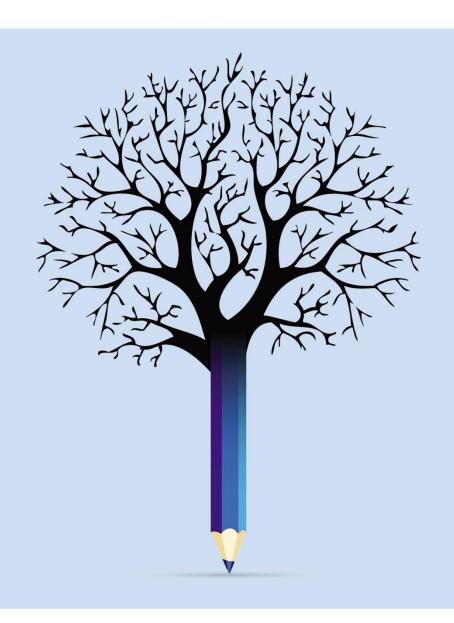


# EDUCATION POLICY OUTLOOK IN **DENMARK**



#### **EDUCATION POLICY OUTLOOK**

This **policy profile on education** in Denmark is part of the *Education Policy Outlook* series, which presents comparative analysis of education policies and reforms across OECD countries. Building on the OECD's substantial comparative and sectoral policy knowledge base, the series offers a comparative outlook on education policy. This country policy profile is an update of the <u>first policy profile of Denmark</u> (2014) and provides: analysis of the educational context, strengths, challenges and policies; analysis of international trends; and insight into policies and reforms on selected topics. It is an opportunity to take stock of progress and where the education system stands today from the perspective of the OECD through synthetic, evidence-based and comparable analysis.

In addition to the country-specific profiles, the series also includes a recurring publication. The first volume, <u>Education Policy Outlook 2015</u>: <u>Making Reforms Happen</u>, was released in 2015. The second volume, <u>Education Policy Outlook 2018</u>: <u>Putting Student Learning at the Centre</u> was released in 2018. Its complement, <u>Education Policy Outlook 2019</u>: <u>Working Together to Help Students Achieve their Potential</u> was released in autumn 2019.

Designed **for policy makers**, **analysts and practitioners** who seek information and analysis of education policy taking into account the importance of national context, the country policy profiles offer constructive analysis of education policy in a comparative format. Each profile reviews the current context and situation of a country's education system and examines its challenges and policy responses, according to six policy levers that support improvement:

- Students: How to raise outcomes for all in terms of 1) equity and quality and 2) preparing students for the future;
- Institutions: How to raise quality through 3) school improvement and 4) evaluation and assessment; and
- System: How the system is organised to deliver education policy in terms of 5) governance and 6) funding.

Some country policy profiles contain spotlight boxes on selected policy issues. They are meant to draw attention to specific policies that are promising or showing positive results and may be relevant for other countries.

**Special thanks** to the Government of Denmark and, in particular, the Danish Ministry of Children and Education, for its active input during consultations and constructive feedback on this report.

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**Sources**: Subject to country participation, this country policy profile draws on OECD indicators from the Programme for International Student Assessment (PISA), the Survey of Adult Skills (PIAAC), the Teaching and Learning International Survey (TALIS) and the annual publication Education at a Glance, and refers to country and thematic studies such as OECD work on early childhood education and care, teachers, school leadership, evaluation and assessment for improving school outcomes, equity and quality in education, governing complex education systems, school resources, vocational education and training, and tertiary education. This profile also draws on information in the OECD Education Policy Outlook National Survey for Comparative Policy Analysis completed in 2016 by the Government of Denmark, as well as information provided by the Ministry of Children and Education between 2018 and 2020 as part of the Education Policy Outlook's activities with countries.

Most of the figures quoted in the different sections refer to Annex B, which presents a table of the main indicators for the sources used throughout the country policy profile. Hyperlinks to the reference publications are included throughout the text for ease of reading, and also in the References and further reading section, which lists both OECD and non-OECD sources.

More information is available from the OECD Directorate for Education and Skills (<a href="www.oecd.org/edu">www.oecd.org/edu</a>) and its web pages on the Education Policy Outlook (<a href="www.oecd.org/edu/policyoutlook.htm">www.oecd.org/edu/policyoutlook.htm</a>).

In the context of the coronavirus (COVID-19) pandemic, some information is provided about initial responses.

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#### **HIGHLIGHTS**

**Note:** Most of the content in this profile was written before the COVID-19 outbreak. As such, this document offers insight into pre-existing conditions that may influence the system's responsiveness in the context of the crisis and help inform longer-term efforts to strengthen resilience. Spotlight 1 summarises Denmark's initial responses to the crisis. Its structure is based on work by the Education Policy Outlook in 2020 to support countries in these efforts.

#### Denmark's educational context

Students: Danish 15-year-old primary school students performed above the OECD average in PISA 2018<sup>1</sup>, in reading, mathematics and science. It also outperformed the OECD average in limiting the impacts of socio-economic status on learning as measured by PISA 2018 and in ensuring that students reach baseline proficiency. Adults in Denmark also outperform the OECD average in numeracy and literacy, as measured by the OECD Survey of Adult Skills (PIAAC). Upper secondary and tertiary attainment levels in Denmark are slightly below the OECD average for 25-64 year-olds. Adult education remains an important component of the Danish education system, with comparatively high enrolment despite decreases in recent years. In Denmark, students of immigrant background experience considerable gaps in learning relative to their non-immigrant peers (with many of these challenges at least partly reflective of Denmark's willingness to admit a large share of immigrants on humanitarian grounds in recent years).

Institutions: According to self-reports in PISA 2018, students in Denmark have a stronger sense of belonging to school than on average across the OECD and perceive a more positive disciplinary climate. They also reported higher levels of teacher support and enthusiasm. Danish teachers and school leaders reported in the OECD Teaching and Learning International Survey (TALIS) 2018, high levels of self-efficacy and feelings of preparedness to teach. The Ministry of Children and Education (MoCE) uses standardised student assessment widely to monitor system-level outcomes and has begun systematically evaluating the impact of policy work. Schools in Denmark are less likely to receive external evaluations or conduct internal evaluations than on average across the OECD. According to school leaders' reports in TALIS 2018, teacher appraisal, which is voluntary and locally-defined, occurs as frequently as on average.

**System:** Danish education is highly decentralised between early childhood education and care (ECEC) and upper secondary. School autonomy levels are high and municipalities have extensive responsibilities in primary and lower-secondary schooling. Policy-making therefore depends heavily on the ability of different actors to collaborate and co-ordinate effectively. The national government has a more substantial role in higher education. Public provision and public spending predominate across all levels of education. There are no tuition fees for domestic higher education students and extensive grants and loans are available to support students' living costs.

#### Key policy issues

Denmark's performance in reading, mathematics and science has remained stable on average across PISA cycles, since earliest participation in 2000, with some short-term fluctuations. There are significant gaps in education and employment outcomes between foreign-born and native-born youth in Denmark. In order to strengthen students' pathways, vocational education and training (VET) in upper-secondary education - including transitions to higher education - can be further enhanced, as well as the match in students' chosen disciplines and labour market demands. Other solutions include stronger academic and career guidance and better incentives to shape students' choices. Recent policy efforts directly address these issues (see Spotlight 4). In terms of school improvement, Denmark could continue to make the teaching profession more attractive and strengthen the impact of professional development for educators. Stronger institutional reporting and transparency, particularly regarding disadvantaged students, could drive improvements in equity. In governance, the central government needs to remain engaged to ensure that performance improves across municipal providers. Danish education spending is high and robust; the challenge lies in raising efficiency.

#### Strengthening adaptability and resilience in the context of COVID-19 (see Spotlight 1)

Pre-existing resources in the education system appear to have facilitated Denmark's immediate response, such as Denmark's digital learning portal and counselling services. However, students' legal right to quality education and the need to ensure access to it were critical in the decision to reopen education institutions. Denmark was among the first countries in Europe to do this, through a decision by central government through the Parliament, and plans defined by municipal councils and schools based on central guidelines. As Denmark works to balance short-term responsiveness with longer-term strategic aims and resilience, the crisis brings specific challenges and opportunities. Quickly establishing an understanding of the practical response implemented at local level can help inform guidance measures to mitigate lost learning time during the pandemic. Knowing that capacity and available resources vary by municipality and taking into consideration Denmark's wider challenge of strengthening institutional reporting and transparency to drive improvements in equity, establishing an overview of local responses becomes even more important.

## Spotlight 1. The Danish education system's initial response to the COVID-19 pandemic (2020)

On 11 March 2020, the World Health Organisation declared the COVID-19 outbreak a global pandemic. Education systems across the world have felt the force of the crisis as confinement measures triggered widespread closures of education institutions. The same day, Denmark announced the closure of all day-care facilities and educational institutions, effective as of 16 March 2020 at the latest. A phased reopening began on 15 April 2020, through guidelines prioritising ECEC, special education and school-leaving examination candidates. New laws and regulations were continuously adopted as a result of COVID-19. In light of the work of the Education Policy Outlook during 2020 in the context of this pandemic, this spotlight offers an insight into system readiness and immediate responses across five key areas:

- 1. Ensuring continued access to learning and smooth educational pathways: To support distance learning, EMU (1999), Denmark's digital learning portal, published lists of free digital resources and advisory material about virtual and outdoor teaching in all subjects for teachers, principals, students and parents. This complemented EMU's pre-existing collection of teaching material for all sectors from ECEC to upper-secondary education. Later, Denmark announced measures to strengthen distance education, including new online educational content and professional development and networking opportunities for teachers. Denmark cancelled all national student examinations for years 9 and 10; students would automatically transition to the next grade. It was decided to maintain examinations in upper secondary education for some core subjects only; other subjects would be assessed through marks awarded at the end of the school year. VET institutions were instructed to limit pathway disruptions by adjusting admissions and completion procedures, waiving practical course requirements and negotiating internship extensions. Tertiary institutions would establish alternative examination procedures, including online assessment. Apprentices and working students received emergency financial support and student loans were extended. Financial aid for providers of after-school care, youth leisure activities and adult education aimed to compensate for lost earnings and ensure continued access following the easing of confinement measures.
- 2. Strengthening the internal world of the student: Many municipalities maintained or extended children's counselling services, with adaptations. MoCE published daily video greetings to children via Facebook offering tips for navigating confinement. Recognising a decrease in student motivation, Denmark announced extra funding for enhanced academic, career and personal guidance for upper secondary students. For tertiary students, the Student Counselling Service offered online support, including digital resources and free, online or phone counselling.
- 3. Providing targeted support and interventions for vulnerable children and families: During closures, schools were expected to engage in daily contact with students whose home circumstances would not allow them to receive sufficient support. Exceptionally, schools could remain open for high-need children; this applied predominantly to special education. The MoCE's <a href="Special Educational Support service">Special Educational Support service</a> adapted its practices, delivering technological devices to eligible children, collating useful resources and offering some virtual diagnostic testing. For the initial period of reopening, Denmark agreed a new <a href="parental payment scheme for ECEC">payment scheme for ECEC</a>, which enabled municipalities and private providers to waive or reduce the cost of ECEC to households experiencing financial difficulties, by providing compensation from central government for lost fees and for necessary sanitary modifications. Denmark reached an <a href="agreement to help vulnerable groups in society">agreement to help vulnerable groups in society</a>; for vulnerable children, municipalities could seek financial support to address learning loss, and youth associations could receive extra funding for outreach work.
- 4. Harnessing wider support and engagement at local and central level: Municipalities were expected to provide childcare for children of essential workers, or those with special educational needs or challenging home environments, between the ages of 0 and 9 years. To this end, local authorities worked with schools, day-care providers, social services and children's homes to offer care, including in the evening, night, weekends and holidays, as needed. After the first day, a <u>survey</u> of municipalities showed that about 2% of children were in emergency care.
- 5. Collecting, disseminating and improving the use of information about students: MoCE established a coronavirus hotline for educational institutions and a comprehensive set of constantly updated frequently asked questions. MoCE has initiated a <u>national knowledge-gathering</u> <u>exercise</u> to help identify lessons from the crisis; the first stage invited various actors from across the education sector to discuss focus areas for reflection.

