


PROGRAMME FOR INTERNATIONAL
STUDENT ASSESSMENT (PISA)
RESULTS FROM PISA 2018

The Programme for International Student Assessment (PISA) is a triennial survey of 15-year-old students around the world that assesses the extent to which they have acquired the key knowledge and skills essential for full participation in society. In parallel, PISA also looks into the policies and practices used in schools and school systems, and their relationship with education outcomes more generally, through background questionnaires. *PISA 2018 Volume V: Effective Policies, Successful Schools* presents these results.

As PISA consistently finds, after a certain threshold is reached, it's not how much money a country invests in its education system that makes the greatest difference, but rather how that money is allocated. When governments have to make tough choices about how to spend their money most effectively, especially in times of economic challenges, they can see – through PISA – which subgroup of students (or schools) may be most affected by a crisis, and which policies and practices have the strongest associations with performance, equity in education and student well-being. They can then make the necessary trade-offs and spending decisions, to meet the specific needs of their students, based on hard data.

United Kingdom

Key findings

- Amongst countries and economies whose cumulative expenditure was greater than USD 50 000 per student, which include the United Kingdom, higher expenditure on education was not significantly associated with higher scores in the PISA reading test. While cumulative expenditure per student from the age of 6 to 15 is around USD 110 000 in Belgium, Finland and the United Kingdom, students in Finland scored higher in reading than students in the United Kingdom and students in Belgium scored lower than students in the United Kingdom.
- Some 96% of students in the United Kingdom had attended pre-primary education for at least one year, but there were socio-economic disparities: 92% of disadvantaged students and 98% of advantaged students had attended pre-primary education for at least one year.
- Only 3% of students in the United Kingdom reported that they had repeated a grade at least once. Students who had repeated a grade were less likely to hold a growth mindset compared with students who had not repeated a grade.
- Principals in the United Kingdom reported fewer shortages of teaching staff in 2018 than in 2015, while their reports of shortages of assisting staff were similar in 2015 and 2018.
- In the United Kingdom, three in four students in advantaged schools attended a school whose principal reported that the school has an effective online learning platform, while fewer than one in two students in disadvantaged schools attended such a school.
- Students in the United Kingdom reported spending more time in language-of-instruction, mathematics and science lessons but less time in foreign-language lessons compared with the averages across

OECD countries. In the United Kingdom, advantaged students spent 57 minutes more per week in foreign-language lessons than disadvantaged students did (the OECD average difference is 42 minutes per week).

A higher percentage of advantaged than disadvantaged students in the United Kingdom had attended pre-primary education for at least one year – which is related to better reading performance at age 15

- In the United Kingdom, 96% of students had attended pre-primary education at least one year and 67% of students had attended for at least two years. On average across OECD countries, 94% of students had attended pre-primary education at least one year and 80% of students had attended for at least two years (Table V.B1.2.1).
- In the United Kingdom, 2% of advantaged students compared with 8% of disadvantaged students had not attended or had attended pre-primary education for less than one year, compared with 3% of advantaged and 10% of disadvantaged students on average across OECD countries (Table V.B1.2.2).
- On average across OECD countries, students who had attended pre-primary education for at least two years but less than three years scored 47 points higher (491 points) in reading than students who had not attended or had attended for less than one year (444 points) (Table V.B1.2.4).
- Similarly, in the United Kingdom, students who had attended for at least two years but less than three years outperformed those students who had not attended or had attended for less than one year by 35 score points (512 vs. 477).

Early tracking is related to a less equitable education system across OECD countries, and across all countries and economies

- Selecting students into different programmes at an earlier age was correlated with less equity in reading performance, even after accounting for per capita GDP (Figure V.3.9). On average across OECD countries, students are selected into different programmes just over the age of 14, while in the United Kingdom, students are 16 years old at the age of first selection.
- Some 14% of students were enrolled in a vocational programme, on average across OECD countries, with socio-economic disparities: 23% of students in disadvantaged schools were enrolled in a vocational programme, whereas only 2% of students in advantaged schools were. In the United Kingdom, almost all 15-year-old students, regardless of socio-economic background, were enrolled in a general programme (Table V.B1.3.2).

