

Where are the “Digital Natives”? Results from ICILS 2018

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What is ICILS 2018 about?

ICILS is a large-scale, international assessment of grade 8 students’ computer and information literacy and computational thinking skills. It addresses a question of critical importance: how well are students prepared for study, work, and life in a digital world? 46,000 students and 26,000 teachers from more than 2,200 schools in 12 countries and two sub-regions took part in ICILS 2018.

ICILS assesses the core knowledge, skills and understanding students need to succeed in our dynamic information environment using authentic tasks in a computer-based environment. ICILS provides countries with reliable, comparable data about young people’s development of 21st century computer and information literacy (CIL) skills. In addition, ICILS is unique in offering participating countries the option of directly assessing computational thinking (CT) skills of students. ICILS further collects data from schools, teachers and students about students’ use of and opportunities to use ICT.

What does ICILS 2018 say about students’ CIL?

ICILS data and test content were used to describe four levels of student CIL proficiency. The first proficiency level reflects only very basic familiarity and functional working knowledge, while subsequent levels (Level 2 and above) indicate more complete knowledge and skills ranging from basic and explicit information-

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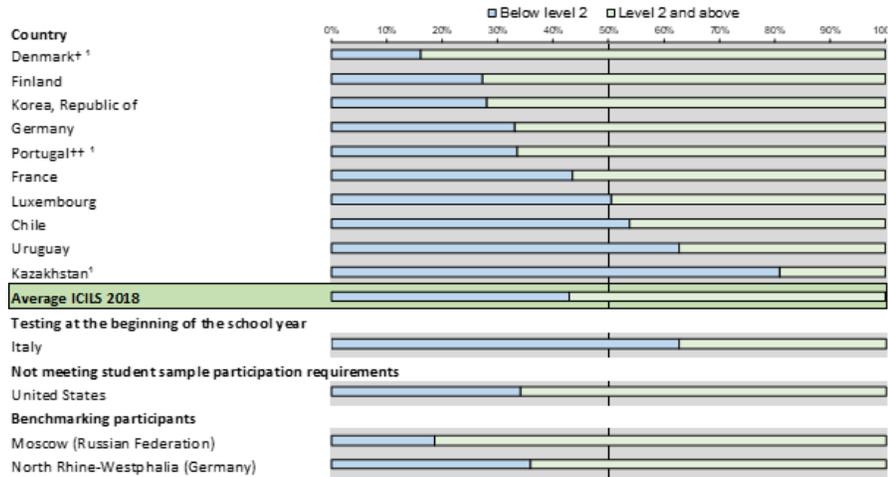


Fig. 1 Percentages of students with CIL below Level 2 and at Level 2 and above.

Note. [†] National defined population covers 90% to 95% of the national target population; [†] Met guidelines for sampling participation rates only after replacement schools were included; ^{††} Nearly met guidelines for sampling participation rates after replacement schools were included.

gathering and management tasks to high-level capacity such as creating sophisticated information products.

Figure 1 shows the percentages of grade 8 students in participating countries who demonstrated only basic familiarity with computer and information technology or even less knowledge and understanding (Below Level 2) and those who were able to show more complete skills in this learning area (Level 2 and above). Across participating countries more than 40% had only basic familiarity with computer and information technology and there were large differences between countries with national percentages of grade 8 students with more complete CIL skills ranging from over 80% to only about 20%.

While these figures show large differences between countries, it is also important to highlight the large gaps within countries: The difference between the highest and lowest average CIL scores across countries was 157 scale points. Within countries, the gap separating the average CIL scores of the top and bottom 5% of students ranged from 216 (Denmark) to 347 scale points (Kazakhstan).

The results of this second cycle of the study call into question the generalization that young people are “digital natives” who through exposure to the use of digital devices develop expertise in their use. Data collected by this study demonstrate that providing students and their teachers with information and communications technology (ICT) equipment alone does not automatically result in the development of sophisticated digital literacy skills. Students need to be taught how to use computers effectively, and their teachers need to be supported in their use of ICT in teaching.

This text has been posted on the blog international-education.blog and it is available in different languages on international-education.blog

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For more ICILS 2018 information read:

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2019). Preparing for Life in a Digital World. IEA International Computer and Information Literacy Study 2018 International Report. Amsterdam, the Netherlands: International Association for the Evaluation of Educational Achievement (IEA). Retrieved from <https://www.iea.nl/studies/iea/icils/2018>

