Youth in the Education Sustainable Development Goal

Highlights

- The Education Sustainable Development Goal (SDG) agenda is a universal call for action to promote inclusive and equitable access to quality education, and to ensure that all students can fulfil their potential. It includes a variety of indicators, notably on access to education, learning outcomes and means of implementation.
- On average across OECD countries, around 95% of boys and girls are enrolled in early childhood education and care (ECEC) one year before the official primary school entry age (SDG Indicator 4.2.2). Although participation in ECEC is similar for boys and girls, ensuring equity in access to ECEC can remain a challenge when it comes to socio-economic background.
- In terms of equity in learning outcomes, 15-year-old girls tend to outperform boys in reading. Reading performance also varies significantly depending on students' socio-economic background and immigrant status (SDG Indicators 4.1.1 and 4.5.1). On average across OECD countries, there are only about seven socio-economically disadvantaged students scoring above PISA level 2 in reading for every ten advantaged students scoring above this level.
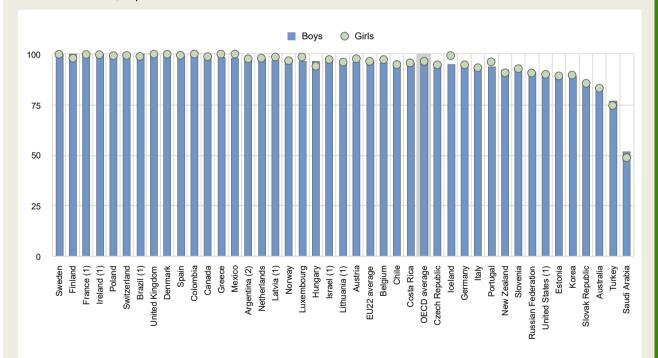
Figure 1. Participation rate in organised learning one year before the official primary entry age (2019)
SDG Indicator 4.2.2, in per cent

1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division.
2. Year of reference 2018 instead of 2019.
Countries are ranked in descending order of participation rates in organised learning one year before the official primary entry age for boys.
Source: OECD (2021). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division for population data. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Context

In 2015, at the United Nations General Assembly, member states renewed their commitment to global development by adopting the 2030 Agenda for Sustainable Development. The 2030 Agenda is divided into 17 Sustainable Development Goals (SDGs), and constitutes a universal call for action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.

The fourth Sustainable Development Goal (SDG 4) is dedicated to education and aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities" by 2030 (UNESCO, 2016[1]). Unlike previous global targets, such as the Millennium Development Goals, SDG 4 places a focus on the quality of education, with indicators related to teacher training and student outcomes, alongside more traditional measures of quantity, such as access and participation.

The COVID-19 crisis has posed significant challenges for education systems around the world, notably in terms of equity, as youth from disadvantaged backgrounds may be more likely to face difficulties studying remotely or returning to school after they reopen (OECD, 2021[2]). This edition of Education at a Glance proposes a focus on the theme of equity, and this chapter investigates equity in the Education SDG, looking at aspects such as participation in education, learning outcomes and teacher training for diversity in the classroom.

Other findings

- Although most countries had managed to limit the proportion of upper secondary out-of-school youth in 2019, this proportion still exceeds 10% in about one-quarter of OECD and partner countries (SDG Indicator 4.1.4).

- In terms of gender parity, upper secondary out-of-school rates tend to be similar for men and women, with a difference of 3 percentage points or less across genders in most countries (SDG Indicator 4.1.4).

- Training and targeted professional development can support teachers to identify and address foreign or migrant students' learning needs. However, while 94% of teachers across the OECD countries participating in TALIS reported having participated in continuous professional development activities over the past 12 months, only around 20% of them reported having participated in training about "teaching in a multicultural or multilingual setting" and about "communicating with people from different cultures" (SDG Indicator 4.c.7).