	Selected indicators of system readiness (OECD)	Denmark	Average	Min	Max
Stude	nts' readiness (according to students' self-reports in PISA 2018)				
1	Index of self-efficacy	0.05	0.01	-0.61	0.36
2	Percentage of students in disadvantaged schools with access to a computer at home that they can use for school work	96.5%	81.5%	23.5%	96.5%
Teach	ers' readiness (according to lower secondary teachers' self-reports in TALIS	2018)			
3	Percentage of teachers with a high level of need for professional development related to ICT skills for teaching	11.2%	17.7%	5.3%	39.0%
4	Percentage of teachers agreeing that most teachers in the school provide practical support to each other when applying new ideas	86.5%	77.9%	64.7%	86.5%

Note: The information presented in this spotlight covers key measures mainly announced or introduced before 19 June 2020.

#### **KEY TRENDS IN PERFORMANCE AND ATTAINMENT**

In PISA 2018, Denmark's mean performance in reading was above the OECD average, with 501 score points. Performance in reading has remained unchanged on average across PISA cycles. In the OECD PIAAC, 2012, adults (16-65-year-olds) in Denmark had higher mean levels of literacy (271 score points) than the average level among participating countries (268 score points).

Mean score in reading trend, 2009 to 2018 (PISA) Mean reading score, **PISA 2018** 510 600 500 550 490 Score points 500 480 450 470 400 460 350 450 2009 2012 2015 2018 OECD average Denmark ·Min Max Denmark OECD average

Figure 1. Trends and comparative performance of 15-year-olds in reading, PISA

Note: "Min"/"Max" refer to OECD countries with the lowest/highest values.

Sources: OECD (2019), PISA 2018 Results (Volume I): What Students Know and Can Do, PISA, OECD Publishing, Paris, https://doi.org/10.1787/5f07c754-en.

In 2018, attainment of at least upper-secondary education among 25-34-year-olds in Denmark was just below the OECD average, at 83% compared to 85%, although tertiary attainment was slightly above the OECD average, at 45% compared to 44%. A smaller share of young Danish men have attained at least upper-secondary education than on average in the OECD, at 80% compared to 84%. In contrast, young Danish women have comparatively higher attainment levels than their OECD counterparts. This happens especially at tertiary level, where 56% of Danish women hold a qualification, compared to 51% on average across the OECD, and just 38% of Danish men. A greater growth in attainment among women than men since 2008 has increased this gender gap. Although similar patterns in gender differences are seen elsewhere in the OECD, they appear relatively more pronounced in Denmark.

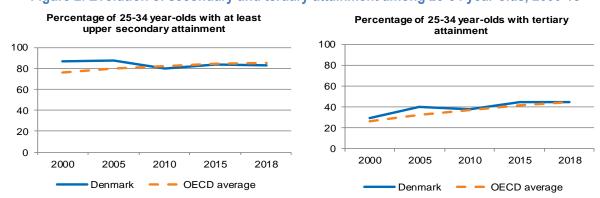


Figure 2. Evolution of secondary and tertiary attainment among 25-34 year-olds, 2000-18

Source: OECD (2019), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/f8d7880d-en.

## Spotlight 2. Key policies, key challenges and previous OECD recommendations for Denmark

Main education policies and practices included in this country policy profile

Key challenges identified and recommendations previously provided by the OECD

#### **STUDENTS**

- Legislation to strengthen transitions from home into ECEC facilities and into schools (2007)
- Improving the Public School (Folkeskole) Reform (2014) and adjustments (2019)
- Measurement and improvement of student well-being initiative (2014)
- Agreement on Better and More Attractive Vocational Training (2014)
- The Tripartite Agreement: Strengthened and more flexible adult, continuing and further education (2016)
- Part-time degree programmes alongside relevant employment (2017)
- Agreement: Strong ECEC all children must be included in the community (2017)
- 1 000 days programme a better start to life (2018)
- Agreement on More Flexible University Education (2018)
- Agreement to fight parallel communities (2018)
- New curriculum framework for all ECEC institutions (2018)
- National Strategy for the Promotion of Science (2018)
- National institution for guidance on higher education and careers (2018)

Key challenges identified [2012, 2014, 2016a, 2016b, 2019]: At upper secondary level, the OECD found that Denmark faced delayed enrolments and high dropout rates from VET. The OECD also noted that, at tertiary level, delayed completion and students' inclination to choose fields where business demand is relatively low reduce the supply of high-skilled labour. In particular, the OECD identified a need to raise science, technology, engineering and mathematics (STEM) enrolments as employers reported labour shortages in these fields. The OECD also highlighted that, despite government efforts, the challenge of better integrating immigrants into education and the labour market persisted.

Summary of previous OECD recommendations: In lower secondary education, the OECD recommended that the MoCE consider establishing a national goal to gradually decrease enrolment in Year 10, targeting the year specifically at students with low core skills in need of additional support. The OECD also found that Denmark could explore providing such targeted support earlier in children's schooling. In upper-secondary education, the OECD proposed that Denmark increase the attractiveness of VET and make it more selective without increasing school failures among those who cannot enter VET. In higher education, the OECD also recommended gradually introducing a loan system that encourages on-time completion, or tuition fees with income-contingent loans which could encourage students to consider earnings prospects when making study choices and motivate more timely completion. Finally, in adult education, the OECD recommended better incentivising institutions to recognise prior learning, and increasing quality control for courses.

#### **INSTITUTIONS**

- National corps of learning consultants (2014)
- Module-based Bachelor's of Education (2013)
- General upper secondary education reform (2016)
- Mandatory assessment of language development for all three-year-olds (2010), and the choice for municipalities to bring forward this language assessment to the age of two (2017)
- Individual Mandatory Student Plans (2006); amendments (2018)

Key challenges identified [2016b, 2019]: The OECD found a need for the Danish school system to help teachers to better understand what being an excellent teacher means, while several aspects of the school leader profession require further development. The OECD identified challenges regarding the capacity of schools and municipalities to make use of available data. In terms of evaluation and assessment, the OECD found a need to strengthen indicators and measures of system performance to better understand how well the system is achieving its objectives and improve the way progress is reported to the public.

Summary of previous OECD recommendations: The OECD recommended that Denmark provide differentiated support to

- Danish Agency for Education and Quality (2011)
- Socio-economic reference for elementary school grades (2011)
- Political agreement to reform the system of national assessments for primary and lower secondary education (2020)
- Learning barometer (part of agreement on a new grant system for higher education), 2017

help all schools improve, as well as building capacity to use data effectively, at school and municipality level. The OECD proposed that Denmark develop a national teacher profile, vision, or standards of practice to communicate expectations, and promote continuous improvement of practice by strengthening formal appraisal and informal feedback. For school leaders, the OECD suggested developing more strategic training at different career stages, including collaboration, coaching and mentoring opportunities. To strengthen schools and local authorities, the OECD recommended introducing broader national measures of student learning to monitor system progress, promoting the development of complex competencies and broader competency goals. The OECD also recommended that monitoring should more closely track inequities in learning outcomes between specific student groups. Finally, the OECD proposed that Denmark extend the system to monitor municipal service performance and make data on inputs and outcomes publicly available.

#### **SYSTEM**

- A Denmark that Stands Together (2011)
- Data warehouse (2014)
- Simplified Common Objectives (2015/16)
- Amendment to the Act on Universities, including strategic framework contracts (2017)
- Reduction of higher education study places (2014)
- Progress-Reform policital agreement to increase study completion in higher education (2013)
- Reform to the allocation of institutional funding in higher education (2018)

**Key challenges identified [2016b, 2019]:** The OECD previously identified that, with high education spending, Denmark faced the challenge of ensuring that resources are allocated efficiently, including by reviewing the effectiveness of resource use within municipalities and schools.

Summary of previous OECD recommendations: The OECD recommended that all actors continue to work intensively to use resources most effectively in improving student learning relative to national goals, including through knowledge sharing across schools and municipalities. The OECD suggested that a school-level reporting framework enabling schools to examine the fiscal impact of their resource and curriculum decisions could support this effort and increase transparency.

**Note:** The information on key challenges and recommendations contained in this spotlight draws from a desk-based compilation from previous OECD publications (subject to country participation). The spotlight is intended for exploratory purposes to promote policy dialogue and should not be considered an evaluation of the country's progress on these recommendations. Causality should not be inferred either: while some actions taken by a country could correspond to previous OECD recommendations, the OECD acknowledges the value of internal and other external dynamics to promote change in education systems.

Sources: 2012, 2014, 2016a, 2019: The Economic Survey of Denmark; 2016b: OECD Reviews of School Resources: Denmark.

## EQUITY AND QUALITY: STRONG PERFORMANCE AND SOCIO-ECONOMIC EQUITY, WITH A NEED TO BETTER SUPPORT LEARNERS OF IMMIGRANT BACKGROUND

In PISA 2018, Denmark performed above OECD average in reading, with higher or around-average **PISA equity indicators**. Performance in science and mathematics was also above the OECD average for Denmark in PISA 2018. Only 16.0% of students in Denmark did not achieve baseline proficiency in reading, performing below Level 2, compared to 22.6% across the OECD. At 8.4%, Denmark had a similar share of high performers (Level 5 and above) in reading as the OECD average share of 8.7%. Students' socio-economic background explained 9.9% of their variance in reading performance on average in Denmark, which was lower than the OECD average of 12%, but remains substantial. Denmark had no significant gender difference in mathematics and science performance, and the difference was slightly smaller than the OECD average in reading, in favour of girls. Average performance in reading in Denmark has remained unchanged across PISA cycles since 2000, while **mathematics** performance improved significantly from 2012 to 2015 only, and science performance decreased from 2015 to 2018.

**Early childhood education and care** (ECEC) policies can increase the equity of education systems. From the age of 26 weeks, all children of parents with legal status in Denmark are entitled to ECEC either in a day-care facility or home-based day-care. Additional subsidies for services provided by municipalities are available to lower-income families. In Denmark, qualified teachers deliver integrated education and childcare programmes at this level. In 2017, ECEC enrolment rates in Denmark were among the highest in the OECD, at 55% for children under 3, compared to an average of 36% and 98% for 3-5 year-olds, compared to 87%. Denmark also has high average hours of ECEC participation, and furthermore, recent policy initiatives have aimed to increase flexibility and choice for families and improved learning and children's well-being, although the OECD (2019) reported that childcare services could be more flexible to help narrow gender gaps in employment. Recent initiatives aim to address this (see "Recent policies and practices").

According to OECD evidence, several **system-level policies** can favour equity, such as a longer period of compulsory education, delayed tracking, limited ability grouping and school choice, or low grade repetition. Compulsory education in Denmark begins at age 6 and ends at 16. Following this, students are tracked into different educational pathways, which is in line with the most common age of first tracking across the OECD; although, in Denmark, students can opt to enter the different tracks at age 15. PISA 2018 indicates that only 3.2% of 15-year-olds in Denmark reported repeating a grade during their education, which was below the OECD average of 11.4%. Evidence from PISA 2018 based on students' reports also suggests that academic selection between schools is much less common in Denmark than elsewhere in the OECD; however, 74.4% of 15-year-olds in Denmark reported being grouped by ability within some or all of their classes, compared to an OECD average of 53.8%. Denmark allows some school choice, and has a publicly funded private sector (see "Funding"). The system appears to be socially and academically inclusive. In PISA 2018, Denmark had one of the lowest levels of social segregation in the OECD, with an index value of 0.11, compared to 0.14 on average. Furthermore, differences in reading performance between schools were low.