Grade repetition affects disadvantaged students disproportionately and is negatively related to holding a growth mindset in most countries and economies participated in PISA 2018 including the United Kingdom

- In the United Kingdom, 3% of students had repeated a grade at least once, while on average across OECD countries, 11% of students reported so. In the United Kingdom, a socio-economically disadvantaged student was about 1.6 times more likely than an advantaged student (compared to more than twice as likely, on average across OECD countries) to have repeated a grade at least once, even if both students scored the same on the PISA reading test. Countries/economies with smaller shares of students who had repeated a grade showed higher mean performance and greater equity, even after accounting for per capita GDP (Table V.B1.2.11).
- In the United Kingdom, 70% of students who had not repeated a grade in primary or secondary schools reported that they held a growth mindset (they disagreed or strongly disagreed with the statement "Your intelligence is something about you that you can't change very much"), while 49% of students

who had repeated a grade reported so (Table V.2.16). Students who had not repeated a grade were almost 50% more likely to hold a growth mindset, on average across OECD countries, and after accounting for students' and schools' socio-economic profile. In the United Kingdom, students who had not repeated a grade were almost 37% more likely to hold a growth mindset than students who had repeated a grade at least once, while noting that the vast majority of 15-year-old students in the United Kingdom (97%) had not repeated a grade (Figure V.2.13).

Principals in the United Kingdom reported fewer shortages of teaching staff in 2018 than in 2015

- On average across OECD countries, principals reported fewer shortages of education staff, including both teaching and assisting staff, in 2018 than in 2015. In the United Kingdom, principals reported fewer shortages of teaching staff in 2018 than in 2015, while their reports of shortages of assisting staff were similar in 2015 and 2018 (Table V.B1.4.2).
- In more than half of the PISA-participating countries/economies, including the United Kingdom, principals in disadvantaged schools reported more shortages of education staff than principals in advantaged schools (Table V.B1.4.1 and Figure V.4.2).
- In the United Kingdom, perceived shortages of education staff were not related to student achievement in reading, after accounting for students' and schools' socio-economic profile. Overall, in 17 countries and economies, students attending schools with more shortages scored lower in reading than students in schools with fewer shortages of staff, even after accounting for students' and schools' socio-economic profile (Table V.B1.4.1 and Figure V.4.2).

In the United Kingdom, two in three students attend a school with an effective online learning platform, which is above the average across OECD countries; but disparities were observed between advantaged disadvantaged schools

- An effective, online learning platform – especially when remote learning becomes education's lifeline – has become a must-have if countries are to make good use of whatever computer hardware they make available to their students. Moreover, such an online platform is related to equity in student performance in all core subjects, on average, across all countries and economies, before and after accounting for per capita GDP. In the United Kingdom, 74% of students in advantaged schools attended a school whose principal reported that the school has an effective online learning platform, while only 43% of students in disadvantaged schools attended such a school. On average across OECD countries, 59% of students in advantaged schools and 49% of students in disadvantaged schools attended a school whose principal reported that the school has an effective online learning platform (Table V.B1.5.16).
- In the United Kingdom, the ratio of computers to students was similar in advantaged and disadvantaged schools (around 1.5 computers per student), as was the prevalence of portable computers, including laptops and tablets (around 30% of the school computers available to students). On average across OECD countries, the ratio of computers to students was 0.8 and 40% of computers available in a school were portable computers (Tables V.B1.5.6 and V.B1.5.8). The ability to provide remote education for all students depends crucially on the availability of digital devices at home. Data show that the distribution of computers for schoolwork at home is not equitable in almost all countries and economies participated in PISA 2018. In the United Kingdom, 96% of students in advantaged schools responded that they had a computer for schoolwork at home, while 88% of students in disadvantaged schools responded so (Table V.B1.9.2). It would be particularly important to provide portable digital devices to students in disadvantaged schools.

- On average across OECD countries and in 12 countries and economies, students attending schools whose principal reported fewer shortages of material resources scored higher in reading. But in the United Kingdom, there was no performance difference between students attending schools with fewer shortages and those attending schools with more shortages of material resources, after accounting for students' and schools' socio-economic profile (Table V.B1.5.2).
- In countries and economies with higher mean performance in reading, there tended to be smaller differences in material resources between advantaged and disadvantaged schools; in some cases, disadvantaged schools tended to have more material resources than advantaged schools. In the United Kingdom, students scored above the OECD average in reading by 17 points, while differences in material resources between advantaged and disadvantaged schools, according to principals' reports, were similar to the OECD average (Figure V.5.11 and Table V.B1.5.5).

