ICILS – International Computer and Information Literacy Study

How well are students prepared for study, work, and life in a digital world?

ICILS is an international assessment of how young people develop computer and information literacy to participate effectively in a digital world. The study supports countries to make informed decisions about how best to prepare students for life in an age of constantly evolving digital technologies.

The study is a response to the increasing use of information and communications technologies (ICT) in modern society and the need for citizens to develop relevant capabilities to participate effectively in a digital world.

Using computer-based assessments of students' abilities to use digital technologies in conjunction with questionnaires completed by students, teachers, and school leaders, ICILS provides evidence of how student learning contexts (within school and outside of school) relate to their computer and information literacy and computational thinking skills. ICILS also helps countries understand how digital technologies are used in classrooms and the factors that influence their use.

WHAT DOES ICILS MEASURE?

ICILS responds to a question of critical interest:
How well are students prepared for study, work, and life in a digital world?

To answer this, the study provides internationally comparable measures of students' computer and information literacy (CIL), which reflects their ability to use computers to investigate, create, participate, and communicate at home, at school, in the workplace, and in the community.

Participating countries also have an option for their students to complete an assessment of computational thinking (CT). Using questionnaires completed by students, teachers, schools, and national centers, ICILS also provides a rich source of information on the contexts for ICT-related learning and the pedagogical use of digital technologies.

MEASURING PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS

Participating in ICILS provides countries with reliable, comparable data about young people's development of 21st century CIL skills. Through working with UNESCO and academic project supervisors, ICILS helps countries to monitor their own national targets regarding students' digital competencies and also provides information for monitoring progress toward the UNESCO Sustainable Development Goals (SDGs).

This includes SDG 4.4 *(increase the number of youth and adults who have relevant skills... for employment)*, with a focus on indicator 4.4.1: *Proportion of youth and adults with ICT skills.*

PARTICIPATION IN ICILS

ICILS reports on the digital competencies of students in grade 8 (or its equivalent). In most countries data will be collected from approximately 20 grade 8 students, 15 of their teachers, the school ICT coordinator, and the principal, in each of the 150 participating schools.

Due to the cross-curricular nature of the study all grade 8 teachers in a given school are eligible to be sampled, regardless of the subject(s) they teach. The teacher questionnaire asks about teachers' use of ICT together with their attitudes toward ICT use. The ICT coordinator and principal questionnaires provide information about school policies and resources for the use of digital technologies in teaching and learning.

THE EVOLUTION OF ICILS

The first IEA study of digital technology was the 1987 Computers in Education Study (COMPED) Stage 1, with subsequent studies in the 1990s and early 2000s. The first cycle of ICILS took place in 2013, and has continued on a 5-year cycle.

The rapid pace of technological change drives ICILS to remain up-to-date, with new areas of interest for research incorporated in each cycle. This innovation is carefully managed to support the comparison of core ICILS outcomes over time.

COSTS AND FUNDING

Participating countries are required to cover all the costs of administering the study at the national level, and to share the costs of coordinating the study internationally. National costs depend on the salary levels and cost structures within each country. IEA can assist participants with developing their own national budget by providing an outline of the staffing required, tasks to be covered, and equipment needed for successful implementation.

BENEFITS OF PARTICIPATION

Participation in ICILS allows countries to:

- **INVESTIGATE** the ways in which young people are prepared for study, work, and participation in a digital world
- **ADDRESS** persisting and new challenges associated with young people's development of essential 21st century digital skills
- **GENERATE** internationally comparable indicators of students' computer and informational literacy and computational thinking
- **MONITOR** changes in computer and informational literacy and computational thinking over time
- **EXAMINE** the use of digital technologies in schools, in particular how they are used to develop students' core digital competencies
- **MAKE** informed decisions on education policy and practice to support the teaching and learning of digital competencies

PARTNERS

The Australian Council for Educational Research (ACER) in Melbourne serves as the international study center for ICILS. ACER is responsible for designing and implementing the study in close cooperation with IEA and the national centers of participating countries.

ACER

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ABOUT IEA

The International Association for the Evaluation of Educational Achievement (IEA) is an international cooperative of national research institutions, governmental research agencies, scholars, and analysts working to research, understand, and improve education worldwide.

We conduct high-quality, large-scale comparative studies of education across the globe to provide educators, policymakers, and parents with insights into how students perform.

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