In Denmark, **students with an immigrant background** face certain challenges. Many of these challenges at least partly reflect Denmark's willingness to admit a large share of immigrants on humanitarian grounds in recent years; these students often require more intensive support for integration than other immigrant populations. In PISA 2018, just over 10% of students in Denmark were of immigrant background, below the OECD average of 13%. However, Denmark had the largest share of immigrant students in the bottom quarter of the PISA index of economic, social and cultural status in the OECD. PISA 2018 evidence also suggests that immigrant students in Denmark are less likely to speak the language of instruction at home than immigrant students in other OECD countries, though this trend decreases among second-generation immigrants. They also appear relatively more isolated from non-immigrant students, with the second-highest index of isolation of immigrant students in the OECD, at 0.49 compared to an average of 0.45. In terms of learning outcomes, in PISA 2018, Denmark's score-point difference for immigrant students in reading, after accounting for gender and socioeconomic profile of students and schools, was 34 points, compared to an OECD average of 24. Furthermore, Denmark had one of the smallest shares of resilient students<sup>2</sup> among immigrants, at 9% compared to 17% on average.

### Key strengths and challenges in equity and quality (pre-crisis analysis)

#### **Key strengths**

- Denmark is a high PISA performer in science, reading and mathematics
- Participation in ECEC is almost universal.
- Several system-level policies in compulsory education favour equity in Denmark.

#### **Key challenges**

- Mean performance in reading, mathematics and science has been static across PISA cycles.
- Students of immigrant background experience comparatively high performance gaps relative to nonimmigrant peers.

#### Recent policies and practices

The 2014 Folkeskole reform aims to enhance equity and quality in compulsory education (see Spotlight 3).

Denmark has made significant efforts to strengthen ECEC and primary school. The Ministry of Children and Social Affairs (2017) reported that, since 2007, legislation has aimed to strengthen transitions from home into day-care facilities, between facilities, and into schools. The agreement Strong ECEC – all children must be included in the community agreement (2017) sought to enhance flexibility and choice for families and to improve learning and children's well-being.

Following this, in 2018 Denmark introduced a new curriculum framework for all ECEC institutions, which emphasises the importance of play, curiosity and positive relationships. Efforts also seek to stimulate a culture of evaluation and promote constant improvement among ECEC staff. In 2018, the 1 000 days programme 'A better start to life' sought to improve life chances for vulnerable children and their families through initiatives in ECEC; at home, and through intensified healthcare interventions. Two initiatives from the agreement to 'fight parallel communities' seek to integrate children from vulnerable housing areas better in ECEC. Finally, a recent political agreement on the Finance Act (2020) will provide approximately DKK 500 million in 2020 for additional educators and assistants in institutions, and a further DKK 328 million in 2020 for additional educators and assistants in institutions with more children in vulnerable positions. From 2017-2020, the Government of Denmark committed to making DKK 500 million available to schools that have the highest share of academically challenged students by region. Schools that succeeded in raising the performance of their students in Danish and mathematics were eligible for prizes of between DKK 1.3 million and DKK 1.5 million per year. Later on, however, this initiative was cancelled and the funds reallocated. Further to this, in 2018, Denmark announced an agreement to "fight parallel communities". Initiatives include DKK 32 million for language training in schools with 30% of children or more residing in disadvantaged housing areas in the last three years, and measures to strengthen parental responsibility where children in primary and lower secondary schools have over 15% absences considered "illegal" (i.e. subject to economic sanction) in a quarter of a school year – including withholding child benefit payments. Under this initiative, the Ministry of Children and Education (MoCE) can also issue orders to municipalities up to the point of school closure for poor

The <u>National Strategy for the Promotion of Science</u> (2018) included measures in primary through upper secondary education to: enhance science teaching through new opportunities for team-based professional development; greater course content on the use and understanding of technology; develop enrichment opportunities for students with special talents and interests in science, including a mobile laboratory with technologies otherwise unavailable at schools; and virtual laboratories to approximate science resources that would be too expensive to offer in schools. The MoCE also called on municipalities to discuss how to support the strategy locally and hire municipal science co-ordinators, and requested that schools recruit science supervisors, natural science co-ordinators (upper secondary) and professional co-ordinators for basic science subjects (vocational schools).

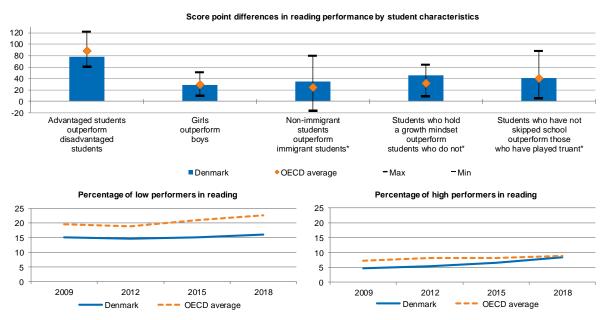


Figure 3. Selected equity and quality indicators for Denmark, PISA

**Note:** "Min"/"Max" refer to OECD countries with the lowest/highest values; [\*] Score point difference after accounting for students' socio-economic status and language spoken at home.

Source: OECD (2019), PISA 2018 Results (Volume I): What Students Know and Can Do, PISA, OECD Publishing, Paris, <a href="https://doi.org/10.1787/5f07c754-en">https://doi.org/10.1787/5f07c754-en</a>; OECD (2019), PISA 2018 Results (Volume II): Where All Students Can Succeed, PISA, OECD Publishing, Paris, <a href="https://doi.org/10.1787/b5fd1b8f-en">https://doi.org/10.1787/b5fd1b8f-en</a>; OECD (2020), PISA 2018 Results (Volume III): What School Life Means for Students' Lives, PISA, OECD Publishing, Paris, <a href="https://doi.org/10.1787/acd78851-en">https://doi.org/10.1787/acd78851-en</a>.

#### Spotlight 3. The 2014 Folkeskole Reform Package

In 2014, Denmark instituted <u>Improving the Public School</u>, a major reform to public primary and lower secondary education (*Folkeskole*). This established three major objectives: 1) challenge all students to reach their fullest potential; 2) reduce the influence of social background on academic results; and 3) enhance trust in the *Folkeskole* and student well-being. Four target outcomes were also identified: 1) at least 80% of students to "be good" at reading and mathematics; 2) year-on-year increases in the number of high-performing students; 3) year-on-year reductions in the number of low-performing students in Danish and mathematics; and 4) increase children's well-being. The reform traverses many of the policy levers discussed in this country policy profile.

The reform lengthened the school day, introduced greater assisted learning (non subject-specific) to target students' areas of difficulty, and expanded study and homework assistance to help address socio-economic inequities. It increased requirements for certain subjects, including physical education, Danish, mathematics and foreign languages while new courses in crafts and design, nutrition knowledge, and educational, vocational and job market counselling were introduced. The reform also saw curricular changes through the simplified Common Objectives (see "Governance"). Finally, it encouraged schools to work more closely with local extracurricular partners, such as sports clubs and cultural centres and to expand the offer of elective courses at lower secondary level.

Supporting the reform, the "Measurement and improvement of students' well-being initiative" (Udvikling af trivselsværktøj og -målinger, 2014) required schools to monitor students' well-being, including learning environments, wellness, calmness and order, from kindergarten to grade 9, using a digital tool. This aims to refocus school culture towards improving student learning and relies principally on a student survey. An expert group developed the well-being measures in partnership with the The Danish Centrer for Social Science Research (SFI now VIVE), the Danish Centre for the Educational Environment, and the Partnership for Folkeskole. An evaluation of the well-being measures (2015) found, however, that they do not fully capture the intended information, and that some educators find it difficult to use the results. The MoCE is considering modifications.

The Folkeskole reform did not increase the number of teachers in concert with the extended school day. However, the OECD (2016) has reported that Act no. 409 (2013) introduced greater flexibility in lesson planning and use of teaching staff, enabling schools to redistribute the resources. The Act abolished the ceiling on daily teaching hours for teachers, provided a new indicative number of teaching hours, and allowed schools more freedom to use activity hours for contextually relevant purposes. Schools were also permitted more freedom in staffing, including the option of employing more junior "pedagogues" in early primary grades, with authorisation to complete limited teaching tasks in accordance with their competences and qualifications, or hiring non-teaching staff in school libraries. The Act also simplified and lightened rules for municipalities including streamlining annual quality reports and allowing more flexibility in the composition of school boards.

The Folkeskole reform also sought to strengthen parental and student involvement in school governance setting out new expectations for school boards, parent-teacher meetings and academic activities. It also aimed to build the parental and student capacity to participate effectively in governance, in co-operation with the National Association of School Parents and the Danish Public School Students' Association. Learning consultants were assigned to strengthen student engagement and participation.

To support implementation, Denmark committed DKK 1 billion between 2014 and 2020 to strengthen teachers' professional development. The target was for all students by 2020 to be taught by teachers with main subject qualifications in the subjects they teach, either from their initial teacher education or from continuing professional development. An additional DKK 60 million from 2013-2015 was allocated to finance continued professional development for principals, recognising their enhanced autonomy under the reform programme. The MoCE has implemented an expansive evaluation programme. The multiannual evaluation (2014-18) was released in early 2020 and found limited impact, positive or negative, including for disadvantaged students. It would appear that peace and order in classrooms has improved, but further evidence from the National Centre for Welfare Research and Analysis (VIVE) (2017) indicates that most students (over 80%) found the new school day at least somewhat too long. Results also showed that less than half of the schools had implemented the reform to a high extent. The evaluators considered that more time would be needed for the reform to fully show effects. A further analysis of high- and low-performing schools (2020) showed that schools with low achievement and low student well-being have generally implemented elements of the reform to a lesser extent. However, the nature of this relationship has not yet been further investigated.

In 2019, a new <u>parliamentary agreement for primary education</u> revised some elements of the reform, reducing the length of the school week for the youngest students and adding lessons in foreign languages, visual arts and history at higher grade levels. The revision also allowed schools and school boards greater discretion to organise the school week and to hire principals, encouraging them to better adapt to local needs. The agreement allocated DKK 660 million in funding from 2019-2021.

## PREPARING STUDENTS FOR THE FUTURE: HIGH SKILL LEVELS AMONG ADULTS IN A CONTEXT OF EVOLVING SKILLS DEMANDS

A country's capacity to effectively develop skills and labour market perspectives can play an important role in the educational decisions of the population. Educational attainment in Denmark is similar to the OECD average: 80.9% of 25-64 year-olds held at least an upper secondary qualification in 2018, compared to 82.6% across OECD countries. Skill levels, as shown in PIAAC are high. Denmark's adults scored 271 score points in literacy and 278 in numeracy, compared to respective OECD averages of 268 score points for both. Furthermore, in problem-solving in technology-rich environments, 39% of Danish 16-65 year-olds scored in the highest two proficiency levels of adult skills, well above the OECD average of 31%. With a relatively inclusive labour market, and positive labour market performance, in 2018, Denmark had an overall employment rate of 82% for 25-64 year-olds, above the OECD average of 77%. The share of 18-24 year-olds not in employment, education or training (NEETs) was 10.7% in 2018, compared to an OECD average of 14.3%. Among those aged 15-29, the foreign-born were 5.5 percentage points more likely than their native-born peers to have NEET status in 2017, similar to the average gap of 5.7 in OECD. In an evolving labour market, the OECD (2019) has recommended that Denmark address emerging skills shortages and help students build skillsets which are more adaptable to future labour market changes.

Denmark offers four general **upper-secondary** programmes, all of which prepare students for tertiary education. Before transitioning to upper secondary education, students in Denmark can participate in an optional Year 10 programme to help consolidate skills and competences that will help them succeed in an upper-secondary pathway. Around half of Danish students choose to enrol in this year. In 2018, the share of 25-34 year-olds in Denmark with at least upper secondary education was just below the OECD average, having previously been higher than average (see Figure 2). Upper secondary education is not compulsory in Denmark. Among the younger population (18-24 year-olds), Denmark's share of of early leavers from education and training was 9.9% in 2018. This was an increase from 7.8% in 2014, but slightly below the European Union (EU) average of 10.3%.

