

Luxembourg

The output of educational institutions and the impact of learning

- Upper secondary attainment is often seen as a minimum qualification for successful labour market participation. Although the general increase in educational attainment has seen a parallel decline in the share of 25-34 year-olds without upper secondary attainment, 14% of young adults across the OECD still left school without an upper secondary qualification. In Luxembourg, the share is 10%, which is lower than the OECD average.
- Educational attainment affects not just employment prospects, but also wage levels. On average across the OECD, 25-64 year-old workers with upper secondary or post-secondary non-tertiary attainment earn 29% more than workers with below upper secondary attainment, while those with tertiary attainment earn about twice as much. In Luxembourg, the earnings advantage of tertiary-educated workers was similar to the OECD average. In 2020, workers with upper secondary or post-secondary non-tertiary attainment earned 23% more than those with below upper secondary attainment and those with tertiary attainment earned also about twice as much.

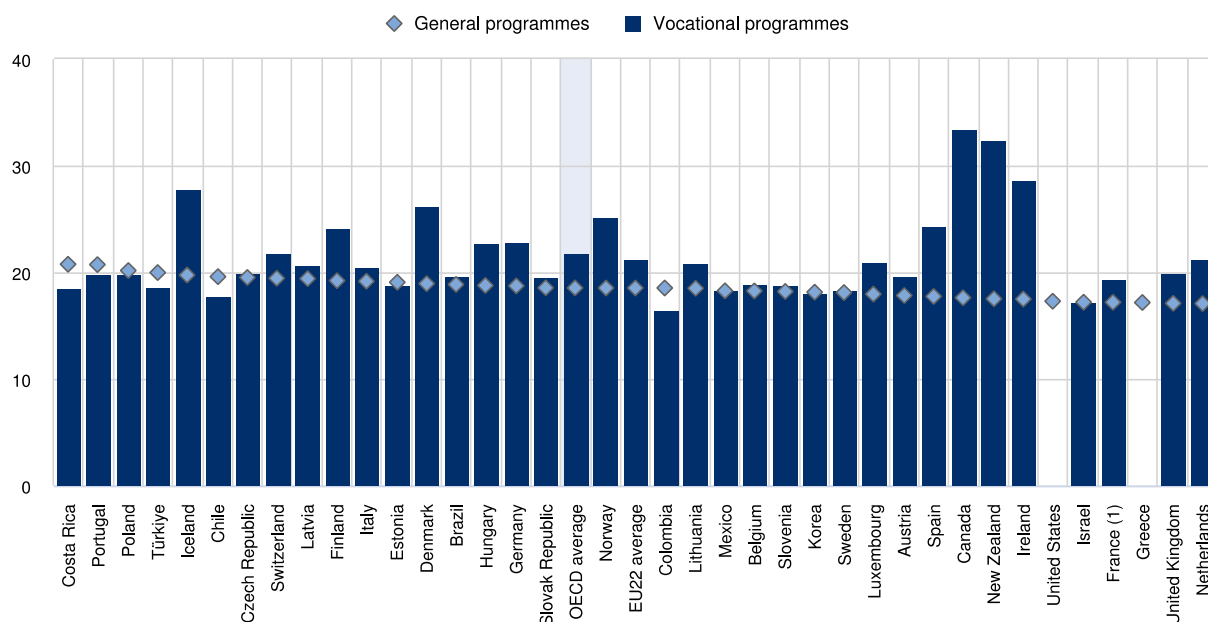
Access to education, participation and progress