- There is significant cross-country variation in teachers' self-reported participation in training about "teaching in a multicultural or multilingual setting", with values ranging from 10% or less in France and the Netherlands to over 40% in Alberta (Canada), New Zealand and the United States (SDG Indicator 4.c.7).

Analysis

SDG 4 and its associated targets set an ambitious agenda that encompasses access, participation, quality and equity in education. The analysis below builds on selected SDG 4 indicators in order to investigate equity in access to education and in learning outcomes.

Ensuring equity in school participation

Participation in early childhood education and care

The SDG 4 agenda reaffirms the importance of children's participation in ECEC, by dedicating an entire target (4.2) to "ensuring that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". Indicator 4.2.2, in particular, investigates the participation rate in organised learning one year before the official starting age. As shown in Figure 1, on average across OECD countries, about 95% of boys and girls are enrolled in ECEC one year before the official primary school entry age. There is, however, significant cross-country variation, with values ranging from less than 80% in Saudi Arabia and Turkey to at least 99% for both genders in Brazil, Canada, Colombia, Denmark, France, Greece, Ireland, Poland, Spain, Sweden, Switzerland and the United Kingdom.

Ensuring equitable access to ECEC can be crucial in promoting equity, as children's early experiences can strongly influence future life outcomes such as education, employment, health, citizenship and life satisfaction (OECD, 2018[3]). As shown in Figure 1, in all countries with available data, enrolment rates in ECEC are similar for boys and girls, with a difference of at most 3 percentage points across genders. In contrast, ensuring equity in access to ECEC by socio-economic background remains a challenge in many countries. For instance, evidence has shown that enrolment in ECEC tends to be significantly lower for children whose mother has not attained tertiary education than for others (OECD, 2018[4]). In addition, participation rates in ECEC tend to be lower for children from low-income households than for those from high-income households (OECD, 2020[5]). Many factors may contribute to the observed lower enrolment rates for low-income children. In addition to costs and affordability issues, factors such as the availaility of childcare, cultural norms, parents' labour market prospects and, in some countries, the availability of lengthy homecare allowance, may play an important role (OECD, 2016[6]; Pavolini and Van Lancker, 2018[7]).

Participation in upper secondary education

Upper secondary out-of-school rates

One way the SDG agenda monitors participation in education is through out-of-school rates, which are defined as the percentage of children in the official age range for a given level of education who are not enrolled in school (SDG Indicator 4.1.4). As shown in Figure 2, on average across OECD countries, there is a 7% upper secondary out-of-school rate. While the majority of countries had managed to limit the proportion of out-of-school youth (less than 5%) in 2019, about one-quarter of OECD and partner countries still had a large proportion of out-of-school youth (over 10%). Mexico exhibits the highest out-of-school rates among all OECD and partner countries, with over 25% of upper secondary school-aged youth not enrolled.
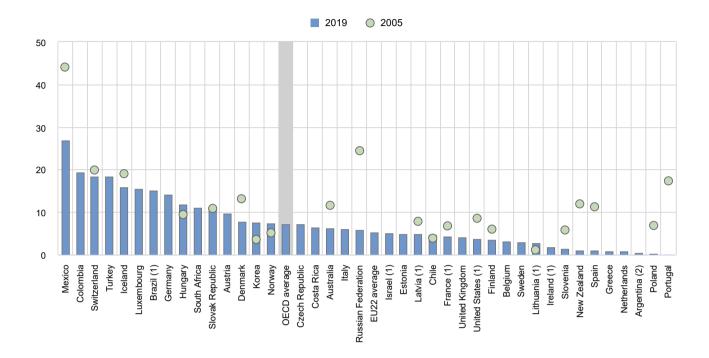
In terms of gender parity, upper secondary out-of-school rates tend to be similar for men and women. The difference between young women and men in out-of-school rates remains at or below 3 percentage points in almost all countries, except in Mexico, where the out-of-school rate is 4 percentage points higher among men (SDG database).