Vocational education and training (VET) can ease entry into the labour market, yet across the OECD many VET programmes make insufficient use of workplace training. However, in Denmark almost all VET is dual. The upper-secondary EUX-programme combines VET and general education and provides students with both general and a specific vocational qualification (technical or commercial). In 2017, 38.9% of Danish upper-secondary students were in vocational programmes, compared to an OECD average of 43.1%. Among them, 38.8% were in combined school and work-based programmes in Denmark, which was a much higher share than the OECD average of 18.3%. Fewer VET students complete their studies than in general education in Denmark, however, partly due to difficulties finding training places with companies. Continually strengthening VET programmes to raise completion and improve labour market linkages is crucial, and ongoing government efforts aim to address this need (see Spotlight 4).

Danish **higher education** follows the Bologna model. The average age of first-time entry into Bachelor's programmes is 24 years old and above the OECD average age of 22, and rates of participation in tertiary education are lower at ages 19 and 20. First-time tertiary entry rates were 14 percentage points higher in Denmark than across the OECD in 2017, with the participation of learners above the age of 25 mostly driving the difference. Since 2014, Denmark has aimed to decrease the exceedance in students' time to completion of higher education by 2020, with some results achieved for Bachelor and Master levels, where it fell from 13.2 months in 2011 to 6.5 months in 2017 (see "Funding"). Denmark is a comparatively egalitarian society, which translates into lower returns to skill: the wage premium for tertiary education credentials relative to upper secondary was 28% in 2017, which is among the lowest figures in the OECD, where the average was 57%). In the context of the COVID-19 pandemic in 2020, however, the number of applicants for places in higher education increased by about 6% compared to 2019 (with 5 850 more applicants, reaching over 94 600).

At the same time, **adult education** is an important component of the Danish education system. Although participation in learning among adults aged 25-64 in Denmark has decreased since 2009, when the share was 31.3%, it remains comparatively high, at 23.5% in 2018, which is over twice the EU average of 11.1%.

### **Key strengths and challenges (pre-crisis analysis)**

#### **Key strengths**

- Adult skills, especially numeracy and problem-solving in technology-rich environments, surpass the OECD averages.
- Youth engagement in employment, education and training is very high.
- Participation in adult learning is widespread.

#### **Key challenges**

- The foreign-born population in Denmark has a higher share of NEETs among 15-29 year-olds than the nativeborn population.
- Limited returns to skill may still undermine incentives to pursue and complete education.

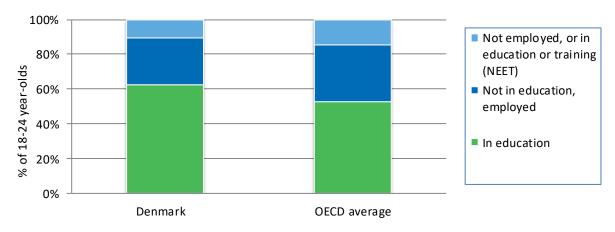
#### Recent policies and practices

In 2018, the Danish Government and other parliamentary parties reached the <u>Agreement on more flexible university education</u>, intended to give Danish university students flexibility to mix employment and learning and more opportunities to choose their path through the education system. Students completing a Bachelor's degree were granted an extended right to enrol in at least one Master's degree programme for three years, so they could enter the labour market and then return to their studies. Universities also obtained the right to grant one-year academic Master's degrees, part-time or full-time, with full state subsidies, rather than being restricted to only full-time, two-year programs. Finally, the new policy permitted institutions to provide an additional 30 part-time Master's degree programs. The <u>Act on part-time degree programmes alongside relevant employment</u> (2017) was also integral for allowing part-time Master's level studies, allowing students to complete their two-year degrees in four years while working for a public or private employer.

Denmark has pursued various measures to better advise students on education and training pathways. It introduced a new <u>national institution for guidance on higher education and careers</u> (*Studievalg Danmark*) in 2018, to provide independent guidance to general and upper secondary education students. The new institution will integrate the seven previously established regional guidance centres as departments, to ensure consistency across Denmark.

The <u>Tripartite Agreement 2017</u> (2018-2021) introduced various measures seeking to strengthen public adult, continuing and further education. A conversion fund will support low- and high-skilled workers' access to training so they can transition between fields of work (DKK 400 million), outreach will encourage uptake of continuing education, particularly among low-skilled workers (DKK 100 million), preparatory adult education (FVU) offerings for digital and English skills will expand (DKK 60 million), higher tariffs will support a fund for initiatives strengthening the quality of adult vocational training programmes (AMU) (DKK 420 million), and the partners will seek to develop more advanced offerings with the support of prior learning assessment and recognition (DKK 5 million). The reform also sought to: raise the allowance for participation in AMU adult education from 80% to 100% of salaries; increase the flexibility of AMU adult education to allow for more tailored programmes and different providers; and establish a single entrance portal for access to AMU courses, guidance on programme options and compensation. Lastly, the reform adjusted the adult and continued education (VEU) programme employer contributions, aiming to restore DKK 680 million to the private sector.

Figure 4. Percentage of 18-24-year-olds in education and not in education, by employment status, 2018



**Source:** OECD (2019), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, <a href="https://doi.org/10.1787/f8d7880d-en">https://doi.org/10.1787/f8d7880d-en</a>.

#### **Spotlight 4. Efforts to strengthen VET**

Launched in 2014, the <u>Better and more attractive vocational education and training programmes</u> (Bedre og mere attraktive erhvervsuddannelser, 2014) policy agreement has sought to reform Danish VET programmes, with the aim of improving their quality and attractiveness. The four core goals of the policy were: to increase the share of students choosing VET directly after the ninth or tenth grades (i.e. at the end of lower secondary) from 19% in 2013 to 25% in 2020 and 30% in 2025; to increase completion rates for VET programmes from 52% in 2012 to at least 60% in 2020 and 67% in 2025; to increase, year-on-year, the share of students in VET who complete more than the compulsory minimum number of subjects; to sustain the employment rate of graduates; and to increase reported satisfaction of employers and the self-reported well-being of VET students.

The policy came fully into force in 2015 and remains active in 2020. Areas of emphasis have included: to provide a more attractive education offering for youth; to establish a stronger admissions process into upper secondary VET; to introduce a new 10<sup>th</sup> grade lower-secondary programme to prepare students who lack the necessary skills or are uncertain of their interest to enter VET programmes; to improve the quality of instruction in VET through teacher capacity building and stronger linkages to workplaces; to increase the number of internships and apprenticeships; to establish a new employment-oriented upper-secondary programme for students who lack the necessary competencies to pursue VET or general upper-secondary programmes, which can support further education; to simplify programme structure; to enhance education and career guidance; to provide better access to higher education and employment through upper secondary VET; and to create a separate adult education VET stream. The approximate budget for the reform was DKK 3.6 billion from 2014-2020.

In an <u>interim evaluation</u> (2017) of the major 2014 VET reform, which used 2015 data, more teachers reported that the majority of their students have the necessary academic, personal and social prerequisites for completing vocational training when beginning a basic course, while many also believed that the initial basic vocational course was working well. The share of 15-19 year-old students in the basic course with less than a 02 grade average fell from 15% in 2010 to 11% in 2015. At the same time, some difficulties were also identified in implementing adult education within schools, particularly around organising and providing credit. A further <u>evaluation</u> (2018) of implementation found that over half of VET teachers had participated in relevant professional development since the reforms, with those participating most familiar with their schools' pedagogical approach, most likely to use ICT in their teaching and most likely to make connections between different disciplines. However, teachers reported difficulties in finding time and space to apply what they had learned. Connecting classroom and workplace learning remained a challenge, as did the establishment of more focused vocational tracks.

In 2018-19, Denmark has undertaken additional significant reform efforts targeting VET:

- The Danish Government approved 55 initiatives, with DKK 2 billion between 2019 and 2022, to further strengthen VET and preparation for VET in the *Folkeskole*. The reforms focus on supporting *Folkeskole* students to pursue VET, for instance by eliminating the automatic choice of a general education, offering better student guidance, and developing measures to strengthen the quality of VET instruction.
- Beginning in 2019, the <u>strengthening upper secondary education reform</u> will legally restrict the number of specialised study programmes that schools may offer to reduce complexity and ensure that all programme subjects grant access to higher education. Consultants will assist local municipalities and schools in the implementation of the reform through professional development and school development courses. The <u>National Strategy for the Promotion of Science</u> (2018) (see "Equity and Quality") also introduced a new basic course in VET on the use of digital technology. The MoCE has developed an <u>extensive implementation and follow-up evaluation process</u> for its 2018 upper secondary education reforms that should generate results in 2021.
- Although not directly addressing VET, the 2018 <u>Practice Professionalism</u> reform to lower secondary education sought, in part, to encourage more applications for VET. The reform has required that public lower secondary schools include a practical or musical elective subject that can be completed with a final exam at the end of lower secondary school. It has also sought to provide more time and opportunities for practical and application-oriented instruction to promote innovation, entrepreneurship and creativity. The MoCE intends to engage companies and researchers to further develop these education streams. No evaluation of this reform is currently planned.

## SCHOOL IMPROVEMENT: POSITIVE TEACHING PRACTICES, WITH ROOM TO REFLECT ON HOW TO MAKE THE PROFESSION MORE ATTRACTIVE

Developing positive **learning environments** for students which enable school leaders and teachers to succeed is essential in raising achievement in schools. There are signs that Danish schools offer positive learning environments. Students in Denmark report a high sense of belonging in their schools, with a PISA 2018 index score of 0.21, well above the OECD average of 0.00. Students' reports on school disciplinary climate were also more positive than on average across the OECD, with an index score of 0.19 compared to 0.04, indicating that students are comparatively less likely to miss learning opportunities due to disruptive behaviour in the classroom. At the same time, student truancy in Denmark was only slightly below average, with 19.7% of students reporting having skipped a whole day of school in the two weeks before the PISA 2018 test, compared to 21.3% on average across the OECD. Bullying also seems less prevalent: 21.4% of students in Denmark reported being bullied at least a few times a month in PISA 2018, compared to an average of 22.7% across the OECD. As in other countries, boys and lower-achieving students appear more often to be the targets of bullying.

Attracting, retaining and developing high-quality **school leaders** is essential for effective school leadership and improving the quality of learning environments. Danish lower-secondary principals have lower formal qualifications than is typical across the OECD. In TALIS 2018, 83% of principals at lower secondary level in Denmark reported having educational attainment at ISCED Level 6, and 15.8% reported educational attainment at ISCED Level 7 (at OECD average, the respective shares were 30.8% and 62.8%). Danish lower-secondary principals also reported spending less time than their OECD peers on curriculum and teaching-related tasks and student interactions. Management tasks and experience vary greatly across schools, in part due to a recent influx of new hires. At the same time, 94.4% of Danish school principals reported having previously pursued teacher training programmes or courses, compared to just 68.3% across the OECD in TALIS 2018. Moreover, between 2008 and 2018, Denmark had the largest increase in the OECD (by 18 percentage points) in school administration/principal training, reaching 74% of Danish principals either before or after appointment, although this share remains below the OECD average of 87%

A strong supply of highly qualified and engaged **teachers** is vital in every education system. In TALIS 2018, more Danish teachers reported feeling well- or very well-prepared than the OECD average in most areas of their work, and they reported higher-than-average self-efficacy in most areas surveyed. Students in PISA 2018 also reported relatively high levels of teacher enthusiasm (0.19 on the index compared to the OECD average of 0.01) and teacher support (0.14 compared to 0.01), with higher scores for each having greater effects on student reading performance than on average across the OECD. Primary and lower secondary teachers or staff in Denmark require a Bachelor's degree in education and teaching practicum as initial training, while general upper-secondary teachers must complete a university-based Master's degree and a practicum. ECEC teachers must complete a Bachelor's degree, and pedagogical assistants need to complete the pedagogical assistant education (PAU). There are also pedagogical support staff without formal qualifications employed in ECEC. In TALIS 2018, 92.4% of Danish lower secondary teachers reported participating in at least one professional development activity in the preceding 12 months, compared to an OECD average of 94.5%, although 71% reported that this had a positive impact on their teaching practices compared to 82% of teachers on average across the OECD. Government efforts have aimed to strengthen professional development (see "Recent policies and practices").