- Compulsory education begins at the age of 4 and ends at the age of 16 in Luxembourg. The range of ages for which at least 90% of the population are enrolled is identical to the period of compulsory education and goes from the age of 4 to the age of 16. This differs from most other OECD countries, where more than 90% of the population are enrolled for longer than the period of compulsory education.
- The age at which children enter early childhood education differs widely across countries. In Luxembourg, early childhood education starts offering intentional education objectives for children younger than 1 and 1% of children under 3 are enrolled in early childhood education. Across OECD countries, the average enrolment rate among children below the age of 3 is 27%, but the rates range from less than 1% to 63%. The enrolment rate among 3-5 year-olds increases substantially in all OECD countries. In Luxembourg, 88% of all children of this age are enrolled in early childhood education, which is slightly above the OECD average.
- The average age of graduation from general upper secondary programmes varies from 17 to 21 years across OECD countries and is 18 years in Luxembourg. Differences in the average age of graduation from vocational upper secondary education are much larger and vary from 16 to 34 years across the OECD. These differences largely depend on whether vocational upper secondary students usually enrol in these programmes towards the end of their compulsory education or in mid-career. In Luxembourg, the average age of graduation from vocational upper secondary education is 21 years, which is slightly below the OECD average at 22 years (Figure 1).
- In almost all OECD countries, women make up the majority of those graduating from general upper secondary education. In Luxembourg, the share is 55% (OECD average 55%). In contrast, men

are overrepresented among graduates of vocational upper secondary programmes in most OECD countries, as is the case in Luxembourg where they make up 52% of all vocational upper secondary graduates, below the OECD average (55%).

Figure 1. Average age of first-time upper secondary graduates, by programme orientation (2020)

In years



1. Average age is based on all graduates instead of first-time graduates.

Countries are ranked in descending order of the average age of first-time upper secondary graduates in general programmes.

Source: OECD/Eurostat/UIS (2022), Tables B3.1 and B3.2. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-B.pdf).

- In Luxembourg, 66% of 18-24 year-olds are still in full- or part-time education or training at either upper secondary or tertiary level (significantly above the OECD average of 54%). A subset of these students (13% of 18-24 year-olds) combine their education or training with some form of employment in Luxembourg, compared to 17% on average across the OECD.
- One significant difference across countries' education systems is on whether or not vocational upper secondary programmes provide access to tertiary education. In 12 OECD countries and other participants, all vocational upper secondary graduates have direct access to tertiary education. In Luxembourg only 50% of graduates from vocational upper secondary programme have direct access to tertiary education.
- As is the case in all OECD countries, a majority of students enrolled at tertiary level in Luxembourg are bachelor's students (41%). However, the next commonest enrolment level varies from country to country. In Luxembourg, master's students make up the second largest group of tertiary students at 36%. This is also the case in 25 other OECD countries, while in the remaining 14 countries with available data, short-cycle tertiary students form the second largest group.
- At 27%, business, administration and law was the most popular field of study among new entrants into tertiary education in Luxembourg, which is the case in most OECD countries. Despite the growing need for digital skills and the good employment prospects of students with degrees in

