leavers from education and training (age 18-24)	Native		5.5%	7.0% <sup>b</sup>	11.9%	8.5% <sup>b</sup>
	EU-born		7.3% <sup>u</sup>	13.0% <sup>b</sup>	25.3%	21.4% <sup>b</sup>
	Non EU-born		:	16.4% <sup>bu</sup>	31.4%	21.6% <sup>b</sup>
Upper secondary level attainment (age 20-24, ISCED 3-8)			73.3%	76.6% <sup>b</sup>	79.6%	84.6% <sup>b</sup>
Tertiary educational attainment (age 25-34)	Native		41.9%	53.5% <sup>b</sup>	34.3%	42.1% <sup>b</sup>
	EU-born		52.4%	70.9% <sup>b</sup>	28.8%	40.7% <sup>b</sup>
	Non EU-born		44.5%	64.5% <sup>b</sup>	23.4%	34.7% <sup>b</sup>
Education investment	Public expenditure on education as a percentage of GDP		5.0%	5.0% <sup>20</sup>	4.9%	5.0% <sup>20</sup>
	Public expenditure on education as a share of the total general government expenditure		12.0%	10.5% <sup>20</sup>	10.0%	9.4% <sup>20</sup>

Sources: Eurostat (UOE, LFS, COFOG); OECD (PISA). Further information can be found in Annex I and at *Monitor Toolbox*. Notes: The 2018 EU average on PISA reading performance does not include ES; the indicator used (ECE) refers to early-childhood education and care programmes which are considered by the International Standard Classification of Education (ISCED) to be 'educational' and therefore constitute the first level of education in education and training systems – ISCED level 0; the equity indicator shows the gap in the share of underachievement in reading, mathematics and science (combined) among 15-year-olds between the lowest and highest quarters of socio-economic status; b = break in time series, u = low reliability, : = not available, 09 = 2009, 13 = 2013, 18 = 2018, 20 = 2020.

**Figure 2: Position in relation to strongest and weakest performers**



Source: DG Education, Youth, Sport and Culture, based on data from Eurostat (LFS 2021, UOE 2020) and OECD (PISA 2018).

## 2. A focus on non-formal early childhood education and care

**Common standards have been introduced to harmonise quality across the non-formal education sector.** Non-formal education complements school education by developing children's language and motor skills, social competence and creativity in a playful manner. It covers three age groups in Luxembourg: young children under 4, school-going children aged 4-12, and adolescents and young people aged 12-30. There are over 800 service providers in non-formal education: mini-nurseries for young children; education and care providers for children aged 4-12 and over 500 childminders. In 2016, the Youth Act established a national reference framework for non-formal education in all nurseries, day-care facilities, youth centres and certified childminders (*assistant parental*). This was a major advance in the development of non-formal education, giving it well-defined objectives and quality standards for children's development. These were updated in 2021, enabling regional experts from the National Youth Service to monitor quality.

**Funding for early childhood education and care (ECEC) is conditional on contractual status and quality standards' being met.** As of 2017, all providers must comply with the reference framework to be eligible for the state co-financing childcare voucher scheme (*chèque-service accueil*). This includes activities to familiarise children aged 1-4 with Luxembourgish and French. Childcare vouchers give parents reduced rates at nurseries, after-school centres, mini-nurseries and day-care centres. In the non-formal sector, providers can be contracted (municipalities and non-profit organisations) or non-contracted (for-profit organisations). Both types of providers are eligible for co-financing, but only contracted providers receive additional government funding.

**Luxembourg has significantly increased its support for day-care services by making them free for primary school children as of 2022/2023.** This will apply to day-care facilities (*maisons relais*<sup>1</sup> and *foyers scolaires*<sup>2</sup>) and certified childminders (*assistants parentaux*). These will be free for all children during school weeks from Monday to Friday, 7 AM to 7 PM; day care will be fee-paying during school holidays only. Families can use childcare vouchers for time outside these hours or periods. To improve education quality, continuing professional development for staff in non-formal education has been extended and made free for up to 24 hours of training a year from 2022. In addition, professional guidance for managers of day-care facilities has been drawn up and specific training sessions for technical and administrative staff has been developed.

