OECD

PISA IN FOCUS 64

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Are there differences in how advantaged and disadvantaged students use the Internet?

- Even when all students, including the most disadvantaged, have easy access to the Internet, a digital divide, based on socio-economic status, still persists in how students use technology.
- In the five Nordic countries, as well as in Hong Kong-China, the Netherlands and Switzerland, over 98% of disadvantaged students have access to the Internet at home. By contrast, in some low- and middle-income countries, many disadvantaged students have access to the Internet only at school, if at all.
- In 2012, disadvantaged students spent at least as much time on line as advantaged students, on average across OECD countries. In 21 out of 42 countries and economies, disadvantaged students spent more time on line than advantaged students.
- In all countries/economies, what students do with computers, from using e-mail to reading news on the Internet, is related to students' socio-economic status. Advantaged students are more likely than disadvantaged students to search for information or read news on line. Disadvantaged students, on the other hand, tend to use the Internet to chat or play videogames at least as often as advantaged students do.

The expression "digital divide" was coined to describe the disparities in the ease with which people access and use information and communication technologies – and the threat to social and national cohesion implicit in that divide. Those left behind on the analogue side of the divide may not be able to improve their productivity at work or participate fully in civic affairs. And that, in turn, will only widen the divide.

Most students now have access to the Internet…

In recent years, much progress has been made in ensuring that all students, irrespective of their parents' wealth and occupation, have access to the Internet. In Denmark, Finland, Hong Kong-China, Iceland, the Netherlands, Norway, Sweden and Switzerland, less than 2% of disadvantaged students – who are defined as the 25% of students with the lowest socio-economic status – do not have access to the Internet at home. Where large disparities in home Internet access persist, schools often play an important role in ensuring that all students have access to ICT resources. Among the most disadvantaged students, 50% of students in Turkey, 45% in Mexico, 40% in Jordan and 38% in Chile and Costa Rica only have access to the Internet thanks to their school.

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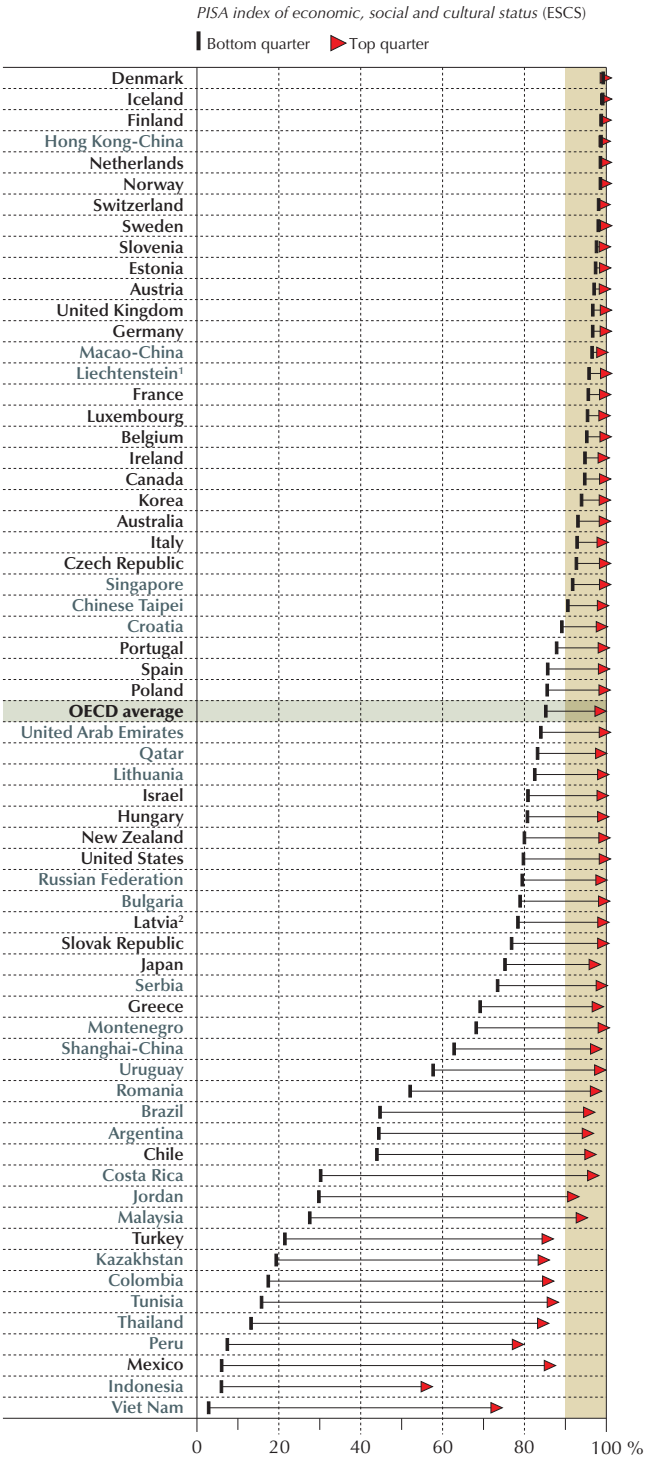
As a result of the wide availability of Internet connections, and on average across OECD countries, the amount of time that students spend on line during a typical weekend day does not differ across socio-economic groups. In fact, in 21 out of 42 countries with available data, students from poorer families spend more time on line than students from wealthier families. In 2012, disadvantaged students in Belgium, Denmark, Finland, Germany, Hong Kong-China, Iceland, Korea, Norway, Shanghai-China, Sweden, Switzerland and Chinese Taipei spent at least 15 minutes more per day on line during weekends than their advantaged peers.