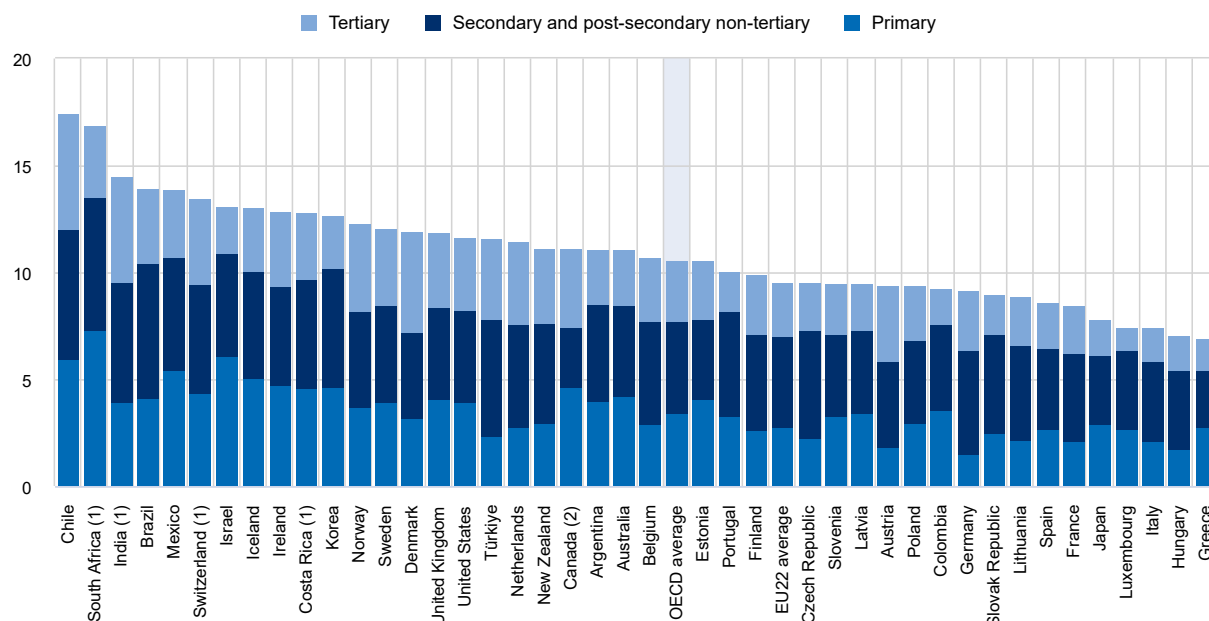
information and communication technologies (ICT), only a small fraction of entrants into tertiary education choose this field. In Luxembourg, 87% of 25-64 year-olds with a tertiary ICT qualification are employed, but ICT students make up 10% of new entrants into tertiary education. However, this is above the OECD average of 6%.

Financial resources invested in education

- All OECD countries devote a substantial share of national output to educational institutions. In 2019, OECD countries spent on average 4.9% of their gross domestic product (GDP) on primary to tertiary educational institutions. In Luxembourg, the corresponding share was 3.3%.
- Public spending on primary to tertiary education was 7.5% of total government expenditure in Luxembourg (Figure 2), lower than the OECD average (10.6%). Also, relative to GDP, public spending on primary to tertiary education (3.2%) is lower than the OECD average (4.4%).
- Spending on educational institutions as share of GDP or public budgets are important measures of the importance that countries place on education in their budgeting decisions. However, they do not show the total amount of funding per student because GDP levels, public budgets and student numbers vary from country to country. Across primary to tertiary education, OECD countries spend an average of USD 11 990 per student (in equivalent USD converted using PPPs for GDP) on educational institutions each year. In comparison, Luxembourg spent USD 25 433 per student in 2019. Its cumulative expenditure on educating a student from the age of 6 to 15 was USD 233 024, which was significantly above the OECD average of USD 105 502.
- Across OECD countries, the provision of education at primary and secondary levels in terms of curricula, teaching styles and organisational management leads, on average, to similar patterns of expenditure per student from primary to post-secondary non-tertiary levels. OECD countries as a whole spend on average around USD 9 923 per student at primary and USD 11 400 per student at secondary level. In Luxembourg, the values are USD 22 203 at primary and USD 24 736 per student at secondary level, which are among the highest across OECD countries.
- In contrast to lower levels of education, spending on tertiary education varies widely across OECD countries. Expenditure per student at tertiary level in Luxembourg is higher than at other levels of education, as is the case in almost all other OECD countries. The average expenditure per student in Luxembourg is USD 51 978 per year, which is about USD 29 800 higher than that of the primary level and USD 27 200 higher than that of the secondary level. It is among the highest across OECD countries. The average expenditure at tertiary level (USD 17 559) is driven up by high values in a few countries, including in Luxembourg. At 42%, the share of research and development (R&D) expenditure makes up a larger fraction of expenditure on tertiary education in Luxembourg than on average across OECD countries (29%).
- Public funding dominates non-tertiary education (primary, secondary and post-secondary non-tertiary) in all OECD countries, even after transfers to the private sector. On average across the OECD, private funding accounts for 10% of expenditure at primary, secondary and post-secondary non-tertiary levels, while this share was 3% in Luxembourg in 2019. In contrast, private expenditure at tertiary level was higher in all OECD countries. In Luxembourg, the share of private expenditure at tertiary level reached 5%, which was significantly below the OECD average of 31%.