**To improve provision, the government launched a review of its non-formal education sector.** This covers ECEC for children before the compulsory school-going age of 4, and services for school-aged children during out-of-school hours. The review, conducted by the OECD and supported by the European Commission, focused especially on quality assurance and workforce development (OECD, 2022). It found that initial education requirements for staff are low compared to other countries, with only 60% of staff required to have an ISCED 3 qualification in social or educational sciences, whereas for formal ECEC all teachers need to have a Bachelor's in educational sciences. The OECD advised Luxembourg to:

- improve the monitoring of process quality;
- ensure that investments are allocated efficiently to different types of ECEC;
- consider developing ECEC-specific initial teacher education programmes

<sup>1</sup> Also called a drop-in centre.

<sup>2</sup> A day-care centre offering non-formal educational activities for children aged 3 to 12 after school and during school holidays.

- strengthen coordination across departments responsible for formal and non-formal childcare in the Ministry of Education, Children and Youth to make the two systems more complementary.

### 3. Early childhood education and care

**Participation in ECEC under age 3 is high, but from age 3 it is below the EU average.** Nearly two thirds (63.2%) of children below age 3 are cared for by professionals. This is one of the highest formal childcare rates in the EU. From age 3, 89.5% of children participate in ECEC, below the EU average (93.0%) and the EU-level target (96%) for 2030.

**Improving access to and the quality of ECEC may help close development gaps.** In the last 15 years, Luxembourg has invested heavily in extending access to ECEC and non-formal day-care facilities, nearly tripling the number of places and doubling the availability of childminders (Neumann 2018). Compulsory education starts with 2 years of pre-school from age 4, which can be supplemented with an optional year from age 3. Childcare vouchers give parents reduced rates at nurseries, after-school centres, mini-nurseries and day-care centres. In 2019, the childcare system was extended to include a new type of institution, mini-nurseries. These are small day-care centres for children aged up to 12 that look after a maximum of 11 children.

### 4. School education

**Luxembourg was one of the EU countries with the shortest full school closures during the pandemic.** The loss of teaching days during school closures was kept to a minimum. Between January 2020 and May 2021, primary schools were closed for 48 days and secondary schools for 34, compared to 78 days and 92-101 days on average across OECD countries (OECD, 2021). To ensure continuity, a hybrid approach was adopted from pre-primary to upper secondary education, with a mixture of online classes and assignments

students had to do by themselves at home. Since 2020, free summer catch-up courses for pupils in need of them have helped mitigate learning losses. A survey among parents linked to the 2020 national competence tests has shown that pupils from more affluent socio-economic backgrounds had more family learning support, while pupils from a disadvantaged or from a Portuguese language background received more support from their teachers and classmates. This suggests that teachers have adapted their support to pupils' needs, by giving support primarily to pupils with more learning difficulties (Fischbach et al., 2021).

**During the first year of the pandemic, school outcomes remained stable on average, but disadvantaged pupils were more affected.**

Based on the results of the national competence tests (*Epreuves Standardisées*), the University of Luxembourg analysed the pandemic's effect on learning outcomes. In pre-primary and primary education, competence scores remained stable, except for a substantial decline in German. The same was observed in lower secondary education, especially among pupils from less fortunate socio-economic backgrounds, deepening existing inequalities. German is the main teaching language in Luxembourg, so this deterioration is also likely to have repercussions for most other subjects. The most vulnerable groups appeared to be pupils from disadvantaged backgrounds and those whose home language is not one of the three teaching languages. According to the survey, families coped well with home schooling and teachers communicated with their pupils regularly. Infrastructure was not a problem for accessing digital materials (LUCET, 2021). With an average primary class size of 15 pupils in public schools – compared to the OECD average of 21 – Luxembourg was in a good position to reopen its schools while maintaining a safe distance of 1 to 2 metres between pupils and staff (OECD, 2020).

