Monitoring Young People’s Internet Literacy in Switzerland

Dr. Martin Hermida
5 key components on the road to measuring digital literacy

Definition

Educational standards

Purposeful teaching material

Teaching

Qualified teachers

Measuring

Scientifically sound tests

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Experts on Media Science and Computer Science Education

Scientific background

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Curricula are meant to last and it shows: Example

**Educational standards**

**Students can...**

**Media Science**
- ...understand consequences of their behavior in (social) media

**Computer Science**
- ...can differentiate between local device, local network and the internet to store public and private data

**Skills**
- ...know basic functionalities of different programs/software
Curricula are meant to last and it shows: Example

Students can...

- understand consequences of their behavior in (social) media
- can differentiate between local device, local network and the internet to store public and private data
- know basic functionalities of different programs/software
Connect curricular standards to real world phenomenon

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**Connect to a phenomenon:**

Know cyberbullying has vast consequences because you can’t see the victim’s reaction and networked media increases (un-/intended) number of bystanders/perpetrators and if they become a victim they can take a screenshot of the hurtful messages and go to talk to an adult

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Media Science

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Computer Science

Skills

Educational Standard:
• Know emotional and legal consequences of cyberbullying
• Know how to block users
• Know what blocked users can’t and can do
• Know the difference between photo sharing through whatsapp and instagram
• Can take a screenshot and save it to a folder

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Educational materials:
• Know emotions and legal consequences of cyberbullying
• Know how to block users
• Instructions for a discussion on hurtful communication online
• Know the playing game between photo sharing and bits manipulation
• Can exercise image manipulation
• Can take a screenshot and save it to a folder

Media Science
Computer Science
Skills
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Experts in Media Science and Computer Science Education
Only very limited representative empirical data on literacy available

EU Kids Online: Basic Skills
- 1 scale ($r=0.84$)
- only (technical) skills

ICILS: Information Literacy
- based upon item response theory
- not feasible in schools

Scientifically sound tests

EU Kids Online: Basic Skills
- upcoming...
Adaptive Digital Literacy Test

- Based upon item response theory providing questions on different difficulty levels
- Adaptive selection of questions based upon children’s estimated level of literacy
- Summarized class results for teachers
- References to teaching materials

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Example Information Online

Why is it, that two people can search with the same keywords, yet get different results?

Could be...
- Because results can change within seconds
- Because they live in different locations

Can’t be...
- Because they have set a different language
- Because of ambiguous search terms
- Due to personal logins to the search engine
Why is it, that two people can search with the same keywords, yet get different results?

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Testing digital internet literacy in 5 different domains

- **Digitalization and automation:** Possibilities and Limits
  - N=4'068

- **Online information:** Freedom and Trustworthiness
  - N=3'086

- **New business models:** Renting, buying and selling online
  - N=2'094

- **Personalized content and data protection**
  - N=2'748

- **Youth protection, sex and violence**
  - N=3'365

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What we know from the ongoing Test (N=26‘146/15‘361 7th-8th)

- **Digitalization and automation:** Possibilities and Limits
  - N=4‘068

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- Experts on Media Science
- Experts on Education
- Experts on Computer Science

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Experts on Media Science and Computer Science Education

Experts on Education

Experts on Computer Science

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New Master’s degree program (first graduates in spring 2021)

Experts on Media Science and Computer Science Education

Trained in all related fields

- Education Science (240h)
- Media & Communication Science (480h)
- Computer Science (480h)
- Media Science and Computer Science Education (1800h)
On the road to measuring digital literacy in Switzerland

- **Educational standards**: Need to be sharpened/operationalized
- **Purposeful teaching material**: Most of it still needs to be developed
- **Qualified teachers**: Are ready, but short on material
- **Scientifically sound tests**: First version of adaptive test in use
- **Experts on Media Science and Computer Science Education**: First graduates Master of Media Science and Computer Science Education in Spring 2021