As shown in Figure 2, some countries experienced a significant decrease in out-of-school rates at upper secondary level between 2005 and 2019. This is the case in the Russian Federation (decrease by 19 percentage points), Mexico (17 percentage points), Portugal (17 percentage points), New Zealand (11 percentage points) and Spain (10 percentage points). These large decreases may reflect continuous policy efforts to retain students of upper secondary education age in school (OECD, 2019[8]). This progress, however, may be threatened by the COVID-19 pandemic, which has resulted in widespread school closures and the risk that many youth – especially the most disadvantaged – may not return to school when they reopen. Government initiatives to tackle this issue have included implementing school-based mechanisms to track vulnerable student groups not returning to school and providing financial incentives such as cash, food or transport, or waived school fees for vulnerable students to return to school. The latter, for instance, was implemented in Costa Rica, Estonia, Poland, Portugal, Hungary, Spain and Turkey (OECD, 2021[2]).

Figure 2. Upper secondary out-of-school rate (2005 and 2019)

SDG Indicator 4.1.4, in per cent

The upper secondary out-of-school rate is defined as the percentage of children in the official age range for upper secondary education who are not enrolled in school.
1. The source for population data is the UOE data collection for demographic data (Eurostat/DEM) instead of the United Nations Population Division.
2. Year of reference 2018 instead of 2019.
Countries are ranked in descending order of out-of-school rates in 2019.
Source: OECD (2021). The official data sources for this indicator are the UOE data collection for enrolment data and the United Nations Population Division for population data. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Upper secondary completion rates

Increasing upper secondary attainment requires ensuring students can both access programmes and complete them. In every country with available data (both true and cross cohort), women are more likely than men to complete upper secondary education, both within the theoretical duration and two years after. On average across countries and economies with true cohort data, 76% of women graduated from upper secondary education within the theoretical duration of the programme, compared to only 68% of men (Indicator B3 in OECD (2020[9])).

There can also be a significant gap in upper secondary completion rates, depending on students' immigrant status. As shown in Indicator B3, completion rates are lower for first- and second-generation immigrants than for non-immigrants in most countries with available data (Denmark, Finland, France, Norway, Sweden and the United States). The only exception is Iceland, where upper secondary completion rates for first-generation immigrants who arrived at or before the age of 6 (79%) are higher than those for non-immigrants (75%). As for socio-economic background, students from likely disadvantaged backgrounds (proxied by parental education) tend to be over-represented in vocational programmes, which may raise equity concerns knowing that completion rates tend to be lower in vocational than in general programmes (Indicator B3).
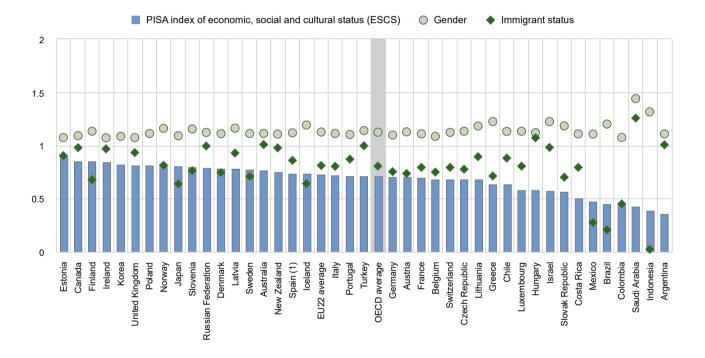
Ensuring equity in learning outcomes

Learning outcomes at the age of 15, by demographic group

Education policy aims not only to provide access to all levels of education, but also to ensure that all students, regardless of their gender, socio-economic background or immigrant status, can gain the necessary skills to guide them through life. The OECD Programme for International Student Assessment (PISA) provides valuable insights about students' performance at the age of 15. As such, it is used to monitor SDG Indicator 4.1.1, which measures the "Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level (i.e. level 2 or above in the PISA context) in reading and mathematics" in almost 90 countries (including the data from PISA for Development).