As reported by the European Commission (EC) (2019), teacher numbers in Denmark fell from 2009 to 2018, pointing to a need to ensure the profession is sufficiently attractive. In terms of **teaching conditions**, Denmark's teachers' salaries from ECEC through upper secondary were higher than on average across the OECD in 2017, and more so at the start of the teaching career. However, Danish teachers earned between 68% and 96% of the average salary of a full-time full-year Danish worker with tertiary education. Except in upper secondary, these ratios are below the OECD average. Meanwhile, statutory working hours are above average from pre-primary to upper secondary, and although class sizes in 2017 were equal to the OECD average in primary and slightly smaller in lower secondary (see "Funding"), they have increased by 8% at both levels since 2005. Just 18.5% of Danish teachers indicated in TALIS 2018 that the teaching profession was valued in society (the OECD was average 25.8%). Some 70% of teachers reported that if they could decide again they would still choose to work as a teacher, compared to an OECD average of 75.6%.

#### Key strengths and challenges in school improvement (pre-crisis analysis)

#### **Key strengths**

- Self-reports suggest that learning environments are relatively positive in Denmark.
- Student and teachers report that teachers in Denmark are effective in practices that foster student learning.

#### **Key challenges**

- School principals exercise comparatively limited instructional leadership.
- The teaching profession may lack sufficient attractiveness to maintain an optimal workforce

#### Recent policies and practices

The establishment of a <u>national corps of learning consultants</u> (around 40) to support municipalities and schools in enhancing the quality of instruction, beginning in 2014, has been key in the Danish approach to school improvement. They work with schools and municipalities on a host of themes depending on the school year, through webinars or other events, or through intensive counselling and development targeted at schools' specific circumstances – such as in support of the agreement to "fight parallel communities" (see "Equity and Quality"). Under the 2014 *Folkeskole* reform, Learning Consultants also sought to strengthen learning environments and classroom management, through support for teachers, school leaders and municipalities, also with the assistance of various Ministry-developed materials and other networks. Additionally, in 2016 the MoCE allocated DKK 23 million to employ learning consultants from 2016-2019 to support ECEC facilities with a high share of disadvantaged children.

Other reforms have prioritised strengthening education staff in other ways. A 2013 reform created a module-based Bachelor's of Education programme, delivered with greater autonomy by colleges. An <u>evaluation of the teacher training reform</u> (2019) found that the modular programmes were providing an appropriate framework for strengthened teacher training, but that there was a need to overhaul the scope of competency goals and strengthen programmes. Teacher development has also been a key element of the <u>reform to strengthen upper secondary education</u> (2016) (see Spotlight 4), with the MoCE investing DKK 400 million between 2017-2020 to offer courses in "professional development in practice" and "school development in practice" for teachers and school leaders. At ECEC level, the "Strong day-care facilities" agreement (see "Equity and Quality") also assigned DKK 210 million to strengthen teacher and management professionalism.

In addition, much of the National Strategy for the Promotion of Science (2018) (see "Equity and Quality") focused on strengthening teachers' skills and performance. In initial primary teacher education, the strategy aimed to strengthen the emphasis on science at teacher colleges and teachers' understanding of technology. For primary teachers' professional development, the strategy envisioned new e-learning courses, information packages regarding science and science instruction research, mapping of continuing education options, and collaboration with university colleges around improving their offerings and knowledge translation. For secondary teachers, the priority in the Strategy was to enhance networking and knowledge sharing to improve teachers' disciplinary and didactic skills. In vocational education, the priority in the Strategy was specifically to undertake a review of continuing education for teachers in STEM subjects to help vocational schools and university colleges develop appropriate STEM-oriented modules for the teacher education diploma programmes. Additionally, the MoCE committed to financing a new Master's degree programme in natural sciences and science didactics. The Strategy also included a review of how the National Centre for Learning in Nature, Engineering and Health (ASTRA) can better support the teaching of science subjects in primary and secondary education, including in its legislation.

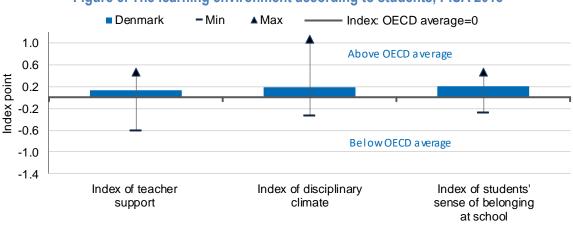


Figure 5. The learning environment according to students, PISA 2018

Note: "Min"/"Max" refer to OECD countries with the lowest/highest values.

Source: OECD (2020), PISA 2018 Results (Volume III): What School Life Means for Students' Lives, PISA, OECD Publishing,

Paris, <a href="https://doi.org/10.1787/acd78851-en">https://doi.org/10.1787/acd78851-en</a>.

### EVALUATION AND ASSESSMENT: A PERSISTING NEED TO EFFECTIVELY USE ASSESSMENT AND FEEDBACK TO PROMOTE IMPROVEMENT ACROSS THE SYSTEM

Defining strategies for evaluation and assessment is important for improving student outcomes and developing a higher-quality and more equitable school system. **System evaluation** can provide evidence to help decision makers craft informed policies and increase the transparency of education system outcomes. Denmark conducts system evaluation through a national evaluation framework. It makes student results public in aggregate, national numbers at three specific stages: grades from year 9; the results of mandatory school-leaving examinations and the results of national tests introduced in 2010. Moreover, aspects such as dropout rates, student well-being, and enrolment, are also followed closely. In light of a recent evaluation, reform of the latter has been agreed (see "Recent policies and practices"). One aspect of the framework to improve includes tracking disadvantaged communities. Denmark also has begun to evaluate extensively the effectiveness of its policy reforms and has built considerable infrastructure for this purpose.

Municipalities and the Danish Agency for Education and Quality (see "Recent policies and practices") evaluate public schools externally, while internal **school evaluation** varies among municipalities and schools. Overall, PISA 2018 indicates that 67.9% of students in Denmark attend schools where administrative authorities track achievement data (similar to the OECD average of 67.4%), but this is not consistent. Administrative authorities track these data for 88.1% of public schools but just for 18.5% of private schools, making for the largest difference (69.6 percentage points) in the OECD (the average gap is -4.6 percentage points). Municipalities produce biennial quality reports that include a standard set of indicators, but the OECD (2016) has identified that schools and municipalities have limited capacity to analyse and use the data. According to PISA 2018, students in Denmark are somewhat more likely than the OECD average to attend schools that use student assessments to measure school performance relative to district or national norms, from year to year, or in comparison with other schools.

According to OECD research, **teacher appraisal** can strengthen professionalism and performance, provided it includes an improvement component emphasising developmental evaluation and a career progression component (a model of certification of competencies for practice within and across career paths, associated with career advancement and based on a greater variety of instruments). In Denmark, teacher appraisal is voluntary, and practices such as internal school evaluations are defined locally, in some cases by the school. There is a tradition of teacher self-appraisal and also some feedback from school principals, although this can vary and is not necessarily linked to professional development activities. In TALIS 2018, 61.3% of Danish lower secondary teachers had principals who reported formally appraising their teachers at least once a year, which was close to the OECD average of 63.5%. However, school leaders' reports suggest that there could be a stronger focus on developmental feedback: in TALIS 2018, 45.6% of teachers' principals reported that formative discussions follow appraisal either most or all of the time, compared to an OECD average of 63.3%, and 40.5% of teachers had principals who reported that a development or training plan is mostly or always put in place after appraisal, compared to 46% on average.

The extent and ways in which a system uses **student assessment** can vary depending on the needs of education systems. However, student assessment is important in generating data and processes to shape effective education improvement initiatives. Denmark has national assessments and examinations in primary and lower secondary education. The MoCE is using student assessment widely to inform its assessment of schools and related policies, although changes to the current system are envisaged (see "Recent Policies and Practices"). Danish teachers appear to place less emphasis on student assessment than most of their peers in the OECD, and this was the only area where Danish teachers did not report above-average self-efficacy in TALIS 2018 (77.2%, versus 80.3% across the OECD). Danish teachers were less likely than their OECD peers to report administering their own assessments, letting students evaluate their own progress or observing students working on particular tasks and providing immediate feedback. They were roughly as likely to report providing written feedback on student work in addition to a mark. At the same time, students in Denmark were more likely to indicate in PISA 2018 that teacher feedback is helpful than their peers on average across the OECD. Similarly, students in Denmark reporting in PISA 2018 that their teachers use student assessment to identify aspects of instruction or the curriculum that could be improved performed 14 points higher in reading on average, after accounting for the students' and schools' socio-economic background (the highest difference among OECD countries).

### Key strengths and challenges in evaluation and assessment (pre-crisis analysis)

#### **Key strengths**

- Denmark has been strengthening infrastructure for evaluating education policy reforms, which can help the system monitor efforts towards improvement.
- Students appear to find the feedback provided by teachers useful.

#### **Key challenges**

- Feedback and appraisal to help teachers improve their instruction exists, but seems limited.
- There is little tracking of private school performance.

#### **Recent Policies and Practices**

A mandatory assessment of language development exists since 2010 for all three-year-olds who experience language difficulties in ECEC facilities. Under recent policy changes, municipalities can bring forward this language assessment to age two. In general, ECEC staff evaluate children's language skills in co-operation with their municipality. Children in need can receive support through language stimulation in their day-care facility. Among children not in ECEC facilities, all three-year-olds must undergo a language assessment, and those who need support can receive help (their parents are required by law to accept the offer). The political agreement to "fight parallel communities" (see "Equity and Quality") also included compulsory language testing from grade 0 starting in 2019/20, to further bolster intensive support for development of language skills among students of immigrant background. The compulsory language tests apply to (1) all students in grade 0 and (2) students in grades 1-9 who shall cease to receive training /lessons in "Danish as a second language" at schools with more than 30% of students living in socially vulnerable housing areas within the past three years.

Since 2006, all primary and lower-secondary schools must provide <u>Individual Mandatory Student Plans</u> (IMSPs) tracking student progress against the simplified Common Objectives (2015/16) (see "Governance"). The IMSPs continue to evolve, including converting to digital. The MoCE has gathered feedback from school leaders, teachers and other personnel and, with the support of an advisory group of users and *Folkeskole* partners, is planning to further simplify the plans and their format. The Danish Agency for Education and Quality (2011) seeks to identify schools with sustained quality challenges, monitoring them based on selected quality indicators and conducting more detailed analysis in cases of concern. If the agency identifies persistent quality challenges in a school, the Ministry can initiate a dialogue with the responsible Municipality, and may instruct it to draw up an action plan and/or contact learning consultants to improve the school's performance.

The MoCE also introduced <u>a socio-economic reference</u> for elementary school grades in 2011, tracking the performance of schools' students relative to others with the same socio-economic background conditions – including gender, ethnic origin and parents' education and income. In its efforts to strengthen VET, the MoCE developed and required the publication of an indicator of VET completion at schools, as well as measures of employer satisfaction and student well-being. Finally, the system-wide <u>Learning Barometer</u> questionnaire for higher education students was introduced in the 2017 financing reform and aims to help institutions to better meet student needs.

In 2020, Denmark reached a political agreement on the system of national assessments for primary and lower-secondary education to introduce immediate modifications, committing to developing a new system in the longer term. This followed an evaluation of the national assessment (2020) which found that, although at aggregate level the tests offer reliable management information, at the individual student level, data is less reliable and therefore not appropriate as an educational tool. Following the agreement, schools could opt out of the assessments in 2019/20, although it remains compulsory for the lowest-performing schools, and student-level results will not be reported to parents unless specifically requested. Efforts to strengthen the validity of student-level data were introduced from 2020/21 and until a new assessment system is introduced.