Figure 2. Composition of total public expenditure on education as a percentage of total government expenditure (2019)

Primary to tertiary education (including R&D), in per cent



1. Year of reference differs from 2019. Refer to the source table for more details.

2. Primary education includes pre-primary programmes.

Countries are ranked in descending order of total public expenditure on education as a percentage of total government expenditure.

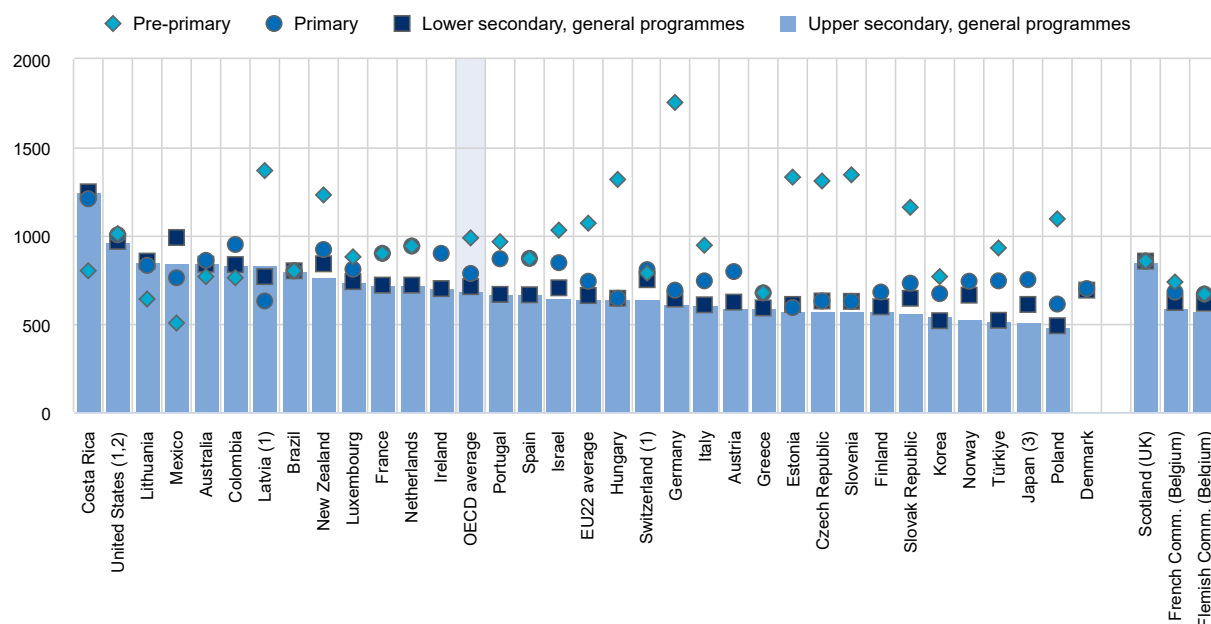
Source: OECD/UIS/Eurostat (2022), Table C4.1. See *Source* section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-C.pdf).