Figure 3 displays parity indices for Indicator 4.1.1 (see Methodology section for methodology), measured along gender, socio-economic background and immigrant status (see *Definitions* section). Among 15-year-olds, girls outperform boys in reading in all countries and economies with available data. This pattern is particularly visible in Brazil, Greece, Indonesia, Israel and Saudi Arabia, where the percentage of students reaching PISA level 2 is at least 20% higher for girls than for boys.

Figure 3. Reading performance and gender, ESCS and immigrant status parity indices (2018)

SDG Indicator 4.1.1: Proportion of 15-year-olds achieving at least a proficiency level 2 (PISA)

How to read this figure: In Turkey, the proportion of children from the bottom quartile of the PISA ESCS index achieving at least PISA level 2 in reading is almost 30% lower than that of children from the top ESCS quartile. The proportion of students achieving at least PISA level 2 in reading is almost 15% higher for girls than for boys.The proportion of immigrants achieving at least PISA level 2 in reading is almost equal to that of non-immigrants (a parity index of 1 indicates perfect parity).
Note: The ESCS parity index refers to the ratio of the value for the bottom quartile over the value for the top quartile of the ESCS index. ESCS refers to the PISA index of economic, social and cultural status. The gender parity index refers to the ratio of the female value over the male value. The immigrant status parity index refers to the ratio of the value for immigrants over the value for non-immigrants. See Box 1 for more information on the methodology.
1. In 2018, some regions in Spain conducted their high-stakes exams for tenth-grade students earlier in the year than in the past, which resulted in the testing period for these exams coinciding with the end of the PISA testing window. Because of this overlap, a number of students were negatively disposed towards the PISA test and did not try their best to demonstrate their proficiency. Although the data of only a minority of students show clear signs of lack of engagement (see *PISA 2018 Results Volume I*, Annex A9), the comparability of PISA 2018 data for Spain with those from earlier PISA assessments cannot be fully ensured.
Countries are ranked in descending order of the parity index based on the PISA index of economic, social and cultural status.
Source: OECD (2018), *PISA 2018 Database*. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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Students' reading performance also varies significantly by socio-economic background. On average across OECD countries, the percentage of students achieving PISA level 2 is around 30% lower for students from the bottom quartile of the PISA economic, social and cultural status (ESCS) index than for students from the top quartile. Moreover, all countries with available data exhibit some level of performance gap, although the extent of disparities varies across countries (with a gap ranging from 15% or less in Canada, Estonia and Finland to at least 50% in Argentina, Brazil, Colombia, Costa Rica, Indonesia, Mexico and Saudi Arabia) (Figure 3).

Finally, students' reading performance also tends to be strongly influenced by their immigrant status. On average across OECD countries, the percentage of students reaching PISA level 2 in reading is about 20% lower for students with an immigrant background than for non-immigrants. The disparity in favour of non-immigrants is particularly visible in Brazil, Colombia, Indonesia and Mexico, where the share of students reaching PISA level 2 is at least 45% lower for immigrants than for non-immigrants. In contrast, in Argentina, Australia, Hungary, Turkey and Saudi Arabia students with an immigrant background score at least as well as non-immigrants. These cross-country differences may reflect, in part, differences in immigrant students' socio-economic status (OECD, 2019[10]).

The observed disparities in reading achievement by gender, socio-economic background and immigrant status raise important equity concerns, as they may have long-term consequences for boys' and girls' academic and professional lives (OECD, 2019[10]).

Box 1. Measuring inequity in education and the parity index

Measuring equity is challenging for at least three reasons. First, the notion of equity is linked to a normative framework of fairness, which may differ across countries and cultures. Second, there is a general lack of data availability because equity indicators often require more refined data that allow for disaggregation among different groups in the population. As an additional challenge, in the case of the SDG framework, this disaggregation must also follow internationally agreed definitions that do not always match the national definitions. Third, there are several different methods for measuring equity, all of which have advantages and disadvantages, and that could lead to different conclusions about the degree of inequity in a given country (UNESCO-UIS, 2018[11]).