In the United Kingdom, there are socio-economic disparities in the amount of time students spend in regular school lessons

- On average across OECD countries, and in the United Kingdom, performance in reading improved with each additional hour of language-of-instruction lessons per week, up to three hours. However, this positive association between learning time in regular language-of-instruction lessons and reading performance weakened amongst students who spent more than three hours per week in these lessons (Table V.B1.6.5).
- Consistent with the average hump-shaped pattern observed across OECD countries, system-level analyses show that education systems where more students tended to spend extremely short or long hours in regular lessons tended to score lower in reading (Figures V.6.13 and V.6.14).
- On average across OECD countries, socio-economic disparities in learning time in regular school lessons were most prominent in foreign-language lessons and science lessons. Equal access to foreign-language learning is related to greater equity across OECD countries (Figure V.6.15).
- Students in the United Kingdom reported spending more time in language-of-instruction (4.3 hours per week), mathematics (4.2 hours per week) and science (5.1 hours per week) lessons compared with the averages across OECD countries (3.7 hours for language-of-instruction, 3.7 hours for mathematics and 3.4 hours for science). However, students in the United Kingdom spent considerably less time (1.7 hours per week) in foreign-language lessons than the average across OECD countries (3.6 hours per week) (Table V.B1.6.1).
- In the United Kingdom, disadvantaged students reported spending more time in language-of-instruction and mathematics lessons than advantaged students, while advantaged students reported spending more time in science and foreign-language lessons. Disadvantaged students in the United Kingdom reported spending 1.3 hours per week in foreign-language lessons, compared with 1.7 hours on average across OECD countries, while advantaged students reported spending 2.3 hours per week, compared with 4 hours, on average across OECD countries. This means that, in the United Kingdom, advantaged students spent 57 minutes more per week in foreign-language lessons than disadvantaged students did (Table V.B1.6.3).

In the United Kingdom, 6% of students are in government-independent private schools. On average these students are more advantaged than students in government-dependent private schools or public schools

- In the United Kingdom, 34% of students are in public schools, 60% of students are in government-dependent private schools, and 6% of students are in government-independent private schools. In contrast, on average across OECD countries, 82% of students are in public schools, 13% of students are in government-dependent private schools, and 5% of students are in government-independent private schools (Table V.B1.7.1).

- In the United Kingdom the average socio-economic status of students who attended government-independent private schools was more advantaged than that of students who attended government-dependent private schools. The average socio-economic status of students who attended government-dependent private schools were slightly more advantaged than that of students who attended public schools. This is similar to many other countries and economies participated in PISA 2018. However the socio-economic gap between students who attended governing-independent private schools and those who attended governing-dependent private schools in the United Kingdom was one of the widest in PISA 2018 (Table V.B1.7.2).
- In the United Kingdom, students attending government-independent private schools scored 91 points higher in reading than students attending public schools. This difference was 17 score points even after accounting for students' and schools' socio-economic profile (Table V.B1.7.6). There was no difference in student reading performance between governing-dependent private and public schools before and after accounting for students' and schools' socio-economic profile. (Tables V.B1.7.5).

Various quality assurance and improvement actions at school are related to greater equity in education

- Those countries/economies that show greater equity in education tended to use student assessments more frequently to inform parents about their child's progress and identify aspects of instruction/curriculum that could be improved. For every 10 percentage-point increase in the share of parents who discussed their child's progress on the teachers' initiative, the average reading score improved by 10 points, on average across the 74 countries and economies with available data. These results imply that sharing the results of student assessments and discussing with parents their child's progress may be an effective way for schools to be accountable for their students' learning.
- In the United Kingdom, 99% of students were in schools whose principal reported using student assessments to inform parents about their child's progress (95% on average across OECD countries), and 95% were in schools that use student assessments to identify aspects of instruction or the curriculum that could be improved (78% on average) (Table V.B1.8.1).
- Those countries/economies that show greater equity in education also tended to use written specifications for student performance based on the school's initiative, seek written feedback from students based on district or national policies, and have regular consultations on school improvement at least every six months, based on district or national policies.
- In the United Kingdom, 40% of students were in schools whose principals reported having written specifications for student performance on the school's initiative (34% on average across OECD countries), and 6% were in schools whose principal reported that the school seeks written feedback from students based on district or national policies (12% on average). Some 15% were in schools that have regular consultations on school improvement at least every six months, based on district or national policies (11% on average) (Table V.B1.8.11).