Teachers, the learning environment and the organisation of schools

- The average number of teaching hours per year required from a typical teacher in public educational institutions in OECD countries tends to decrease as the level of education increases. This is also the case in Luxembourg. Based on official regulations or agreements, annual teaching hours in Luxembourg are 880 hours per year at pre-primary level, 810 hours at primary level, 739 hours at lower secondary level (general programmes) and 739 hours at upper secondary level (general programmes) (Figure 3).
- During their working hours, teachers also perform various non-teaching tasks such as lesson planning and preparation, marking students' work and communicating or co-operating with parents or guardians. At the upper secondary level, 40% of teachers' working time is formally dedicated to non-teaching activities in Luxembourg, compared to an average of 56% across OECD countries.
- The duration of initial teacher education for primary and lower secondary teachers ranges from 2.5 years to 6.5 years across OECD countries. In Luxembourg, initial teacher education typically lasts 5 years for prospective lower secondary teachers (general programmes). It is shorter for prospective primary teachers, at 4 years. As is the case in almost all OECD countries, a tertiary degree is awarded to prospective teachers of all levels of education upon completion of their initial teacher training.

Figure 3. Teaching time of teachers, by level of education (2021)

Net statutory teaching time in hours per year, in public institutions



1. Actual teaching time (in Latvia except for pre-primary level).

2. Reference year differs from 2021. Refer to the source table for details.

3. Average planned teaching time in each school at the beginning of the school year.

Countries and other participants are ranked in descending order of the number of teaching hours per year in general upper secondary education.

Source: OECD (2022), Table D4.1. See Source section for more information and Annex 3 for notes (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3-D.pdf).

Focus on tertiary education

- Among 25-64 year-olds in Luxembourg, master's degrees are the most common tertiary attainment at 29% of the population followed by bachelor's degrees at 15% and short-cycle tertiary qualifications with 4%. This is different from the OECD average, where bachelor's degrees are most common (19%), followed by master's degrees (14%) and short cycle tertiary qualifications (7%). As in all OECD countries and other participants, only a small fraction of the population holds a doctoral degree: the share is 2% in Luxembourg.
- On average, tertiary attainment generates a wide range of labour-market benefits, including high employment rates. Yet, there are significant differences depending on the field of study. In 2021, employment rates in Luxembourg were highest among tertiary-educated individuals who studied business, administration and law with 89% and lowest among those who studied arts and humanities, social sciences, journalism and information at 82%. However, these differences need to be put into perspective. Even among 25-64 year-olds with tertiary attainment in the field with the lowest employment rate, this was 9.9 percentage points higher than among those with upper secondary attainment (all fields combined).
- In most OECD countries including in Luxembourg, tertiary-educated adults have higher rates of participation in non-formal education and training than those with a lower level of educational attainment. In 2021, 21% of 25-64 year-olds with tertiary attainment in Luxembourg had

participated in non-formal education and training in the four weeks prior to being surveyed, compared to 5% of their peers with below upper secondary attainment.