The main indicator chosen to measure equity across the SDG 4 agenda is the parity index. It is defined as the ratio between the values of a given indicator for two different groups, with the value of the likely most disadvantaged group in the numerator. In Figure 3, for gender, the numerator is girls and the denominator is boys. For socio-economic background, the numerator is students from the lowest quartile of the PISA index of economic, social and cultural status (ESCS), and the denominator is students from the highest quartile of the ESCS. For immigrant status, the numerator is students with an immigrant background and the denominator is non-immigrants. A parity index between 0.97 and 1.03 indicates parity between the two considered groups. A value of less than 0.97 indicates a disparity in favour of the likely most advantaged group, and a value greater than 1.03 indicates a disparity in favour of the most disadvantaged group.

The use of a parity index provides the relative magnitude of the disparity in a simple, easy-to-communicate way. However, it also has some drawbacks, such as being sensitive to low values and not being symmetrical around 1 (perfect equality). For example, if the enrolment rate is 40% for girls and 50% for boys, the gender parity index (GPI) has a value of 0.8 (UNESCO-UIS, 2010[12]). If the female and male values are reversed, the GPI has a value of 1.25, which gives the mistaken impression of greater gender disparity because 1.25 is at a greater distance from 1 than 0.8. To solve this, an adjusted parity index, which is symmetrical around 1, is used in the tables and figures of this indicator whenever values for the likely advantaged and likely disadvantaged groups are switched for an observation.

For more information on measuring inequity in education, please see the UNESCO *Handbook on Measuring Equity in Education* (UNESCO-UIS, 2018[11]). The handbook provides a conceptual framework for measuring equity in education and offers thorough methodological guidance on how to calculate and interpret various types of equity indicators.

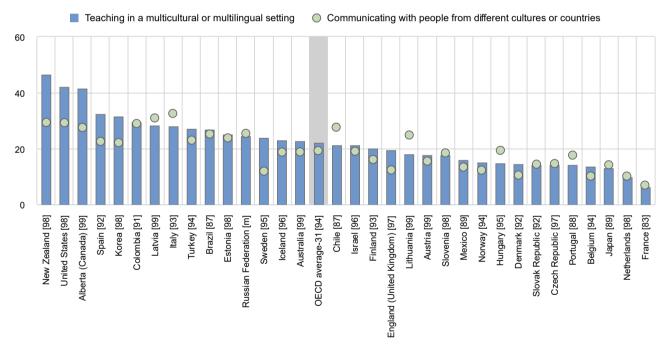### Preparing teachers for diversity in the classroom

Demographic changes and large-scale migration have raised challenges for education systems, as teachers work to meet the needs of an increasingly diverse student body. As shown in the previous section, there are important equity concerns, as students' learning outcomes tend to vary significantly depending on their immigrant status.

Data from the OECD Teaching and Learning International Survey (TALIS) provide valuable insights about teachers' feeling of preparedness to teach in a diverse classroom. On average across OECD countries participating in TALIS, 15% of lower secondary teachers report needing training about "teaching in a multicultural or multilingual setting" and 11% about "communicating with people from different cultures or countries". There is, however, significant cross-country variation. England (United Kingdom) and the Netherlands exhibit the lowest reported need for these types of training, at 5% of teachers or less. In contrast, in Brazil, Colombia and Mexico, this percentage reaches at least 30% for both types of training (OECD, 2019[13]). Several factors may explain the high reported need for training in Latin American countries. For instance, a recent influx of migrants into the region has contributed to an increase in cultural diversity among students (OECD, 2015[14]). Moreover, in recent decades, a number of programmes have been implemented to build more diverse classrooms, which translated into a higher need for teacher training about teaching students from diverse backgrounds (OECD, 2016[15]; 2018[16]; Santiago et al., 2017[17]).

