Slovakia - computer and information literacy of 14-year-old pupils

The international computer and information literacy study (ICILS) examines outcomes of student computer and information literacy (CIL) across countries. CIL refers to an individual's ability to use computers to investigate, create, and communicate to participate effectively at home, at school, in the workplace, and in the community.

In November 2014, a detailed ICILS report was published focusing on students' acquisition of computer and information literacy. ICILS is the first ever internationally-comparable study assessing students' computer and information literacy. Some 60 000 eighth–grade students from more than 3 300 schools in 21 education systems, including nine EU countries, were surveyed and assessed.

Slovakia scored above average of the ICILS 2013 sample and better than expected. The result is however unsatisfactory, when compared to similar countries (post-communist EU newcomers) in Table 1.

Table 1: Country averages for CIL of new EU countries in ICILS 2013

	Average CIL score (SE)	Student-computer ratios	IDI *
Czech Republic	553 (2.1)	10	6.40
Poland	537 (2.4)	10	6.31
Slovakia	517 (4.6)	9	6.05
Croatia	512 (2.9)	26	6.31
Slovenia	511 (2.2)	15	6.76
Lithuania	494 (3.6)	13	5.88

NB: * The ICT development index (IDI) combines 11 indicators into one benchmark measure that monitors and compares developments in information and communication technology (ICT) across countries.
See http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx. SE – standard error.

In particular, when compared to neighbouring Czech Republic (best performing country in ICILS 2013) with a very similar education system and common history, Slovakia lags behind. It is not the equipment, but apparently access to ICT and quality of learning environments in schools that makes the difference.

It is interesting that Korea with an extremely high number of pupils per computer (20) scored 536, while Australia with a favourable three pupils per computer scored 542, only slightly better than Korea. A detailed analysis indicates the need to focus on skills improvement of low-performing pupils. There are comparatively too many pupils at level 1 and below (492 points and less) in Slovakia compared to similar countries.

Further, similarly to OECD PISA results, ICILS 2013 also confirms a strong impact of families' socioeconomic backgrounds on pupils' performances.

Table 2: CIL score averages for students in categories of highest parental educational attainment (ISCED 97)

	ISCED 2	ISCED 3	ISCED 4 + 5B	ISCED 5A + 6	ISCED 5A/6- ISCED2 Score difference
	Score (SE)	Score (SE)	Score (SE)	Score (SE)	Difference (SE)
SK	408 (19.9)	509 (4.9)	514 (7.9)	540 (4.9)	132 (19.5)
ICILS	453 (2.9)	490 (1.2)	504 (1.5)	525 (1.3)	72 (3.1)

The difference between students from families with best-educated and poorest-educated families is extremely high in Slovakia (132) compared to the ICILS sample (72). Pupils from families with low-educated parents (ISCED 2 and below) scored extremely low in Slovakia, only 408 points. Although they represented only 2% of the Slovak sample it is a serious challenge. It must be assumed that many ethnic Roma children are at risk of low CIL due to their parents' low education and poverty limiting their access to ICT in family life.

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More information:

- ICILS 2013
- Preparing for life in a digital age: the IEA international computer and information literacy study international report
- ICILS 2013 national short report [Slovak]
- ICILS: Main findings and implications for education policies in Europe