# ICILS 2018

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ICILS 2018

- Maintaining continuity with ICILS 2013 whilst accommodating changes in digital literacy education
  - Expanding the definition of CIL
  - Renaming CIL (2013) to digital information literacy (DIL) and restructuring the description of the construct
  - Incorporating computational thinking (CT) in CIL as second (international option) dimension

Expanding the definition of CIL

CIL Definition

Computer and information literacy refers to an individual's ability to use computers to investigate, create, communicate and solve problems in order to participate effectively at home, at school, in the workplace, and in society.

Including Computational Thinking

CIL

Dimension 1

Digital information literacy

Dimension 2

(International option)

Computational thinking
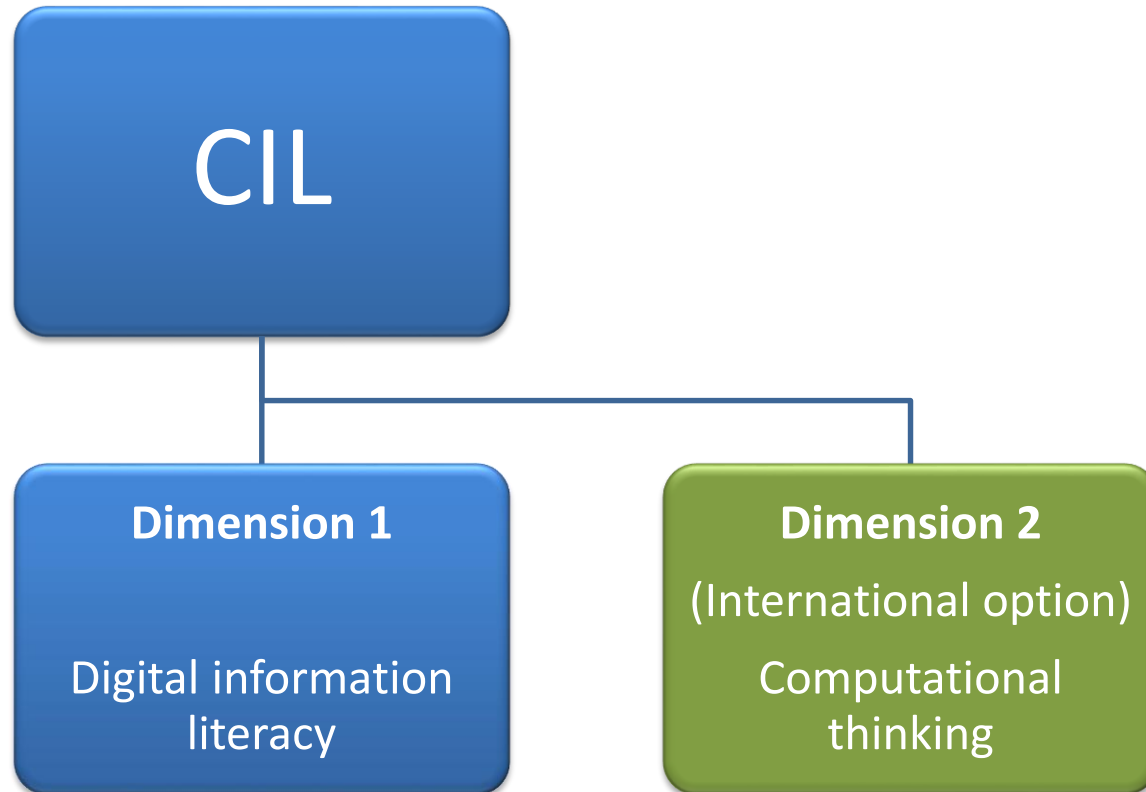
Renaming and restructure of CIL

CIL (2013)

Strand 1
Collecting and managing information

Aspect 1.1 Knowing about and understanding computer use

Aspect 1.2 Accessing and evaluating information

Aspect 1.3 Managing information

Strand 2
Producing and exchanging information

Aspect 2.1 Transforming information

Aspect 2.2 Creating information

Aspect 2.3 Sharing information

Aspect 2.4 Using information safely and securely

DIL (2018)	CIL (2013)
Strand 1 *Understanding computers*	**Strand 1** *Collecting and managing information*
Aspect 1.1 Knowing about and understanding computer use	Aspect 1.1
Strand 2 *Gathering information*	
Aspect 2.1 Accessing and evaluating information	Aspect 1.2
Aspect 2.2 Managing information	Aspect 1.3
Strand 3 *Producing information*	**Strand 2** *Producing and exchanging information*
Aspect 3.1 Transforming information	Aspect 2.1
Aspect 3.2 Creating information	Aspect 2.2
Strand 4 *Digital communication*	
Aspect 4.1 Sharing information	Aspect 2.3
Aspect 4.2* *Using information responsibly and safely	Aspect 2.4

Including Computational Thinking

CT Definition

- *Computational thinking is a process of recognizing aspects of computation in the world and being able to think logically, algorithmically, recursively and abstractly.*

- Thinking processes underpinning coding/programming

- Extends beyond computer science
  - systematically/algorithmically solving real-world problems
  - making sense of complex ideas or information

CT Aspects
Strand 1: *Conceptualizing problems*

1. Knowing about and understanding computer systems

2. Formulating and analyzing problems

3. Collecting and representing relevant data

CT Aspects
Strand 2: *Operationalizing solutions*

1. Planning and evaluating solutions

2. Developing algorithms, programs and designs

Research Questions

ICILS 2018 Summary Research Questions

RQ	Digital information literacy	Computational thinking
1	How does DIL achievement vary within and across countries? How has DIL (CIL) achievement changed between 2013 and 2018?	How does CT achievement vary within and across* countries? *Depending on number of participating counties
2	What aspects of schools and education systems are related to DIL achievement?	What aspects of schools and education systems are related to CT achievement?
3	How does student ICT use relate to DIL?	How does student ICT use relate to CT?
4	How does student background relate to DIL?	How does student background relate to CT?
5		How is DIL achievement associated with CT achievement?

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Assessing Digital Information Literacy

Digital Information Literacy Test (Field trial)

- Five test modules (3 trend and 2 new)
  - Collecting information
  - Evaluating information
  - Communicating with others (large task)
  - Considering responsible and safe use
- Each student completes 2 modules

Digital Information Literacy Test

- Large tasks
  - Using information provided in websites to create a social media post to encourage students to join a board games club (new)
  - Using information from a video and other sources to produce a poster encouraging students to participate in a program to reduce waste (new)
  - Creating a presentation to inform 8 year olds about the process of breathing
  - Editing a website that advertises a school band competition
  - Creating an information leaflet about a school excursion

Assessing Computational Thinking

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Computational Thinking Test Modules

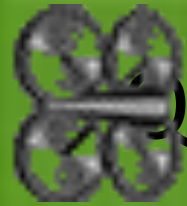Automated Bus (emphasis on CT Strand 1)

- Students complete a series of planning tasks relating to the way a driverless bus could calculate routes and avoid crashing

Farm Drone (emphasis on CT Strand 2)

- Students use a visual coding system to guide an automated drone to complete a range of farming tasks (e.g. watering crops, planting seed)

Thank you

Questions?

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