



## Students, Computers and Learning: Making the Connection

## Country note Korea

- Computers do not have as much of a presence in Korean schools as they do on average across OECD countries. In 2012 there was only **one school computer available for every five 15-year-old students** in Korea (students-per-computer ratio: 5.3-to-1). Some 48% of students reported using the Internet connection at their school, but only **two out of five students (41.9%) reported using computers at school** – the lowest percentage among all countries participating in PISA.
- **Korea is among the top 3 performers** in both the PISA computer-based assessment of mathematics and the PISA digital reading test. And Korean students have strong web-browsing skills, on average. They carefully assess which links to follow before clicking on them, and follow relevant links for as long as is needed to solve a problem.
- **Disadvantaged students in Korea spend more time on line than do advantaged students.** On a typical weekend day, disadvantaged students spend at least 1 hour and 41 minutes online, on average - 18 minutes more than advantaged students. Despite spending less time on line, advantaged students are more likely to use the Internet to read news or search for practical information.

### 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 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

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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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