**Teacher shortages are being addressed by lateral entrants and contractual staff.**

Since 2018, the government has been recruiting Bachelor's graduates in areas linked to primary education (psychology, languages, sports, etc.). After successfully completing on-the-job training of about 250 hours, candidates may become

primary school teachers under the same conditions as Bachelor's educational sciences graduates. Luxembourg also uses staff who have not passed an open competition to become permanent: the proportion of such teachers is 29% in general upper secondary schools and 27% in VET (QP, 2022).

**The growing school population is becoming increasingly diverse.** Between 2010 and 2020, the school-age population (4-16-year-olds) increased by 11% (vs 1% on average in the EU). The overall population grew by 24% in the same period, mainly due to immigration. In the 2021/2022 school year, pupils with Luxembourgish as their first language were the minority in primary (33.1%) and secondary education (36.3%) (MENJE, 2022a). Only 83.5% of pupils follow the national curriculum; others follow a European or international curriculum in public (5.1%) or private schools (11.4%). This cultural and linguistic diversity poses particular challenges for the school system.

**The rate of early leavers from education and training (9.3%) is close to the EU-level target (below 9%).** This figure should be treated with caution because of the limited sample size. According to national data, the proportion of young people aged 16-24 who left education and training without completing upper secondary education increased to 8.4% in 2020/2021, surpassing the level in any year since 2016/2017 (MENJE, 2022b). This includes young people who left the national school system but enrolled in a foreign or private school later on. Most young people are aged between 16 and 18 when they drop out of school. This is the period for choosing from different educational paths. Pupils in the general track choose between general (*général*) or vocational education (*régime professionnel*) whereas pupils in the academic track (*classique*) choose their subject specialization (MENJE, 2022). The proportion of boys who drop out is almost double that of girls (63% v 37%). In 2020/2021 80% of pupils who dropped out had repeated a year at least once (Figure 3). The repetition rate remains high: by the end of primary education (age 12) 21% of pupils have repeated at least 1 school year (MENJE, 2022c). In terms of

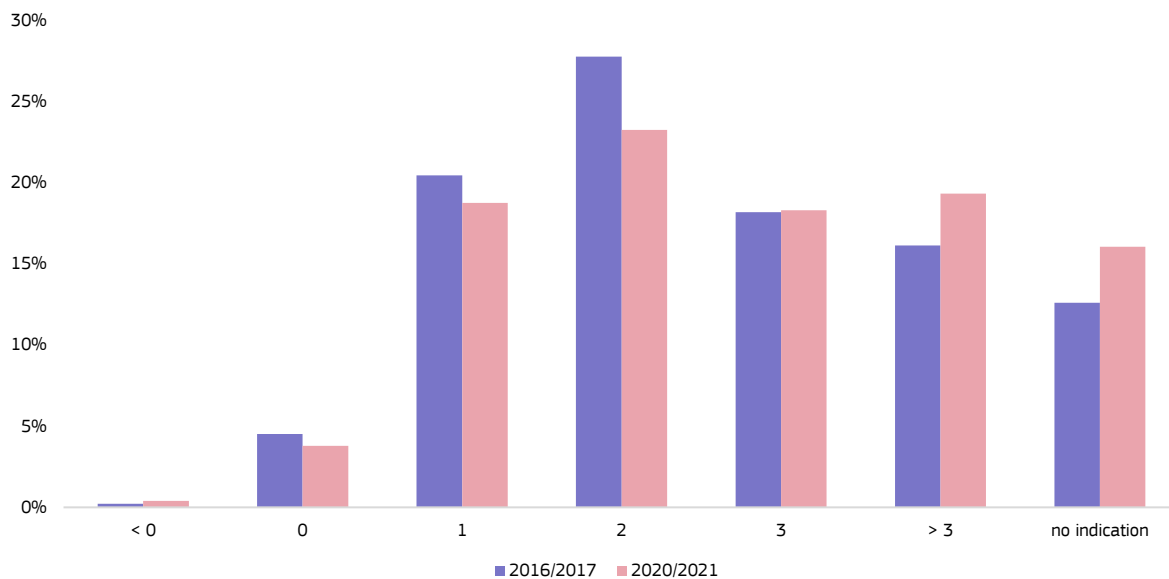
distribution across the different sectors of secondary education, most young people dropped out of VET (31%) or the lower track of general secondary education (20%). According to a survey by the National Youth Service (MENJE, 2021), young people who have left education without a qualification are three times more likely not to participate in education, employment or training between ages 20 and 34 than their peers who continued or completed secondary education. In 2021, the proportion of 15-29-year-olds not in education, employment or training (NEET) was 8.8% (EU average: 13.1%)<sup>3</sup>.