Percentage of disadvantaged/advantaged students with access to the Internet at home



1. The difference between the top and the bottom quarters of ESCS is not statistically significant.

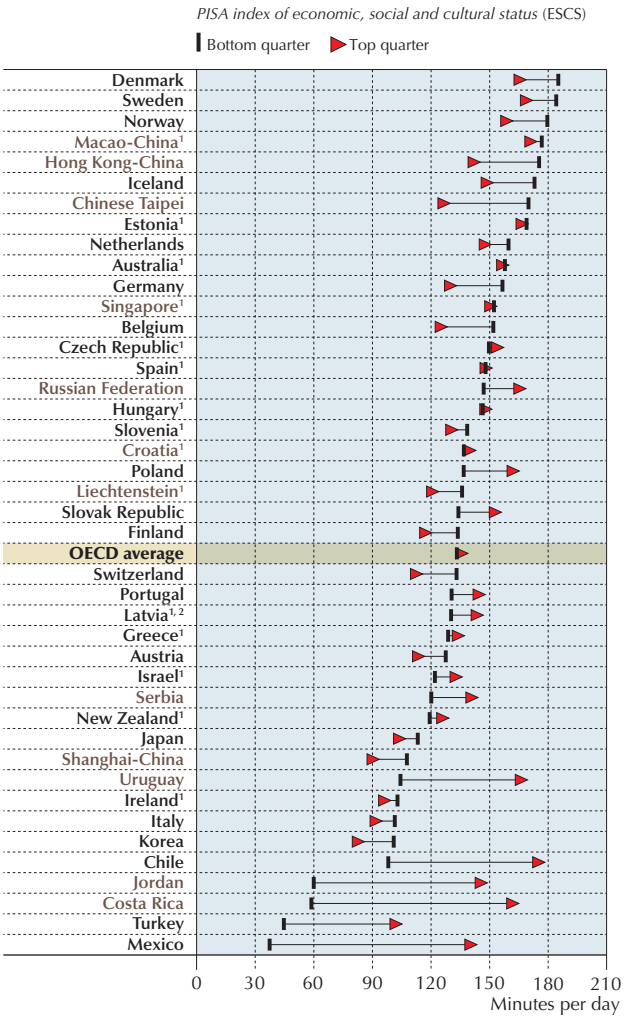
2. Latvia acceded to the OECD on 1 July 2016. The OECD average does not include Latvia.

Countries and economies are ranked in descending order of the percentage of disadvantaged students who have a connection to the Internet at home.

Source: OECD, PISA 2012 Database.

StatLink http://dx.doi.org/10.1787/888933253149

Time disadvantaged/advantaged students spend on line during weekend days



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2. Latvia acceded to the OECD on 1 July 2016. The OECD average does not include Latvia.

Countries and economies are ranked in descending order of the time disadvantaged students spend on line.

Source: OECD, PISA 2012 Database.