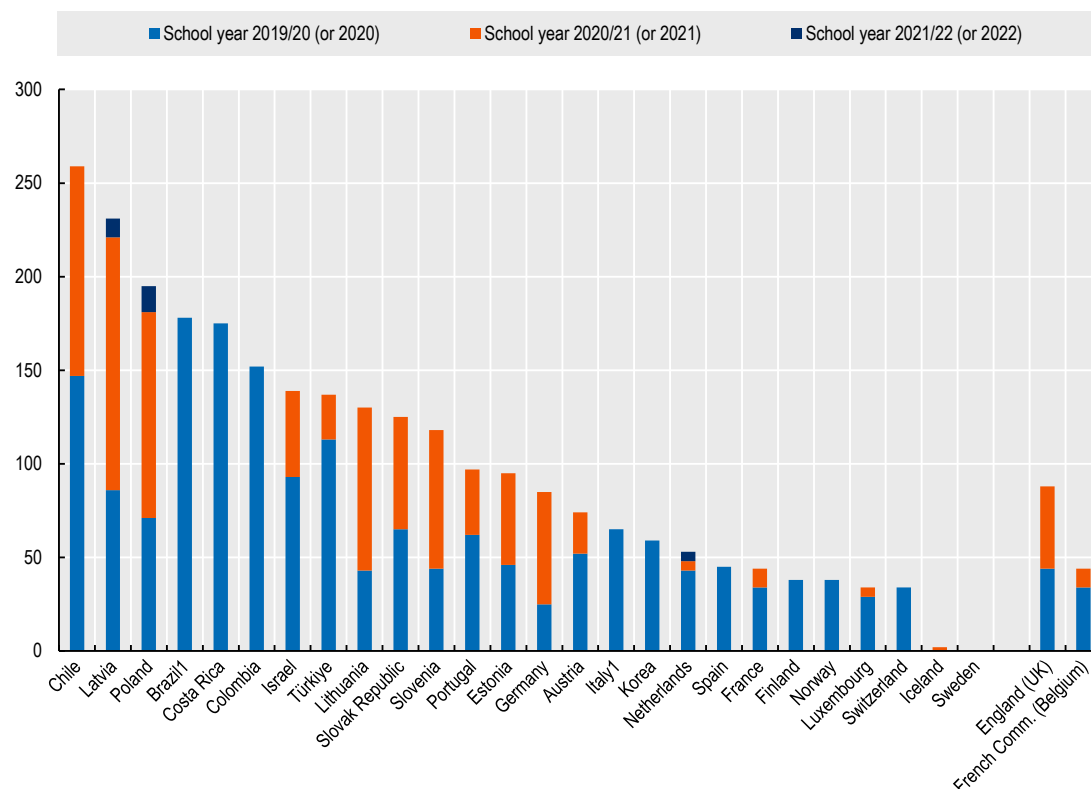
- Giving students the possibility to study part-time is an important instrument to facilitate access to tertiary education. Many part-time students are students that would not be able to study full-time, for example because they have child-care obligations or have to work to fund their studies. With 20%, the share of part-time students at the tertiary level in Luxembourg is slightly below the OECD average (22%).
- Staff at tertiary level tend to start their careers relatively late due to the length of the education they need to qualify. In Luxembourg, 29% of academic staff are aged under 30, above the OECD average (8%). In contrast, the share of academic staff aged 50 or over is 13%, which is below the OECD average by 27 percentage points.

COVID-19: The second year of the pandemic

- The COVID-19 pandemic disrupted traditional schooling in 2020 and the first half of 2021, leading to school closures across all OECD countries. While most shut down their premises entirely in the wake of the pandemic in 2020, by 2021 the situation had improved and returned to normal in most countries in 2022. In Luxembourg, primary and secondary schools were entirely closed for 29-38 days during the school year 2019/20 and for 5-10 days in 2020/21 depending on the education level and stayed open in 2021/22 (Figure 4). Partial closures reached 19-43 days during the school year 2019/20 and up to 73 days in 2020/21.
- Teacher absences also affected the regular operation of schools during the pandemic, whether due to COVID-19 infections or because of precautionary quarantine. However, only approximately half of countries collected information on teacher absenteeism. Luxembourg collected such data at pre-primary and primary level. In contrast to the majority of countries with available data, teacher absenteeism in Luxembourg increased strongly (by more than 5%) between 2019/20 and 2021/22.
- Most countries conducted assessments of the impact of school closures on learning outcomes at various levels of education and along several dimensions. Luxembourg has conducted studies to evaluate the effects of the pandemic on the impact on primary and lower secondary education. The assessments covered mathematics and reading. Like many other countries, Luxembourg also evaluated dimensions such as non-cognitive skills, the relations between parents and students during lockdowns as well as the mental health and well-being of students and teachers. The standardised national assessment EpStan does not include upper secondary level, but the upper secondary level has been included in other studies related to COVID-19 conducted by academic researchers.
- In school year 2022, national programmes to support students affected by the pandemic were implemented in Luxembourg at pre-primary, primary, lower secondary, upper secondary general and tertiary level. At primary to upper secondary education, measures to address the effects of the COVID-19 pandemic included, increased instruction time through summer schools, extended school days or the school week or academic year and additional water, sanitation and hygiene services. The government has already assessed the effectiveness of these programmes.