#### Box 1: Luxembourg combats early school leaving by personalised support and guidance

Preventively, the National Youth Service (SNJ) offers workshops for secondary schools in or outside school to help pupils plan their career and make them accountable for their choices. It also identifies young people who have dropped out and contacts them individually to offer them guidance. These young people are then informed of possible training and job offers. If a return to school or transit to work cannot be envisaged right away, the SNJ can propose participation in a 3-12 month voluntary programme, during which young people are accompanied. This has increasingly been taken up, with more than 450 agreements signed in 2020/2021. The National Youth Service also organises various workshops, training sessions and short 'discovery' traineeships in companies. The number of participants is increasing rapidly, having reached more than 3 000 in 2020/2021.

<sup>3</sup> [EDAT\_LFSE\_18]

**Figure 3: Drop-out by number of grade repetitions in 2016/2017 and 2020/2021 (%)**


Source: Ministère de l'Éducation Nationale, de l'Enfance et de la Jeunesse

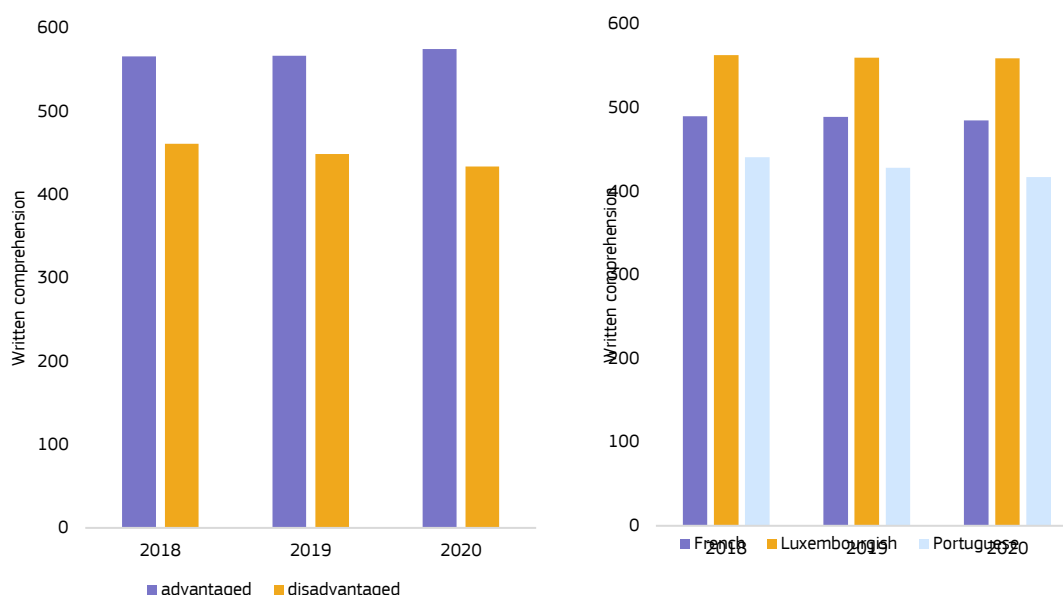
**National and international surveys show marked disparities in basic skills.** Pupils' basic skills, already below the EU average, are closely linked to socio-economic status. In 2018, Luxembourg's average competence levels, as measured by the OECD Programme for International Student Assessment (PISA), were significantly lower than the EU average in all three areas tested. Advantaged students scored 122 points above their disadvantaged peers, the largest such gap observed across all EU countries. The national competence tests show that at the time of starting school, pupils have the essential basic skills to begin acquiring formal literacy, even though significant differences in these initial skills could be identified (Hornung et al., 2021). In the first year of primary of the national school system German is introduced not as a second or third language, but one the pupils can instinctively understand, with a direct cognitive transfer from Luxembourgish to German expected. By the start of year 3 in primary school, at age 8, there is an exacerbation of skills disparities, with many pupils' performance falling markedly in German reading comprehension and maths, particularly pupils from a disadvantaged background or those whose first language is neither German nor Luxembourgish.

