In all OECD countries, education systems strive to meet the needs of students with different backgrounds, income levels and living conditions. The responsiveness of education systems can be assessed at three different levels: at the education system level, school level and teachers’ level.

At the education system level, the index of shortage of educational material is a good indicator which measures the extent to which school principals report that a lack or poor quality of educational material and infrastructure hinder the capacity to provide instruction in their schools. Evidence from PISA 2015 shows that the lack of teaching material or the poor quality of the material available is negatively associated to student performance. Among OECD countries, shortages of educational material are particularly large in Hungary, Italy, and Japan whereas they are the lowest in Australia, Canada and Iceland. However, these data being based on perceptions, the criteria of what constitutes a shortage of material may likely vary across countries.

On average, shortage of educational material hinders the capacity to provide instruction to a larger extent in socio-economically disadvantaged schools and rural schools than in advantaged schools and urban schools (PISA, 2016).

At the school level, homework-assistance programmes organised by schools can create the right conditions for students to complete their school assignments and gain self-confidence, particularly for those students who would otherwise not be take part in after-school programmes (Beck, 1999; Cosden et al., 2001). For the first time, PISA 2015 asked school principals if the school provides a room where students can do their homework and staff who can help them with homework.

Across OECD countries, about three out of four students are enrolled in schools that provide a room where students can do their homework, and three out of five students attend schools where staff is available to help students with their homework. In Japan, Luxembourg and the United Kingdom, at least 95% of 15-year-old students have access to a room to do their homework at school, whereas in Greece, Mexico and the Slovak Republic less than 50% of students do so. In Denmark, Luxembourg, Sweden, the United Kingdom and the United States, more than 90% of students attend schools where staff is available to help with homework; but in Austria and Italy less than 30% of students attend such schools.

At the teachers’ level, adequate pedagogical and instruction methods are key to foster students’ interest in various topics, improve performance and raise learning outcomes of students. On average across OECD countries, 45% of students report that their teachers adapt “many lessons” or “very or almost every lessons” to the class needs and knowledge and 48% of students report that teachers provide individual help when a student has difficulties understanding a topic or task.

Adaptive teaching methods are positively correlated to performance in science (PISA, 2016). On average across OECD countries, and after accounting for students’ and schools’ socio-economic profile, students score 20 points higher in science when they reported that their teachers adapt the lesson to the class’s needs and knowledge “in many lessons” or “every lesson” than when they reported that this happens “in some lessons” or “never”. Students also score 13 points higher, on average, when they reported that their teacher provides individual help when a student has difficulties understanding a topic or task, and 8 points higher, on average, when their teacher changes the structure of the lesson on a topic that most students find difficult to understand.

Methodology and definitions

Data for all figures come from the 2015 Programme for International Student Assessment (PISA). It assessed the competencies of 15-year-olds in reading, mathematics and science (with a focus on science) in 72 countries and economies. For more information on the underlying data see: http://www.oecd.org/pisa/

The index of shortage of educational material was calculated based on the responses provided by school principals on the extent to which their school’s capacity to provide instruction was hindered (“not at all”, “very little”, “to some extent” or “a lot”) by a shortage or inadequacy of physical infrastructure, such as school buildings, heating and cooling systems and instructional space; and educational material, such as textbooks, laboratory equipment, instructional materials and computers. The average on the index is zero and the standard deviation is one across OECD countries. Positive values reflect principals’ perceptions that the shortage of educational material hinders the capacity to provide instruction to a greater extent than the OECD average; negative values indicate that school principals believe the shortage hinders the capacity to provide instruction to a lesser extent.

The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS). Based on students who report that the following instruction methods are used by their teachers in “many lessons” and “every lesson or almost every lesson”.

Further reading


Figure notes

14.21: Higher values on the index indicate a greater shortage of educational material. Countries and economies are ranked in descending order of the index of shortage of educational material.

14.23: Data for Slovenia are not available.

Information on data for Israel: http://dx.doi.org/10.1787/888932315602.
14. SERVING CITIZENS
Responsiveness of education systems to student needs

14.21. Index of shortage of educational material, 2015

![Index of shortage of educational material, 2015 chart]

Source: OECD, PISA 2015 Database, Table II.6.2.
StatLink http://dx.doi.org/10.1787/888933534138

14.22. Percentage of students in schools where the following study help is provided, 2015

![Percentage of students in schools chart]

Source: OECD, PISA 2015 Database, Table II.2.46
StatLink http://dx.doi.org/10.1787/888933534157

14.23. Percentage of students reporting that their teacher uses adaptive instruction in “many” or in “every or almost every” science lessons, 2015

![Percentage of students reporting chart]

Source: OECD, PISA 2015 Database, Table II.2.22
StatLink http://dx.doi.org/10.1787/888933534176