Figure 4. School closures due to COVID-19 (2020, 2021 and the first quarter of 2022)

Number of instruction days of full closure of lower secondary schools excluding school holidays, public holidays and weekends



Note: The data underlying this report were produced through the Survey on Joint National Responses to COVID 19, a collaborative effort conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), the World Bank (WB), and the Organisation for Economic Co-operation and Development (OECD). Data for other levels of education are available at <https://www.oecd.org/education/Results-4th-wave-COVID-Survey-OECD-database.xlsx>.

1. Data for 2021 and 2022 are missing.

Countries and other participants are ranked in descending order of the total number of days lower secondary schools were fully closed during the school years 2019/20 (2020), 2020/21 (2021) and 2021/22 (2022).

Source: OECD/UIS/UNESCO/UNICEF/WB (2022).

- The challenges related to the COVID-19 pandemic have created additional costs for education systems. Preliminary budget estimates for 2021 suggest that, compared to 2020, the education budget at pre-primary level in Luxembourg increased slightly (by between 1% and 5%, in nominal terms), while it increased strongly (by more than 5%) at primary to upper secondary level.
- The COVID-19 pandemic had a significant impact on adult learning in most OECD countries. In 2020, the share of adults who participated in a formal or non-formal education and training activity in the four weeks prior to being surveyed decreased by 2 percentage points on average across OECD countries compared with 2019. However, in 2021, participation in non-formal education and training returned to pre-pandemic levels in most countries. In Luxembourg, a different pattern emerged. From 2019 to 2020, the share of adults participating in a formal or non-formal education and training activity fell by 3 percentage points. From 2020 to 2021, it increased by 2 percentage points and has thus remained below pre-pandemic levels.
- Young adults who are not in employment, education or training (NEET) for prolonged periods are at risk of adverse economic and social outcomes in both the short and the long term. After

increasing during the COVID-19 pandemic in 2020, the share of 18-24 year-olds who are NEET in Luxembourg rose also in 2021. The share of NEET among young adults was 12% in 2021, above pre-COVID levels.

References

OECD (2022), *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/69096873-en>.


OECD (2022), "Regional education", *OECD Regional Statistics (database)*, <https://dx.doi.org/10.1787/213e806c-en>.

More information

For more information on Education at a Glance 2022 and to access the full set of Indicators, see: <https://doi.org/10.1787/3197152b-en>

For more information on the methodology used during the data collection for each indicator, the references to the sources and the specific notes for each country, See Annex 3 (https://www.oecd.org/education/education-at-a-glance/EAG2022_X3.pdf).

For general information on the methodology, please refer to the OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications (<https://doi.org/10.1787/9789264304444-en>).

Updated data can be found on line at <http://dx.doi.org/10.1787/eag-data-en> and by following the StatLinks  under the tables and charts in the publication.

Data on subnational regions for selected indicators are available in the *OECD Regional Statistics* (database) (OECD, 2022). When interpreting the results on subnational entities, readers should take into account that the population size of subnational entities can vary widely within countries. For example, regional variation in enrolment may be influenced by students attending school in a different region from their area of residence, particularly at higher levels of education. Also, regional disparities tend to be higher when more subnational entities are used in the analysis.

Explore, compare and visualise more data and analysis using the Education GPS:

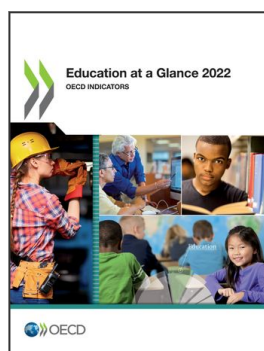
<https://gpseducation.oecd.org/>

The data on educational responses during COVID-19 were collected and processed by the OECD based on the Joint Survey on National Responses to COVID-19 School Closures, a collaborative effort conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO); the UNESCO Institute for Statistics (UIS); the United Nations Children's Fund (UNICEF); the World Bank; and the OECD.

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