

1. WHAT STUDENTS KNOW AND CAN DO

How many students are top performers?

- One in six students in OECD countries is a top performer in reading, mathematics or science, but only a quarter of these students are top performers in all three areas.
- Around 10% of students are top performers in reading, mathematics and science in New Zealand, the partner economy Shanghai, China and the partner country Singapore.
- Countries vary greatly in the relative numbers of top performers in different subjects.

What it means

The rapidly growing demand for highly skilled workers has led to a global competition for talent. High-level skills are critical for creating new technologies and innovation. Looking at the top-performing students in reading, mathematics and science allows countries to estimate their future talent pool, and to consider ways of improving it.

Findings

On average in OECD countries, 8% of students reach proficiency Level 5 or 6 in reading. Some 13% of students reach this level in mathematics and 9% reach this level in science. While 16% of students are top performers in at least one area, only 4% of students attain this level of proficiency in all three subjects.

In the partner economy Shanghai, China and in Singapore, 12% to 15% of students are top performers in all three subjects – at least three times the OECD average. In New Zealand, 10% of students are top performers in all three subjects, and in Australia, Finland, Japan and the partner economy Hong Kong, China, more than 8% of students, or twice the OECD average, are.

Despite similarities across countries for each subject area, a high rank in one subject is no guarantee for a high rank in the others. For example, Switzerland has one of the highest shares of top performers in mathematics, but just an average share of top performers in reading.

Across the three subjects and across countries, girls are as likely to be top performers as boys. On average across OECD countries, the proportion of top perform-

ers across the three subject areas is similar between boys and girls: 4.4% of girls and 3.8% of boys are top performers in all three subject areas, and 15.6% of girls and 17.0% of boys are top performers in at least one subject area. However, while the gender gap among students who are top performers is small only in science (1.0% of girls and 1.5% of boys), it is large among those who are top performers in reading only (2.8% of girls and 0.5% of boys) and in mathematics only (3.4% of girls and 6.6% of boys).

Definitions

Top performance is defined as reaching Level 5 or 6 on the PISA scales. In each subject area, this relates to being proficient in difficult tasks that require students to handle complex information. The threshold scores for top performance are slightly different in each subject: 626 points in reading, 607 points in mathematics and 633 points in science.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Going further

A full set of comparisons across countries and economies, showing how many students are top performers in each subject and in overlapping combinations of subjects, is presented in Chapter 3 of *PISA 2009 Results Volume I, What Students Know and Can Do: Student Performance in Reading, Mathematics and Science*. Full data are shown in Tables I.3.7 and I.3.8 at the back of that volume.

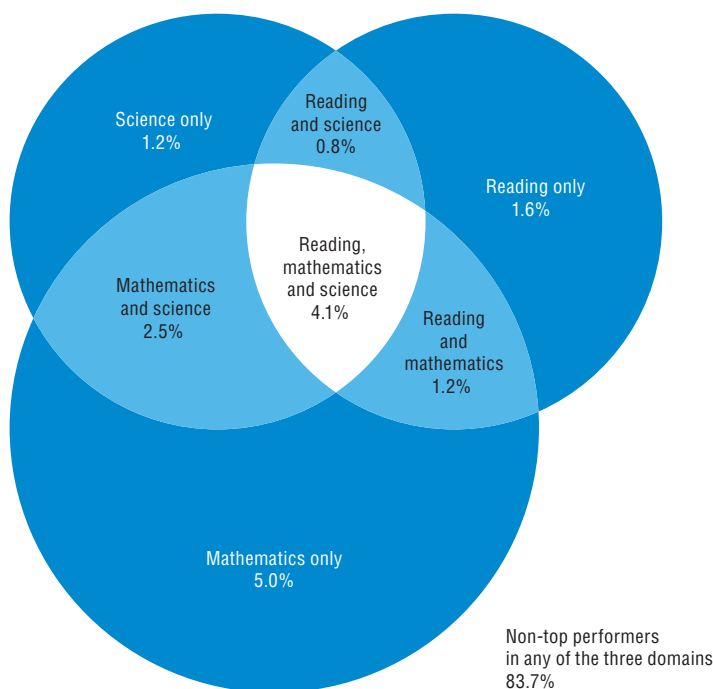
Further reading from the OECD

Top of the Class – High Performers in Science in PISA 2006 (2009).

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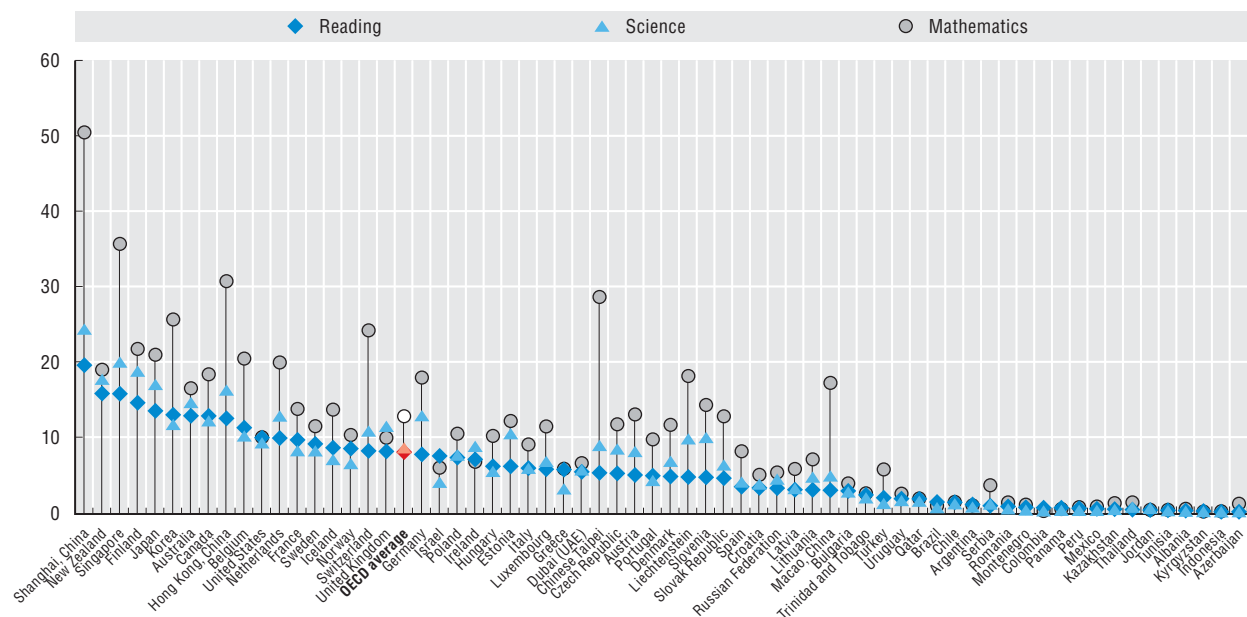
Figure 1.10. **Overlapping of top performers in reading, mathematics and science on average in the OECD**



Source: OECD (2010), PISA 2009 Results, Volume I, What Students Know and Can Do: Student Performance in Reading, Mathematics and Science, Figure 1.3a, available at <http://dx.doi.org/10.1787/888932343152>.

Figure 1.11. **Top performers in reading, mathematics and science**

Percentage of students reaching the two highest levels of proficiency



Note: Countries are ranked in descending order of the percentage of top performers in reading (Levels 5 and 6).

Source: OECD (2010), PISA 2009 Results, Volume I, What Students Know and Can Do: Student Performance in Reading, Mathematics and Science, Figure 1.3a, available at <http://dx.doi.org/10.1787/888932343152>.



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