**Pupils' performance is heavily influenced by their ability to cope with the trilingual education system.** The spoken language in the national school system at primary level is Luxembourgish, while pupils learn to read and write in German and all subjects (except French) are taught in German. The main teaching language in technical secondary education remains German, with maths taught in French in the upper grades, and French the language of the final exam. In year 4 of academic secondary education, the teaching language switches from German to French for all subjects. This is hard for everyone, but especially for pupils who do not speak Luxembourgish at home. Scientific evidence<sup>4</sup> suggests that reading and numeracy

<sup>4</sup> Between 1985 and 2001, Thomas and Collier examined the records of 700 000 students from language minorities, speaking dozens of home languages, in five school systems. They found that the strongest predictor of success at upper secondary level in the dominant (English) language education system was the number of early years of instruction students had received in their first language. UNESCO has also published several case studies on the long term positive effects of first language based bilingual education  
<https://unesdoc.unesco.org/ark:/48223/pf0000161121>.



**Figure 4: Evolution of writing comprehension in German in year 3 of primary school, depending on socio-economic status and linguistic background, between 2018 and 2020**



Source: LUCET 2021. Note: Pupils' achievements are standardised so that the mean value of the respective reference cohort is always 500 and the standard deviation 100 (Fischbach et al., 2014).

develop best when acquired in the first language. To make schooling more accessible, a pilot project will be launched in four primary schools as of 2022/2023, where pupils will start learning first in French, then continue in German. The level of skills to be acquired will remain the same; it is the order of teaching languages that will change. If the pilot is successful and extended to more schools, French-speaking pupils may fare better throughout their schooling.

**Luxembourg has taken measures to close the inequality gap between pupils.** Afterschool facilities (*maisons relais*) will be free on schooldays for all children as of 2022/2023. All pupils will also receive a free lunch at school. In 2018, nine support centres for children with special educational needs were established, where pupils can receive targeted support in addition to the support they get in primary or secondary education. Luxembourg has also decided to make music education free for all children as of 2022/2023.

### European schools offer a linguistic alternative to the national system.

Luxembourg's sixth accredited European school<sup>5</sup> opened in September 2022. The total number of pupils in the European schools is 3 400. Pupils may choose English, French or German as a main language. Luxembourgish is taught twice a week until the third year of secondary school, while foreign languages such as Italian and Portuguese are offered as optional subjects. Public international schools, open for free to any pupil, are an accessible alternative for pupils whose first language is not Luxembourgish, for example.

### Digital sciences have been introduced in secondary education.

Since the 2020/2021 school year, coding has been incorporated into maths classes in teaching cycle 4 (ages 10 to 11) and since 2021/2022 has been taught in all

<sup>5</sup> A European school is a type of international school with a multilingual and multicultural pedagogical approach, with the European Baccalaureate as the secondary school leaving qualification.

subjects in teaching cycles 1 to 3 (ages 4 to 9). In secondary education, computer science became a new subject in 2021/2022, including coding and computational thinking. Since 2021/2022, 18 secondary schools – about half of all secondary schools – have been taking part in a pilot scheme introducing digital sciences from grade 7 onwards through the 3 years of lower secondary education. From 2022/2023, the new subject will be taught once a week in all secondary schools from grade 7 (MENJE, 2021b). As part of the strategy to improve digital education, the National Teacher Training Institute offers new continuing professional development courses to primary and secondary school teachers.