Education systems can play an important role in preparing teachers to work in a diverse classroom, notably by ensuring the availability of targeted training opportunities. The SDG agenda investigates teachers' participation in continuous professional development through SDG Indicator 4.c.7, which measures the percentage of teachers who received in-service training in the last 12 months by type of training. Data from TALIS can help monitor this measure. As shown in Figure 4, on average across OECD countries, 94% of teachers report having participated in continuous professional development activities over the past 12 months. However, only around 20% of teachers reported having participated in training about "teaching in a multicultural or multilingual setting" and about "communicating with people from different cultures".

Figure 4. Percentage of lower secondary teachers who participated in professional development in the following areas in the 12 months prior to the survey (2018)
SDG Indicator 4.c.7, in per cent

Note: The number in square brackets corresponds to the percentage of teachers who participated in professional development activities overall.
Countries and economies are ranked in descending order of the percentage of teachers who participated in professional development activities in the 12 months prior to the survey.
Source: OECD (2018), *TALIS 2018 Database*. See *Source* section for more information (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3_ChapterB.pdf).

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There is significant cross-country variation in teachers' participation in training about diversity in the classroom. The lowest shares of teachers participating in continuous professional development activities about "teaching in a multicultural or multilingual setting" are found in France and the Netherlands (below 10%). In contrast, in Alberta (Canada), New Zealand and the United States, which have a long tradition of tackling instruction in diverse settings, over 40% of teachers participate in this type of training (OECD, 2015[14]) (Figure 4).

The relationship between the reported participation in training and the need for training allows for further insights. The Netherlands, for instance, exhibits both low levels of need (below 5%) and participation (below 10%) in continuous professional development about "teaching in a multicultural or multilingual setting". This may reflect the fact that teachers already feel sufficiently prepared to teach in a diverse environment. As for the three OECD countries and economies with the highest participation rates in training about diversity (Alberta [Canada], New Zealand and the United States), they exhibit a low reported need for this type of training (less than 10% of teachers). One explanation may be that, in these countries, participation in training about diversity effectively prepares teachers to work in a diverse classroom, leading to lower self-reported needs for this type of training (OECD, 2019[13]). Finally, countries such as Brazil and Colombia exhibit both high reported needs for training about "teaching in a multicultural or multilingual setting" (over 43%) and high reported participation in this type of training (over 26%). This may reflect teachers' desire for further development, even after participating in training on that topic (OECD, 2019[13]).

Definitions

SDG Indicator	Definition
4.2.2	Participation rate in organised learning one year before the official starting age
4.1.4.	Upper secondary out-of-school rate
4.1.1.	Proportion of children and young people at the end of lower secondary achieving at least a minimum proficiency level in reading and mathematics
4.5.1	Parity indices for all education indicators that can be disaggregated
4.c.7	Percentage of teachers who received in-service training in the last 12 months by type of training

Methodology

All indicators presented in this chapter follow the agreed SDG methodology, including for recommended data sources, and may differ in some cases from other indicators presented in *Education at a Glance*. Please see Annex 3 for country-specific notes (https://www.oecd.org/education/education-at-a-glance/EAG2021_Annex3.pdf).

Source

Indicator	Source
4.2.2.	UOE 2020 data collection and United Nations Population Division (unless otherwise specified)
4.1.4.	UOE 2020 data collection and United Nations Population Division (unless otherwise specified)

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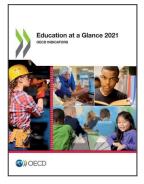
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Cut-off date for the data: 17 June 2021. Any updates on data can be found on line at: http://dx.doi.org/10.1787/eag-data-en. More breakdowns can also be found at: http://stats.oecd.org, *Education at a Glance Database*.

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