The National Strategy for the Promotion of Science (2018) (see "Equity and Quality") also included elements relating to assessment. A review of natural sciences tests for students and a pilot exploring how tests could improve in their utility for teachers and in the breadth of students' competencies captured are both underway. The strategy emphasised respect for teacher autonomy over narrow restrictions. The National School Conciliation Committee also agreed in 2014 to launch a series of initiatives to further develop tests in primary and lower secondary schools, to support the broader *Folkeskole* reforms. Outputs include several product- and project-oriented tests, more use of ICT, and tests based on partnerships between schools and local associations or companies.

#### **GOVERNANCE: A HIGHLY DECENTRALISED AND COLLABORATIVE SYSTEM**

Multiple ministries in Denmark play a role in education. The Ministry for Children and Education (MoCE) oversees early childhood education and care, compulsory education, upper secondary and adult education. The Ministry of Higher Education and Science (MHES) oversees higher education. Other ministries have narrower areas of focus, such as the Ministry of Culture (MC), which is responsible for the arts. Additional relevant bodies are:

- The <u>Danish Agency for Education and Quality</u>, under the MoCE, administers national and international assessments, produces quality support materials and supervises providers in ISCED 0, 1, 2 and 3.
- The <u>Agency for Information Technology (IT) and Learning</u>, under the MoCE promotes digitalised learning in education, while also implementing IT related projects, securing and maintaining IT solutions, and producing data and statistics to support local learning and decision-making.
- The <u>Danish Evaluation Institute</u>, an independent state institution, conducts both officially commissioned and independent evaluations to support improvement at all levels of education.
- The <u>Danish Agency for Institutions and Educational Grants</u>, under the MHES, allocates and administers grants and funding to all higher education institutions and is the main point of contact for control of targets, inspection and administration. It also administers the State Educational Grant and Loan Scheme.
- The <u>Danish Agency for Science and Higher Education</u>, under the MHES, provides expert analysis to support the quality
  of Danish research and higher education and collaborates with international parties.
- The <u>Danish Accreditation Institution</u> assures the quality of higher education. Institutional accreditation focuses on institutions' internal structures for continuous improvement of quality and relevance.

Other education stakeholders include <u>Local Government Denmark</u> (*KL*), Private school organisations (Danske private skoler), the <u>Confederation of Danish Employers (Dansk Arbeidsgiverforning</u>), the <u>Danish Union of Teachers (DLF)</u>, the <u>School and Parents Organisation</u> (*Skole og Forældre*) and the <u>Association of Danish Students</u> (*Danske Skolelever*). Danish policy-making in education often takes the form of agreements. These include agreements among political parties, or between the Ministry, employers (i.e. municipalities) and workers (i.e. the teacher's union) – which are known as tripartite agreements.

In Denmark, primary and lower secondary education is highly decentralised and so the effectiveness of education policy depends on the capacity of municipalities, school leaders and teachers to implement national strategies at the school level. In 2017, the central government was responsible for around one-fifth of education decisions in lower secondary education in Denmark, compared to around one-third on average across the OECD (see Figure 7). In particular, Danish schools and local authorities had more responsibility for decision making related to personnel and resource management than elsewhere in the OECD, but less regarding the organisation of instruction. This may change in light of recent reforms (see Spotlight 3). The MoCE establishes common competency goals and, to some degree, goals for the content for education, in terms of general programmes of study, and sets framework conditions to ensure equity and quality. The 98 municipalities are responsible for the overall quality of their schools, setting local objectives and conditions and supervising them. The system involves close collaboration between municipalities and the MoCE, and municipalities and school authorities: 28.1% of decision areas involved multiple levels of governance in 2017, compared to just 14.1% across the OECD. Upper secondary schools fall under the national government but have considerable autonomy, with the legal status of self-governing institutions. School boards comprised of parents, students and teachers participate in decision making and are consulted by municipalities. Many schools also have pedagogical councils that provide an advisory function, while students operate their own councils in many schools.

National-level policy-making predominates in higher education. National legislation addresses degree structures, teacher qualifications and examinations. The MHES must approve the establishment of new programmes and local provision of programmes prior to accreditation. The State owns most university buildings and may still dismiss boards of all universities, though only in exceptional circumstances. Almost all higher education institutions have considerable autonomy as "state-financed self-owning institutions". They have rectors and boards, and varying collegiate bodies. Boards conduct strategic planning and oversee the rectors, and are comprised of mostly external members, in addition to staff and students.

### Key strengths and challenges in governance (pre-crisis analysis)

#### **Key strengths**

#### The many actors involved in the education system have longstanding collaborative relationships.

#### Structures for engaging stakeholders (e.g. students, parents) are well developed.

#### Key challenges

 The education system must remain vigilant in order to identify and address inequities in performance between municipalities.

#### Recent policies and practices

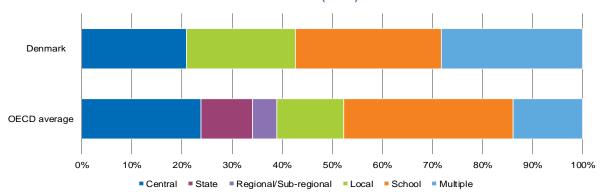
Denmark has a history of setting overarching goals for its education system. "A Denmark that Stands Together" (2011) identified key education priorities from ECEC through lower secondary schools, with clear targets: 95% completion of upper secondary in 2015, and 60% tertiary completion in 2020. Although these objectives have since changed, they provide context for recent policy reforms. The 2014 Folkeskole reform sought to establish clearer goals for public primary and lower secondary education and provide more local freedom to pursue these, largely within a spirit of simplification. The three goals remain in place today: to challenge all students to become as skilled as possible; to reduce the importance of social background in academic results; and to strengthen students' confidence and well-being through respect for disciplinary knowledge and practice.

The MoCE and the MHES have each developed a <u>data warehouse</u> (*Datavarehuset*) to support municipalities and institutions' efforts to enhance the quality of education. The tool aims to allow institutions and municipalities to analyse data comparing performance between institutions or communities and change over time.

Denmark has also pursued various measures to strengthen curriculum. The <u>simplified Common Objectives</u> came into force in 2015/16, responding to previous research findings that teachers found the earlier Common Target 2009 too unclear and difficult to use. The new objectives represent a shift from prescribing teaching content to identifying learning goals based on student learning outcomes. They were developed by 27 working groups, one for each of the subjects and electives in the *Folkeskole and* three interdisciplinary working groups. In 2018, a <u>political agreement</u> led to the modification of the Common Objectives for further simplification and to increase teacher autonomy. The adaptation has led to the development of new guiding material for teachers from the Ministry of Children and Education.

In 2017, Denmark <u>amended the Act on Universities</u> to clarify the role and responsibilities of university boards to grant them overall responsibility and strategic management of the university, as well as expectations for board composition and appointment processes. It also established expectations for stronger dialogue between boards and the MHES. As a follow-up to the legislative Act, existing performance contracts were replaced by strategic framework contracts for all higher education institutions. The framework contract is intended as both a central management tool for each institution and the basis of a strengthened strategic dialogue between the Minister and each institution's board.

Figure 6. Percentage of decisions taken at each level of government for public lower secondary schools (2017)



**Note:** This figure considers four domains of decision-making: 1) Organisation of instruction; 2) Personnel management; 3) Planning and structures, and; 4) Resources.

Source: OECD (2018), Education at a Glance 2018: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/eag-2018-en.

## FUNDING: HIGH PUBLIC EDUCATION SPENDING, WITH ONGOING EFFORTS TO IMPROVE EFFICIENCY IN USE OF RESOURCES

EC numbers indicate that in 2017, public education spending in Denmark was equivalent to 6.5% of GDP, well above the EU average of 4.6%. Denmark also spends a higher share of its government education spending on tertiary and pre-primary and primary education, but less on secondary education, compared to the EU average. Public provision predominates in Danish education. This is especially true in ECEC, as 82% of children in ISCED 0 attended public institutions in 2017 (compared to 67% across the OECD), and all private provision is government-dependent (Danish private schools charge modest tuition fees and are not run for profit). In lower secondary education, 23.4% of Danish students in PISA 2018 attended private schools, which was above the OECD average of 16.8%.

As reported by the OECD (2016), Denmark's municipalities are the primary source of funds for primary and secondary schooling and education, and expenditure on young people account for 26% of their total spending. Approximately 71% of municipal revenues are from local tax income, while central government grants account for 26%. Few central government grants are earmarked for education specifically, and these are modest. National education funds are allocated largely according to an assessment of municipal need based on the population aged 6-16 (68%) and socio-economic conditions such as unemployment, educational attainment and housing (32%). Expenditure per student in 2014 varied from DKK 58 424 and DKK 100 000 across municipalities due to differences in local governments' resources and priorities.

Municipalities use various approaches to allocate funds to schools, based on measures such as enrolment, socioeconomic needs, or economies of scale (i.e. school size). The OECD (2016) has found that, overall, these
mechanisms produce a system where school expenditure per student is positively related to the school's share of
students with a low socio-economic status or special educational needs. However, municipalities could benefit from
a greater understanding of how their diverse approaches to funding formulas can best contribute to equalising student
performance, and of how additional funding is used and with what impact on learning. For instance, the OECD (2017)
has previously suggested that competition from private schools has led Danish districts to increase their expenditure
per student while there has been no commensurate improvement in student performance.

All public funding to tertiary education comes from the central government. Denmark has used funding conditionality as a key instrument for steering its higher education system, through a combination of performance contracts and other elements of funding distribution. Funding to universities is divided between research and education components, both of which have competitive elements.

Tuition fees at Danish tertiary education institutions are free for domestic students and students from other EU/EEA countries. Additionally, Denmark has among the most generous student financial regimes in the world, well ahead even of its peers in Northern Europe, according to a regional comparative report (2019). In 2017/18, 85% of Danish undergraduates and Master's long first-degree students received government grants and 28% received government supported loans. The State Educational Grant and Loan Scheme entitles all Danish students to grants up to a maximum period related to the length of their study programme. If they attend higher education within two years of their first completed qualifying exam, they can add an additional 12-month grant to the maximum period, with adjustments based on students' private earnings and whether they live with their parents. Loans may equal up to just over half the value of grant support, available for students who do not live at home with their parents while studying, and also form a supplement to grants for one year for those who do not complete their programmes in the prescribed duration plus 12 months. Additionally, in 2018/19, 62% of Danish students pursued paid employment, working an average of 13 hours per week. To improve the relevance of education delivery and the efficiency of spending, the OECD (2019) has recommended that Denmark reduce student grants and rely more on student loans, linking repayment conditions to students' later income and status in the labour market (see Spotlight 2).

### Key strengths and challenges of funding education systems (pre-crisis analysis)

#### **Key strengths**

- Public funding for education is comparatively high.
- Education resources are concentrated in earlier years, which reflects best evidence on supporting long-term well-being and
- Financial barriers to accessing education are minimal.
- Denmark has started undertaking efforts to improve efficiency in spending.