**Ukrainian children are integrated into education in three stages.** Between the start of the war against Ukraine and June 2022, Luxembourg received almost 1 300 pupils (MENJE, 2022d). At primary level, 461 pupils joined regular primary schools or reception classes in public international schools. At secondary level, an overwhelming majority of pupils – over 800 – joined the six European schools, in English-speaking reception classes organised specifically for Ukrainian pupils. When pupils are ready, they can join regular international classes. According to their age and progress, they will also start learning French or German. To take better care of displaced children, people speaking Ukrainian are being recruited. They can intervene in lessons, with the teacher's guidance, to support the children, for example by providing translations or explanations in Ukrainian. Pupils in the final year of the Ukrainian education system will be able to sit the Ukrainian multi-subject online university entry test in September. Young people who have already graduated from secondary school in Ukraine can prepare for an entry diploma to higher education (*Diplôme d'accès aux études supérieures*) in English, which gives them access to European tertiary education.

## 5. Vocational education and training and adult learning

**Vocational education and training (VET) and adult education remain attractive.** In 2020, 61.6% of all learners in upper secondary education were enrolled in VET<sup>6</sup>. While data should be treated with caution because of the small size of the sample, VET still has good employment prospects despite a strong decrease in the employment rate of recent VET graduates<sup>7</sup> in 2021: 77% (EU average: 76.4%) versus 95.4% in 2018 and 100% in 2019. The temporary apprenticeship bonus, introduced to tackle the risk of a lack of apprenticeship posts due to the COVID-19 crisis, was extended until October 2021. Luxembourg had a high overall rate of participation in adult learning in 2021 (17.9% v 10.8% in the EU), notably among unemployed people (34.4% in 2021 versus 12.7% in the EU). However, participation is still uneven, with only 8.9% of older workers in 2021 and 6.8% of low-skilled people (versus 24.6% of high-skilled people) in adult learning. Strengthening the quality and inclusiveness of education and training is crucial for Luxembourg to address labour shortages and contribute to reaching the EU 2030 headline skills and employment targets.

**64% of adults have at least basic digital skills** (54% at EU level) (European Commission, 2022). People in Luxembourg also score above the EU average in 'above basic digital skills' and 'at least basic software skills'. ICT graduates in the total pool of graduates are also above the EU average (5% versus 3.9%), but Luxembourg continues to experience a significant shortage of ICT specialists, considerably above the EU average. For ICT, 'Baccalaureate+2' is the minimum level 95.9% of companies require (FEDIL, 2022). In September 2021, Luxembourg published its new strategy 'National Action for

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<sup>6</sup> [educ\_uoe\_enrs05]

<sup>7</sup> [edat\_lfse\_24]

Digital Inclusion' (Ministry for Digitalisation, 2021) and launched a digital learning hub in May 2022. Current and upcoming strategies and plans are putting emphasis on digital skills with the full involvement of social partners and stakeholders. The goals of the Future Skills (the training part of the initiative, included in the recovery and resilience plan) were met between October 2020 and December 2021 for the total number of participating jobseekers and those over 45 years old.

**The implementation of the national skills strategy is under preparation.** The related ongoing OECD study on Luxembourg's labour market and the resulting qualifications needs will help design the national skills strategy and implement a training action plan in 2022/2023. In 2021, the Ministry of Labour and the public employment service also conducted several sectoral studies on occupations and skills in demand (as part of the Future Skills initiative), in cooperation with employers' federations. It is a strong response to the need to monitor and anticipate skills demands in Luxembourg in a context of potential skills mismatches and growing labour shortages.

