Future Competences in IEA's Studies

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Overview

- IEA's study curricular model
- Example on ICT use in education
- IT impact on learning & assessment
- Foundational skills matter
- Using IT in assessment
- Directions to future competences
- Cautious conclusion

IEA's Study Curricular MODEL

- Intended Curriculum
- Implemented Curriculum
- Achieved Curriculum

IEA strives in achieving consistency between instruction and assessment (testing).

Example (using the model for ICT in education)

- Computers in Education Study (**COMPED**) described and analyzed various aspects of the introduction and use of computers in schools in the participating countries (Stage 1 in **1989** and Stage 2 in **1992**).
- Second Information Technology in Education Study (**SITES** – Modules 1 to 3) ranged from a basic comparative statistics, via a qualitative study of innovative pedagogical practices, towards examination how teachers and students were using ICT in 2006, and investigated the extent to which certain pedagogical practices considered conducive to the development of “21st century” skills were present.

Example (using the model for ICT in education)

- ***How well are students prepared for study, work, and life in the digital age?*** (**ICILS** 2013 & 2018)
- The study measured international differences in students' computer and information literacy (CIL).
- This type of literacy refers to students' ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in the community.
- Mapping between **Digital Competence** and ICILS by JRC B4 (Riina Vuorikari) showed their compatibility
- Computational Thinking added in ICILS 2018 edition

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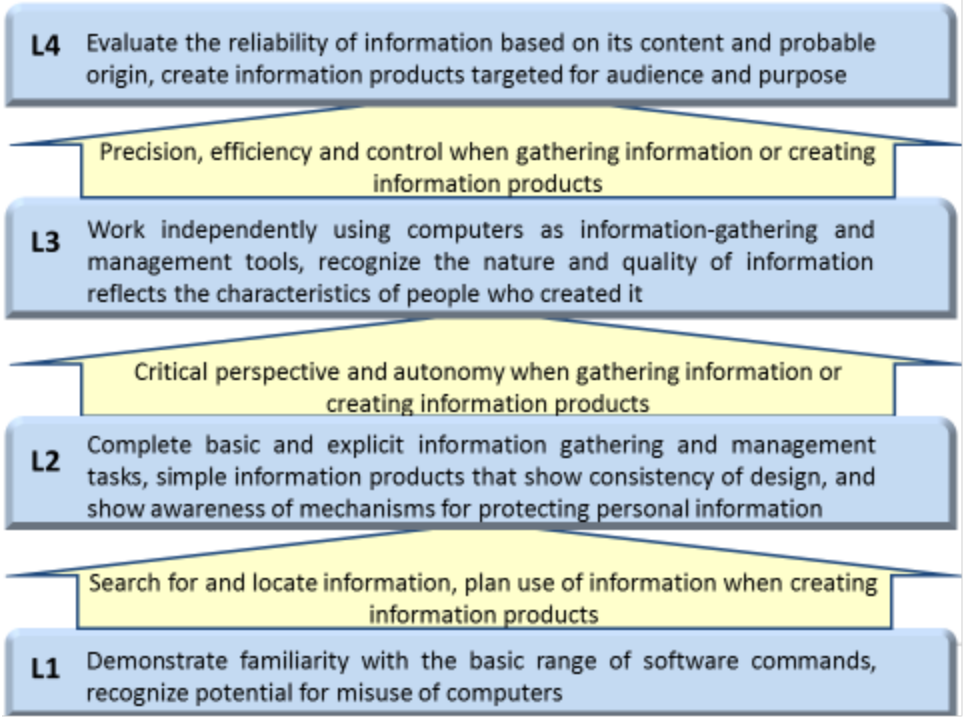
Example (using the model for ICT in education)

CIL - Competency Levels provided answer to this question: ***Digital natives or just kids with smartphones?***



Although students have grown up in the digital age, it does not necessarily imply that they are digital natives. In all the participating countries, on average 17% of the students did not achieve a level 1. On average, only 2% of the students achieved a level 4 with a maximum of 5% in Korea.

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IT Impacts Learning & Assessment

- MORE MEDIA-RICH and DATA-INTENSE
- HOW superior to WHAT (type & search is the must)
- Instruction & assessment CAN be personalized (*adaptive*)
- Workforce vs. AI (AI does not READ with comprehension, AI compares and goes with the most frequent option)

Foundational Skills Matter

- Reading, Mathematics & Science (PIRLS & TIMSS)
- Social and Civic Competences (ICCS)
- Digital Competence (ICILS)

- Communication & languages (mother & foreign)
- Cultural Awareness and Expression
- Agency (sense of initiative and entrepreneurship)
- Ability to keep **LEARNING (alone & in *a group*)**

Using IT in Assessment (by IEA)

ICILS 2013

1) ePIRLS 2016 (reading online – reading for information)
2) eTIMSS 2019 (PSIs improving coverage of the TIMSS science framework; plus the P&P items transferred to a format suitable for CBA)

All digital
PIRLS & TIMSS
(from 2021)

Directions to FUTURE COMPETENCES

OLD CHALLENGES

- FOUNDATIONS (the old foundational skills in the new & ever-changing technology rich environment)

- SELF-AWARENESS & SELF-EFFICACY (dealing with emotions, gaining GRIT)

New CHALLENGES

- *Disconnect* from our social & natural origin (while connected online, social media +/-)

- Continuous changes/*disruption*

Cautious Conclusions

- **WHY comes first (what & how will follow)**
- **The FUTURE is drafted NOW**
- **Innovations can be observed & scaled up**
- **Coalitions, agreement & accountability can (and must) be built across ALL the stakeholders engaged in education**
- **Teachers' assignment & engagement is a KEY to future changes**

Thank you!

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(Questions and comments are WELCOME!)

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Researching education, improving learning