#### Key challenges

- Spending on education is high, but outcomes could improve to be more commensurate.
- Education resources are uneven across municipalities.
- Student financial aid in higher education is comparatively very generous, but is not translating into equivalently higher rates of participation

#### Recent policies and practices

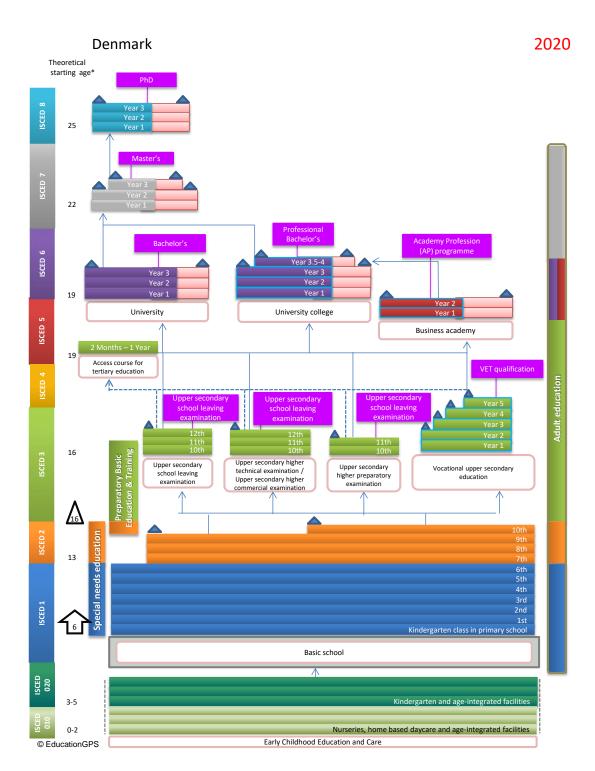
Raising efficiency has been a key goal of Denmark's recent policy-making in education. The <u>National Institute of Municipalities and Regions Analysis and Research</u> (KORA) (2014) reported that the MoCE did not increase funding to such an extent as to fully fund the implementation of the *Folkeskole* reform by municipalities and schools. Instead, the reform was largely financed through higher expectations of hours from teachers, the involvement of instructors (educators) in supporting teaching, and reduced opening hours and parental payments for childcare centres (*skolefritidsordning* – SFO).

From 2016-2020, the Danish Government has been implementing budget cuts to higher education institutions of approximately DKK 10 billion. Furthermore, in order to increase efficiency, as well as labour market relevance, Denmark initiated a stepwise reduction of study places in fields with limited career prospects in 2014 and introduced restrictions on the pursuit of second degrees at a level equal to or lower than a student's first degree in 2016 (with some exemptions notably where there are confirmed labour shortages). More recently, however, a political agreement on the Finance Act (2019) has been reached, which reverses some of these policies as of 2020: institution spending reductions have been lifted along with the reduction in study places, while the restrictions on the pursuit of second degrees have been rescinded.

Additionally, the 2014 "Progress-Reform" political agreement introduced policies meant to increase study completion in higher education and, most especially, to reduce exceedance in time to completion. Measures included incentives and restrictions through student financial assistance, and clear requirements for course-loads. On the institution side, the MHES tied funding to students' time to completion and sought to improve credit transfers. Some elements of the reform were softened in 2015, especially full course load requirements. There has been a shift in emphasis towards institutional funding incentives, discussed in the Funding section, and the time to completion had declined by 2017, according to government data.

In 2018, the MHES introduced a significant reform to the allocation of institutional funding in higher education, replacing the taximeter system. Under the new model, institutions will receive three types of grants. The basic grant, equal to 25% of funding, will be a flat funding stream set for four-year periods. A minor part of the basic grant (10%) will be reallocated every four years based on the results in the strategic framework contracts and the Learning Barometer (described in the section on assessment). The activity grant will account for 67.5% of funding and will be provided to institutions based on enrolment in ten categories of programmes (reduced from 49). Finally, the quality and performance grant (7.5%) will provide funds based on students' time to completion and post-graduation employment rate. Additional subsidies will support the delivery of degree programmes outside the four largest cities (Copenhagen, Aarhus, Odense and Aalborg).

#### ANNEX A: STRUCTURE OF DENMARK'S EDUCATION SYSTEM



**Note:** The key for the interpretation of this table is available at the source link below. **Source:** OECD (2020), Denmark: Overview of the Education System", OECD Education GPS, <a href="http://gpseducation.oecd.org/Content/MapOfEducationSystem/DNK/DNK">http://gpseducation.oecd.org/Content/MapOfEducationSystem/DNK/DNK</a> 2011 EN.pdf

#### **ANNEX B: STATISTICS**

Scholar   Scho	#	List of key indicators <sup>1,2,3</sup>	Denmark	OECD average or total	Min OECD	Max OECD
GDP per capita, 2016, in equivalent USD converted using PPPs (OECD   50 685   42 441   14 276   107 775   15 tatistics)   2 GDP growth, 2016 (OECD Statistics)   2.4%   1.8%   0.6%   6.6%   6.6%   Society   3 Population density, inhab/km2, 2017 (OECD Statistics)   137   37   3   517   4 Population aged less than 15 as a percentage of total population, 2018   16.6%   17.0%   12.2%   28.4%   (OECD Data)   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   17.0%   12.2%   28.4%   16.6%   16.6%   17.0%   12.2%		Background information				
Statistics    Subsider   Subsid	Eco	nomy				
Society   Soci	1	i i i i i i i i i i i i i i i i i i i	50 685	42 441	14 276	107 775
3   Population density, inhab/km2, 2017 (OECD Statistics)   137   37   3   517	2	GDP growth, 2016 (OECD Statistics)	2.4%	1.8%	0.6%	6.6%
Population aged loss than 15 as a percentage of total population, 2018   16.6%   17.0%   12.2%   28.4%   CDCD Data)   16.0CD Data)   17.0%   12.2%   28.4%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%	Soc	iety				
COECD Data    17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   28.4%   17.0%   12.2%   17.0%   12.2%   17.0%   12.2%   17.0%   12.2%   17.0%	3	Population density, inhab/km2, 2017 (OECD Statistics)	137	37	3	517
Secondary education   Secondary   Secondary   Secondary or post-secondary non-tertiary education   Secondary   S	4		16.6%	17.0%	12.2%	28.4%
6         Mean performance in reading (PISA 2018)         501         487         412         523           A verage three-year trend in performance across PISA assessments, by domain (PISA 2018) 4.5           Reading performance         1.1         0.4         4.9         7.1           Mathematics performance         -0.9         -0.6         -9.1         6.4           Science performance         -0.4         -1.9         -10.7         6.4           8         Enrolment rates of 3-year-olds in early childhood education and care, 2017 (EAG 2019)         96.5%         79.3%         2.4%         100.0%           9         Percentage of 25-64 year-olds whose highest level of attainment is lower secondary education, 2018 (EAG 2019)         16.4%         14.4%         0.8%         39.9%           Educational attainment of the population aged 25-34 by type of attainment, 2018 or latest available           At least upper secondary education, 2018 (EAG 2019)         82.6%         85.4%         50.1%         97.8%           Tertiary education, 2018 (EAG 2019)         44.8%         44.3%         23.4%         69.6%           Vocational upper secondary education, 2018 (EAG 2019)         27.2%         24.5%         1.8%         50.1%           Unper secondary education         20.6%         13.7% <t< td=""><td>5</td><td></td><td>10.3%</td><td>14.4%</td><td>0.8%</td><td>47.6%</td></t<>	5		10.3%	14.4%	0.8%	47.6%
Average three-year trend in performance across PISA assessments, by domain (PISA 2018) 4.5  Reading performance		Education outcomes				
Reading performance	6	,		-	412	523
Mathematics performance		Average three-year trend in performance across PISA assessments, by do	main (PISA 2	018) <sup>4,5</sup>		
Science performance	7	Reading performance	1.1	0.4	-4.9	7.1
8		-				
EAG 2019  9   Percentage of 25-64 year-olds whose highest level of attainment is lower secondary education, 2018 (EAG 2019)   16.4%   14.4%   0.8%   39.9%		•	-0.4	-1.9	-10.7	6.4
Secondary education, 2018 (EAG 2019)   16.4%   14.4%   0.6%   39.9%	8		96.5%	79.3%	2.4%	100.0%
At least upper secondary education, 2018 (EAG 2019)  Tertiary education, 2018 (EAG 2019)  Vocational upper secondary or post-secondary non-tertiary education, 2018  (EAG database 2020)  Unemployment rates of 25-34 year-olds by educational attainment, 2018 (EAG 2019)  Below upper secondary  Upper secondary and post-secondary non-tertiary  Upper secondary and post-secondary non-tertiary  Students: Raising outcomes  Policy lever 1: Equity and quality  12 First age of selection in the education system (PISA 2018)  Students performing at the highest or lowest levels in reading (%) (PISA 2018)  Students performing at Level 5 or above  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in  74 196 63 696 22 386 87 006	9		16.4%	14.4%	0.8%	39.9%
Tertiary education, 2018 (EAG 2019)		Educational attainment of the population aged 25-34 by type of attainment	t, 2018 or lat	est available		
Vocational upper secondary or post-secondary non-tertiary education, 2018   27.2%   24.5%   1.8%   50.1%		At least upper secondary education, 2018 (EAG 2019)	82.6%	85.4%	50.1%	97.8%
CEAG database 2020  27.2% 24.3% 1.8% 50.1%	10	Tertiary education, 2018 (EAG 2019)	44.8%	44.3%	23.4%	69.6%
Below upper secondary   9.6%   13.7%   3.0%   37.3%   Upper secondary and post-secondary non-tertiary   5.5%   7.3%   2.5%   25.1%   Tertiary education   7.0%   5.5%   1.7%   23.2%			27.2%	24.5%	1.8%	50.1%
Upper secondary and post-secondary non-tertiary  Tertiary education  Students: Raising outcomes  Policy lever 1: Equity and quality  12 First age of selection in the education system (PISA 2018)  Students performing at the highest or lowest levels in reading (%) (PISA 2018)  Students performing below Level 2  Students performing at Level 5 or above  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in  16 Percentage of students whose parents reported that the schooling available in  17 196 Percentage of students whose parents reported that the schooling available in  18 Percentage of students whose parents reported that the schooling available in  19 Percentage of students whose parents reported that the schooling available in  19 Percentage of students whose parents reported that the schooling available in  10 Percentage of students whose parents reported that the schooling available in  11 Percentage of students whose parents reported that the schooling available in  12 Percentage of students whose parents reported that the schooling available in  13 Percentage of students whose parents reported that the schooling available in  14 Percentage of students whose parents reported that the schooling available in  15 Percentage of students whose parents reported that the schooling available in  16 Percentage of students whose parents reported that the schooling available in  17 Percentage of students whose parents reported that the schooling available in  18 Percentage of students whose parents reported that the schooling available in Percentage of students whose parents reported that the schooling available in Percentage of students whose parents reported that the schooling available in Percentage of students whose parents reported that the schooling available in Percentage of students whose parents reported that the schooling available in Percentage of student		Unemployment rates of 25-34 year-olds by educational attainment, 2018 (E	EAG 2019)			
Upper secondary and post-secondary non-tertiary  Tertiary education  Students: Raising outcomes  Policy lever 1: Equity and quality  12 First age of selection in the education system (PISA 2018)  Students performing at the highest or lowest levels in reading (%) (PISA 2018)  Students performing below Level 2  Students performing at Level 5 or above  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in  16 Percentage of students whose parents reported that the schooling available in  17 196  18 2.5%  18 2.5%  1.7%  2.5%  1.7%  2.5%	44	Below upper secondary	9.6%	13.7%	3.0%	37.3%
Students: Raising outcomes  Policy lever 1: Equity and quality  12 First age of selection in the education system (PISA 2018)  13 Students performing at the highest or lowest levels in reading (%) (PISA 2018)  14 Students performing below Level 2  16.0%  16.0%  17 19%  18 10 16  19 10 16  10 16  11 10 16  12 10 16  11 10 16  12 10 16  13 Students performing at the highest or lowest levels in reading (%) (PISA 2018)  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in TA 19%  16 26 6%  17 19%  18 10 10 16  19 10 16  10 16  11 10 16  12 10 16  11 10 16  12 10 16  13 10 16  14 10 16  15 10 10 16  16 10 16  17 10 16  18 10 16  19 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 10 16  10 16  10 10 10 16  10 10 10 16  10 10 10 16  10 10 10 16  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  10 10 10 10  1	11	Upper secondary and post-secondary non-tertiary	5.5%	7.3%	2.5%	25.1%
Policy lever 1: Equity and quality  12 First age of selection in the education system (PISA 2018)  15 14 10 16  Students performing at the highest or lowest levels in reading (%) (PISA 2018)  Students performing below Level 2 16.0% 22.6% 11.1% 49.9%  Students performing at Level 5 or above 8.4% 8.7% 0.8% 15.0%  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in 74.1% 62.6% 23.3% 87.0%		Tertiary education	7.0%	5.5%	1.7%	23.2%
12 First age of selection in the education system (PISA 2018)  15 14 10 16  Students performing at the highest or lowest levels in reading (%) (PISA 2018)  13 Students performing below Level 2 16.0% 22.6% 11.1% 49.9%  Students performing at Level 5 or above 8.4% 8.7% 0.8% 15.0%  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in 74.1% 63.6% 23.3% 87.0%		Students: Raising outcomes	ı			1
Students performing at the highest or lowest levels in reading (%) (PISA 2018)  Students performing below Level 2 16.0% 22.6% 11.1% 49.9% Students performing at Level 5 or above 8.4% 8.7% 0.8% 15.0%  Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018) 2.5% 8.3% 0.0% 51.3%  Percentage of students whose parents reported that the schooling available in 74.1% 63.6% 23.3% 87.0%	Poli	cy lever 1: Equity and quality				
Students performing below Level 2  Students performing at Level 5 or above  14 Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  15 Percentage of students whose parents reported that the schooling available in  16.0%  22.6%  11.1%  49.9%  23.6%  23.3%  87.0%	12	First age of selection in the education system (PISA 2018)	15	14	10	16
Students performing at Level 5 or above 8.4% 8.7% 0.8% 15.0%  Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  2.5% 8.3% 0.0% 51.3%  Percentage of students whose parents reported that the schooling available in 74.1% 63.6% 23.3% 87.0%		Students performing at the highest or lowest levels in reading (%) (PISA 2018)				
Percentage of students in schools where students are grouped by ability into different classes for all subjects (PISA 2018)  2.5% 8.3% 0.0% 51.3% Percentage of students whose parents reported that the schooling available in 74.1% 63.6% 23.3% 97.0%	13	Students performing below Level 2	16.0%	22.6%	11.1%	49.9%
different classes for all subjects (PISA 2018)  2.5% 8.3% 0.0% 51.3% Percentage of students whose parents reported that the schooling available in 74.1% 63.6% 23.3% 97.0%		Students performing at Level 5 or above	8.4%	8.7%	0.8%	15.0%
	14		2.5%	8.3%	0.0%	51.3%
	15		74.1%	62.6%	22.3%	87.0%