**Guidance and support services for adult education improved in 2021.** The new 'one-stop shop' for lifelong learning in the *Maison de l'Orientation* (House of Guidance) gives information to every adult seeking training, whatever their objective and nature of the training they seek. Other measures, announced in the Coalition Agreement in 2019, are still at an early stage, such as the introduction of individual learning accounts and the creation of an accreditation agency to promote the quality of life-long learning and transparency in the vocational training market.



### Box 2: European Social Fund project Basic Digital Skills 2022

The aim of this European Social Fund project is to train jobseekers with little or no computer skills. Many workers in Luxembourg have adapted to the rapid changes in IT, but others – especially older workers – have not had the opportunity to acquire such skills and now face difficulties in a completely changed job market. The programme aims to help these jobseekers by demystifying the complexity of computer tools, helping them acquire the basic skills to use computer tools, present themselves on professional social media and understand the impact of using the tools, and develop their learning skills through practical exercises. As a common thread in this training programme, each participant is asked to write his or her CV and cover letter in electronic format.

At the end of the training, the participant benefits from an individual debriefing session to highlight the benefits of the programme, review progress, and identify future actions and needs.

Budget: EUR 120 400, of which the European Social Fund co-finances EUR 60 200.

<https://fonds-europeens.public.lu/fr/projets-cofinances/fse/2014-2020/1123.html>

## 6. Higher education

**Tertiary educational attainment and graduate employment rates are among the highest in the EU**, with 62.6% of the population aged 25-34 holding a tertiary degree (EU: 41.2%), the highest in the EU. The proportion of highly skilled women in this age group exceeds that of men by 15.1 percentage points (EU: 11.1). The rate is significantly higher among the migrant population (69.1%, compared to 53.5% of people born in Luxembourg). Study programmes at the University of Luxembourg are bilingual, trilingual (French, German, English) or entirely in English. With a high proportion of international students, Luxembourg may have been worse affected by the travel restrictions linked to the pandemic than other countries (OECD, 2020).

**The proportion of ICT graduates is high, but still not keeping up with demand.**

According to the European Commission's 2021 Digital Economy and Society Index, Luxembourg's proportion of ICT specialists and graduates is higher than the EU average, but there is still a shortage of ICT specialists. This may impede the digitalisation of economy. The proportion of ICT specialists among graduates is 5.0% (EU: 3.9%). In 2021, Luxembourg was the third country in the EU where the proportion of ICT specialists in the workforce was highest (6.7%). One out of five (19.7%) ICT workers was a woman, slightly above the EU average (19.1%).

**Graduates' employment rates improved in 2021, but have still not reached the level before the pandemic.**

The employment rate of recent tertiary graduates in 2021 improved somewhat, to reach 87.0% (vs EU average 84.9%), but remains considerably lower than in 2019 (94.2%). Among recent graduates, holders of a tertiary diploma were more often in employment than VET graduates (by 10 percentage points). Young people were hit particularly hard by COVID-19: their unemployment rate increased by 7.9 percentage points within a year, reaching 25.1% in the first quarter of 2021. Having a tertiary degree carries not only an employment premium, but also a considerable earnings advantage, as in most OECD countries. In Luxembourg, 25-64-year-olds with a tertiary degree and income from full-time, full-year employment earned 47% more in 2018 than full-time, full-year workers with upper secondary education, compared to 57% on average across OECD countries (OECD, 2021).

**New study programmes were introduced at the University of Luxembourg in 2021-2022.**

These include a Bachelor's programme for aspiring music teachers, a multidisciplinary Master's programme in data science, digital transformation in finance (as part of the Master's in science in finance and economics) and digital procurement (part of the Master's in logistics and supply chain management). Following the launch of the Bachelor's in medicine in 2020, the university is also expanding its range of medical studies with

three new medical specialisations in general medicine, oncology and neurology.

