



Students, Computers and Learning: Making the Connection

Country note France

- In 2012, some 99% of 15-year-old students in France had at least one computer at home; and **96% of disadvantaged students** – those among the bottom 25% in socio-economic status – **had access to the Internet at home**.
- Fifteen-year-olds in France **perform above the OECD average in the PISA test of digital reading** (511 score points). They are also slightly better than average in evaluating which links are worth following as they read on line. When looking for information on the web, only 12% of students navigate in an unfocused way, if at all – compared to 15% of students, on average, across OECD countries.
- Mean performance in France is above the OECD average in the computer-based assessment of mathematics (508 score points). However, 15-year-old students perform slightly less well in this assessment when tasks require them to use the computer to solve a mathematics problem, such as sorting data or creating a chart, than when the computer only serves as a means to enter an answer.
- In France, **the relationship between socio-economic status and performance is strong in digital reading** - as strong as in print reading. A closer inspection shows that in most countries, including France, the causes that can explain this association do not differ across “analogue” and “digital” skills. While disadvantaged students gain access to a wealth of knowledge and resources through new technologies, the ability to benefit from these opportunities remains limited for those with low skills in reading.
- In 2012, schools in France had **about one school computer available for every three 15-year-old students**. The students-per-computer ratio of 2.9-to-1 is close to the median value for OECD countries. Almost all school computers (96%) in France were connected to the Internet, and schools with the highest percentage of disadvantaged students had, on average, better ICT resources than schools serving more advantaged students.

Key international findings

Over the past 10 years, there has been no appreciable improvement in student achievement in reading, mathematics or science, on average, in countries that have invested heavily in information and communication technologies for education. In 2012, in the vast majority of countries, students who used computers moderately at school had somewhat better learning outcomes than students who used computers rarely; but students who used computers very frequently at school did a lot worse, even after accounting for the students' socio-economic status.

The top-performing country in the PISA 2012 assessment of digital reading was Singapore, followed by Korea, Hong Kong-China, Japan, Canada and Shanghai-China. Students in Australia, Canada, Ireland, Korea, Singapore and the United States showed the most advanced web-browsing skills. More often than students elsewhere, they carefully selected links to follow before clicking on them, and followed relevant links for as long as was needed to answer the question. To use and understand online sources of information, students need such web-browsing skills in addition to the reading skills required for printed texts.

In most countries, differences between advantaged and disadvantaged students in access to computers and the Internet at home shrank between 2009 and 2012. In all but five OECD countries with available data, in 2012 disadvantaged students – those from the bottom 25% in socio-economic status – typically spent at least as much time on line, outside of school, as advantaged students did. But traditional socio-economic differences persist when looking at how students use their time on line, and they continue to have a strong impact on performance in reading. Indeed in

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all countries, advantaged students are significantly more likely to use their time on line to read news or obtain practical information. To benefit from online information about education, health or financial services and improve one's personal situation, having sufficient basic skills in reading is perhaps more important than easy access to the Internet.

Students' exposure to computers at school varies significantly across countries and schools. While the availability of devices and of an Internet connection at school explains much of this variation, teachers' readiness to integrate technology into instruction also depends on other factors, such as whether the devices can be accessed in the classroom or only in separate rooms, whether the school has a digital skills curriculum, and whether teachers in the school have learned how to use these devices to enhance student learning. Among all teachers, those who are more inclined to use and better prepared for practices such as group work, individualised learning and project work are more likely to use digital resources.

To learn more...

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