#	List of key indicators <sup>1,2,3</sup>	Denmark	OECD average or total	Min OECD	Max OECD		
16	Percentage of students reporting that they have repeated at least a grade in primary, lower secondary or upper secondary schools (PISA 2018)	3.2%	11.4%	0.9%	40.8%		
17	Percentage of variance in reading performance in PISA test explained by ESCS (PISA 2018) <sup>4</sup>	9.9%	12.0%	6.2%	19.1%		
18	Score difference in reading performance in PISA between non-immigrant and immigrant students AFTER adjusting for socio-economic status (PISA 2018)4	-34	-24	-80	16		
19	Score difference between girls and boys in reading (PISA 2018)⁴	29	30	10	52		
Poli	cy lever 2: Preparing students for the future						
20	Mean proficiency in literacy among adults aged 16-64 on a scale of 500 (Survey of Adult Skills, PIAAC, 2012)	270.8	267.7	220.1	296.2		
21	Difference in literacy scores between younger (25-34) and older (55-65) adults AFTER accounting for age, gender, education, immigrant and language background and parents' educational attainment (Survey of Adult Skills, PIAAC, 2016).	22.2	15.6	-8.3	37.6		
	Share of students in upper secondary education in 2016 following (EAG 2	018):					
22	General programmes	59.4%	56.0%	27.1%	91.2%		
	Vocational programmes	40.6%	44.0%	8.8%	72.9%		
	Combined school and work-based programmes	32.5%	11.0%	0.7%	58.3%		
23	First-time graduation rates from tertiary education, 2016 (EAG 2018)	70.3%	48.7%	18.0%	76.6%		
24	Percentage of 18-24 year-olds not in education, employment or training, 2018 (EAG 2019)	10.7%	14.3%	5.9%	29.8%		
	Institutions: Improving school	S					
Poli	cy lever 3: School improvement						
	The Learning Environment (PISA 2018):						
25	Mean index of teacher support in language-of-instruction lessons	0.14	0.01	-0.61	0.47		
	Mean index of disciplinary climate	0.19	0.04	-0.34	1.07		
	Mean index of students' sense of belonging	0.21	0.00	-0.28	0.46		
26	Percentage of teachers in lower secondary education aged 50 years old or more, 2017 (EAG 2019)	47.5%	37.0%	6.3%	54.2%		
	Number of teaching hours per year in public institutions by education level, 2018 (EAG 2019):						
27	Primary education	m	783	561	1063		
	Lower secondary education, general programmes	m	709	481	1063		
28	Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers with tertiary education, lower secondary education, general programmes, 2016 (EAG 2019)	0.82	0.88	0.64	1.40		
29	Proportion of teachers who believe the teaching profession is valued in society (TALIS 2018)	18.5%	25.8%	4.5%	67.0%		
30	Proportion of teachers who would become a teacher again if they could choose (TALIS 2018)	70.3%	75.6%	54.9%	92.2%		

#	List of key indicators <sup>1,2,3</sup>	Denmark	OECD average or total	Min OECD	Max OECD
Poli	cy lever 4: Evaluation and assessment to improve student outcomes				
	Percentage of students whose school principals reported that student ass (PISA 2018):	essments are	used for the	following p	urposes
	To make decisions about students' retention or promotion	17.3%	72.4%	3.2%	99.1%
31	To monitor the school's progress from year to year	81.2%	78.0%	37.4%	97.3%
	To make judgements about teachers' effectiveness	58.1%	43.6%	10.1%	92.7%
	To identify aspects of instruction or the curriculum that could be improved	87.0%	78.4%	41.3%	98.2%
32	Percentage of lower secondary teachers whose principals report conducting formal appraisal of their teachers at least once per year (TALIS 2018)	61.3%	63.5%	16.2%	98.1%
	Systems: Organising the syste	m			
Poli	cy lever 5: Governance				
	Percentage of decisions taken at each level of government in public lower	er secondary e	education, 20	017 (EAG 20	18):
	Central	20.8%	23.8%	0.0%	83.3%
	State	а	10.3%	0.0%	62.5%
33	Regional/Sub-regional	0.0%	4.9%	0.0%	33.3%
	Local	21.9%	13.3%	0.0%	71.9%
	School	29.2%	34.0%	0.0%	91.7%
	School Multiple levels	29.2% 28.1%	34.0% 13.8%	0.0% 0.0%	0 111 70
Poli					0.111.70
Poli 34	Multiple levels cy lever 6: Funding Expenditure on education as a percentage				91.7% 100.0% 6.5%
	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all services	28.1% m	13.8%	0.0%	100.0%
	Multiple levels  cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):	m es, in equivale	13.8% 5.0% ent USD con	0.0% 0.0% verted using	100.0% 6.5% PPPs for
	Multiple levels  cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education	m es, in equivale	13.8% 5.0% ent USD con 8 349	0.0% 0.0% <b>verted using</b> 1 579	100.0% 6.5% PPPs for 17 533
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education	m es, in equivale	13.8% 5.0% ent USD con	0.0% 0.0% verted using	100.0% 6.5% PPPs for 17 533 17 913
34	Multiple levels  cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education	m es, in equivale	13.8% 5.0% ent USD con 8 349 8 470	0.0% 0.0% verted using 1 579 2 961	100.0% 6.5% PPPs for 17 533 17 913
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education	m es, in equivale	5.0% ent USD con  8 349 8 470 9 884	0.0%  0.0%  verted using  1 579  2 961  2 561	100.0% 6.5% 1 PPPs for 17 533 17 913 21 739
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education  Upper secondary education	m es, in equivale m m m m m m m	5.0%  ent USD cont  8 349  8 470  9 884  10 368  15 556	0.0%  0.0%  verted using  1 579  2 961  2 561  3 001  5 787	100.0% 6.5% PPPs for 17 533 17 913 21 739 21 231
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education  Tertiary education  Tertiary education	m es, in equivale m m m m m m m	5.0%  ent USD cont  8 349  8 470  9 884  10 368  15 556	0.0%  0.0%  verted using  1 579  2 961  2 561  3 001  5 787	100.0% 6.5% PPPs for 17 533 17 913 21 739 21 231
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education  Upper secondary education  Tertiary education  Relative proportions of public and private expenditure on educational institutions, for all services	m es, in equivale m m m m m m m stitutions, 201	5.0%  ent USD con  8 349 8 470 9 884 10 368 15 556 6 (EAG 2019)	0.0%  0.0%  verted using  1 579  2 961  2 561  3 001  5 787  ):	100.0% 6.5% PPPs for 17 533 17 913 21 739 21 231 48 407
35	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education  Upper secondary education  Tertiary education  Relative proportions of public and private expenditure on educational insepations.	m es, in equivale m m m m m m m stitutions, 201 m m	13.8%  5.0%  ent USD cont  8 349  8 470  9 884  10 368  15 556  6 (EAG 2019)  82.7%  17.4%	0.0%  0.0%  verted using  1 579 2 961 2 561 3 001 5 787 ):  62.7% 2.4%	100.0% 6.5% PPPs for 17 533 17 913 21 739 21 231 48 407 97.6% 37.3%
34	Multiple levels cy lever 6: Funding  Expenditure on education as a percentage of GDP (from primary to tertiary), 2016 (EAG 2019)  Annual expenditure per student by educational institutions, for all service GDP, 2016 (EAG 2019):  Pre-primary education  Primary education  Lower secondary education  Upper secondary education  Tertiary education  Relative proportions of public and private expenditure on educational institutions of public sources  All private sources (includes international sources)  Change in the share of expenditure on educational institutions, EAG 201	m es, in equivale m m m m m m m stitutions, 201 m m	13.8%  5.0%  ent USD cont  8 349  8 470  9 884  10 368  15 556  6 (EAG 2019)  82.7%  17.4%	0.0%  0.0%  verted using  1 579 2 961 2 561 3 001 5 787 ):  62.7% 2.4%	100.0% 6.5% PPPs for 17 533 17 913 21 739 21 231 48 407 97.6% 37.3%

1. The average, total, minimums and maximums refer to OECD countries except in the Survey of Adult Skills, where they refer to participating countries. For indicators 6, 13 and 17-19 the average value refers to the arithmetic mean across all OECD member countries (and Colombia), excluding Spain. For indicator 5, the average value refers to and 17-15 the average value refers to the antimetic mean across all OECD member countries (and Colombia), excluding Spain. For indicators, the arithmetic mean across all OECD member countries (except Japan, Korea and Poland) as calculated by the Education Policy Outlook.

2. "m": included when data is not available.

3. "NP": included if the country is not participating in the study.

4. Statistically significant values of the indicator are shown in bold (PISA only).

5. The average three year trend is the average change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2018.

6. "a": included when the category is not applicable.

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#### **NOTES**

<sup>1</sup> On 25 May 2018, the OECD Council invited Colombia to become a Member. While Colombia is included in the OECD averages reported in this publication for data from Education at a Glance, the Programme for International Student Assessment and the Teaching and Learning International Survey, at the time of preparation of these OECD datasets, Colombia was in the process of completing its domestic procedures for ratification and the deposit of Colombia's instrument of accession to the OECD Convention was pending.

<sup>2</sup> PISA 2018 defines resilient students as those who are socio-economically disadvantaged, or from an immigrant background, and who score amongst the highest performers in PISA in their own country/economy. For more information, see Volume II of PISA 2018 (listed in References and Further Reading of this document).

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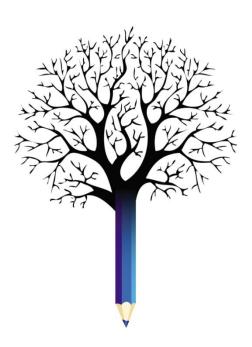
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