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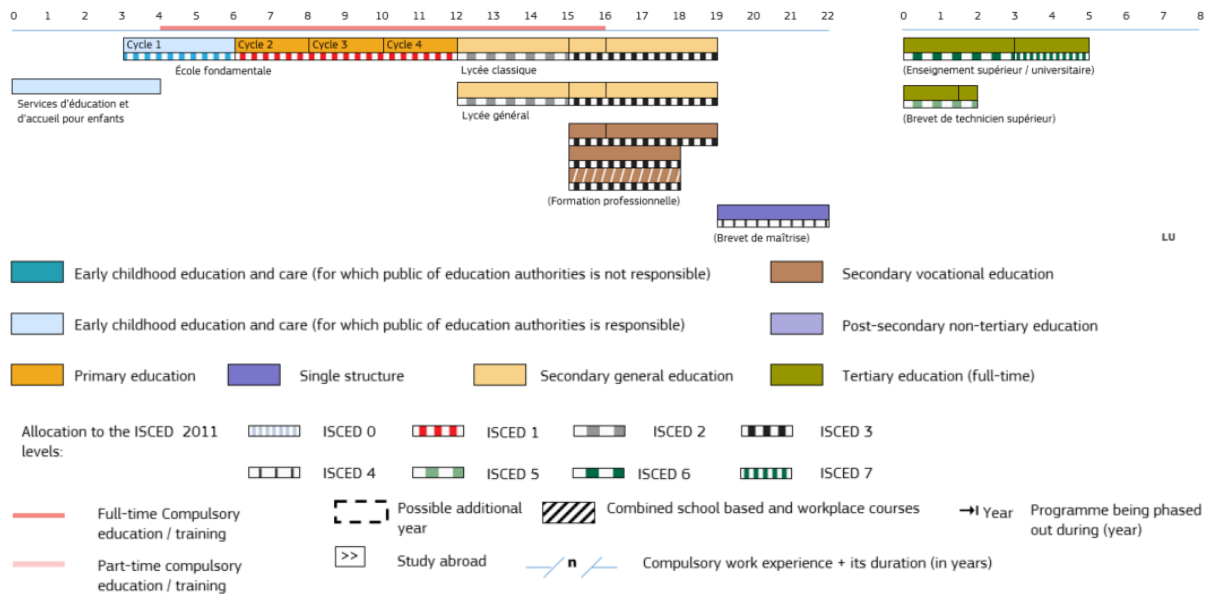
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## Annex I: Key indicators sources

Indicator	Source
Participation in early childhood education	Eurostat (UOE), <a href="#">educ_uoe_enra21</a>
Low achieving eighth-graders in digital skills	IEA, ICILS
Low achieving 15-year-olds in reading, maths and science	OECD (PISA)
Early leavers from education and training	Main data: Eurostat (LFS), <a href="#">edat_lfse_14</a> Data by country of birth: Eurostat (LFS), <a href="#">edat_lfse_02</a>
Exposure of VET graduates to work based learning	Eurostat (LFS), <a href="#">edat_lfs_9919</a>
Tertiary educational attainment	Main data: Eurostat (LFS), <a href="#">edat_lfse_03</a> Data by country of birth: Eurostat (LFS), <a href="#">edat_lfse_9912</a>
Participation of adults in learning	Data for this EU-level target is not available. Data collection starts in 2022. Source: EU LFS.
Equity indicator	European Commission (Joint Research Centre) calculations based on OECD's PISA 2018 data
Upper secondary level attainment	Eurostat (LFS), <a href="#">edat_lfse_03</a>
Public expenditure on education as a percentage of GDP	Eurostat (COFOG), <a href="#">gov_10a_exp</a>
Public expenditure on education as a share of the total general government expenditure	Eurostat (COFOG), <a href="#">gov_10a_exp</a>

## Annex II: Structure of the education system



Source: European Commission/EACEA/Eurydice, 2022. The Structure of the European Education Systems 2022/2023: Schematic Diagrams. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union. Notes: Luxembourg also has three international schools streams: *Enseignement germano-luxembourgeois*, *Enseignement européen* and *Enseignement britannique*.

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