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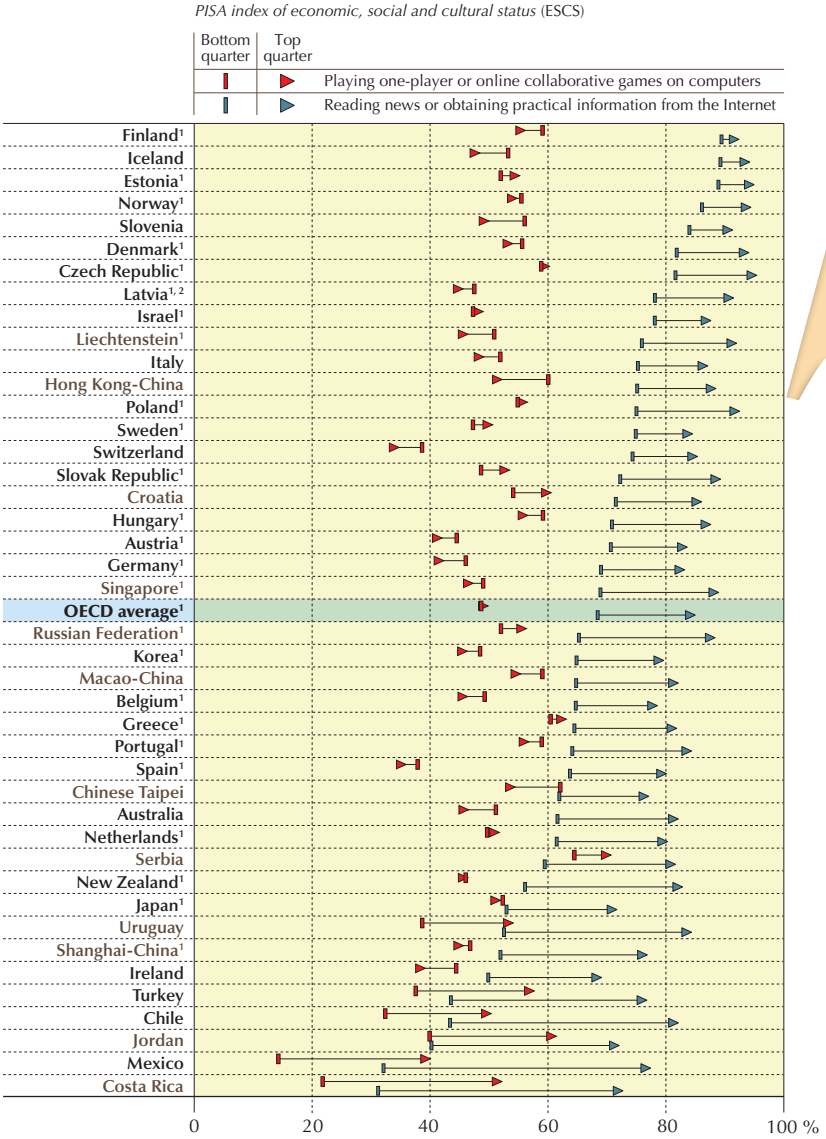
… but too many do not know how to take advantage of that resource.

But equal access does not imply equal opportunities. On line, virtually anyone can enrol in the best massive open online course (MOOC), respond to a job vacancy for a high-paying job, participate in the law-making process through an e-government website, or draw the attention of city authorities to a new pothole in his or her street. But disadvantaged students may not be aware of how technology can offer opportunities to learn about the world, practice new skills, develop a career plan or participate in online communications that are only a few clicks away. And they may not have the knowledge and skills required to turn online opportunities into real opportunities.

Using computers for videogames or for reading news/obtaining practical information from the Internet

Percentage of students doing each activity at least once a week, by socio-economic status



1. The difference between the top and the bottom quarters of ESCS in the percentage of students who play videogames at least once a week is not statistically significant.
2. Latvia acceded to the OECD on 1 July 2016. The OECD average does not include Latvia.

Countries and economies are ranked in descending order of the percentage of disadvantaged students who read news or obtain practical information from the Internet at least once a week.

Source: OECD, PISA 2012 Database.

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PISA shows that even when most students have easy access to new media, inequalities persist in the way they use these tools. The use of online media depends on the student's own level of skills, motivation, and support from family, friends and teachers, which vary across socio-economic groups. In their free time, disadvantaged students tend to prefer chatting rather than sending e-mails. They are also much less likely to read the news or obtain practical information from the Internet, perhaps because their navigation and reading skills are often more limited than those of advantaged students. But disadvantaged students play videogames as much as advantaged students do.

PISA results also show that socio-economic differences in the use of the Internet and in the ability to use ICT tools for learning are strongly related to the differences observed in more traditional academic abilities. Proficiency in online reading and navigation requires students to plan and execute a search, evaluate the usefulness of information, and assess the credibility of sources on line – skills that schools can encourage students to practice and develop. After accounting for differences in the ability to read and understand printed texts, students' socio-economic status has only a weak, and often not significant, relationship with performance in the PISA test of digital reading. In other words, students with good reading skills, regardless of their background, have a much easier time finding their way around – and mining the considerable assets of – the Internet.

The bottom line: Disadvantaged students in low- and middle-income countries have fewer opportunities to access the Internet than advantaged students. Reducing this gap is important, but the experience of high-income countries shows that inequalities in the ability to learn using digital tools persist even when all students have easy access to the Internet. Ensuring that every child attains a baseline level of proficiency in reading will do more to create equal opportunities in a digital world than will expanding or subsidising access to high-tech devices and services.

For more information

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See OECD (2015), *Students, Computers and Learning: Making the Connection*, PISA, OECD Publishing, Paris.

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