Key features of PISA 2018

The content

- The PISA 2018 survey focused on reading, with mathematics, science and global competence as minor areas of assessment. PISA 2018 also included an assessment of young people's financial literacy, which was optional for countries and economies.

The students

- Some 600 000 students completed the assessment in 2018, representing about 32 million 15-year-olds in the schools of the 79 participating countries and economies. In the United Kingdom, 13 818 students, in 538 schools, completed the assessment, representing 597 240 of the 15-year-old students (85% of the total population of 15-year-olds).

The assessment

- Computer-based tests were used in most countries, with assessments lasting a total of two hours. In reading, a multi-stage adaptive approach was applied in computer-based tests whereby students were assigned a block of test items based on their performance in preceding blocks.
- Test items were a mixture of multiple-choice questions and questions requiring students to construct their own responses. The items were organised into groups based on a passage of text describing a real-life situation. More than 15 hours of test items for reading, mathematics, science and global competence were covered, with different students taking different combinations of test items.
- Students also answered a background questionnaire, which took about 35 minutes to complete. The questionnaire sought information about the students themselves, their attitudes, dispositions and beliefs, their homes, and their school and learning experiences. School principals completed a questionnaire that covered school management and organisation, and the learning environment.
- Some countries/economies also distributed additional questionnaires to elicit more information. These included: in 19 countries/economies, a questionnaire for teachers asking about themselves and their teaching practices; and in 17 countries/economies, a questionnaire for parents asking them to provide information about their perceptions of and involvement in their child's school and learning.
- Countries/economies could also choose to distribute three other optional questionnaires for students: 52 countries/economies distributed a questionnaire about students' familiarity with computers; 32 countries/economies distributed a questionnaire about students' expectations for further education; and 9 countries/economies distributed a questionnaire, developed for PISA 2018, about students' well-being.

References

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

OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/b5fd1b8f-en>

OECD (2019), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/acd78851-en>

OECD (2020), *PISA 2018 Results (Volume IV): Are Students Smart about Money?*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/48ebd1ba-en>

Map of PISA countries and economies



OECD member countries

Australia
 Austria
 Belgium
 Canada
 Chile
 Colombia
 Czech Republic
 Denmark
 Estonia
 Finland
 France
 Germany
 Greece
 Hungary
 Iceland
 Ireland
 Israel
 Italy
 Japan
 Korea
 Latvia
 Lithuania
 Luxembourg
 Mexico
 Netherlands
 New Zealand
 Norway
 Poland
 Portugal
 Slovak Republic
 Slovenia
 Spain
 Sweden
 Switzerland
 Turkey
 United Kingdom
 United States*

Partner countries and economies in PISA 2018

Albania
 Argentina
 Baku (Azerbaijan)
 Belarus
 Bosnia and Herzegovina
 Brazil
 Brunei Darussalam
 B-S-J-Z (China)**
 Bulgaria
 Costa Rica
 Croatia
 Cyprus¹
 Dominican Republic
 Georgia
 Hong Kong (China)
 Indonesia
 Jordan
 Kazakhstan
 Kosovo
 Lebanon
 Macao (China)
 Malaysia
 Malta
 Republic of Moldova
 Montenegro
 Morocco
 Republic of North Macedonia
 Panama
 Peru
 Philippines
 Qatar
 Romania
 Russian Federation
 Saudi Arabia
 Serbia
 Singapore
 Chinese Taipei
 Thailand
 Ukraine
 United Arab Emirates
 Uruguay
 Viet Nam

Partner countries and economies in previous cycles

Algeria
 Azerbaijan
 Guangdong (China)
 Himachal Pradesh (India)
 Kyrgyzstan
 Liechtenstein
 Mauritius
 Miranda (Venezuela)
 Tamil Nadu (India)
 Trinidad and Tobago
 Tunisia

* Puerto Rico participated in the PISA 2015 assessment (as an unincorporated territory of the United States).

** B-S-J-Z (China) refers to four PISA 2018 participating Chinese provinces/municipalities: Beijing, Shanghai, Jiangsu and Zhejiang. In PISA 2015, the four PISA participating Chinese provinces/municipalities were: Beijing, Shanghai, Jiangsu and Guangdong.

1. **Note by Turkey:** The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

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For more information about PISA 2018, visit <http://www.oecd.org/pisa/>

Data can also be found on line by following the [StatLinks](#)  under the tables and charts in the publication.

Explore, compare and visualise more data and analysis using: <http://gpseducation.oecd.org/>.

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