



## Pre-service teachers and information literacy: a screencast-based exploration

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# Framework

Information literacy and citizenship

# IL and citizenship

## Energiekrise

Energie ist knapp.

Verschwenden wir sie nicht.

### Energiesparen

- Sparkampagne: [www.nicht-verschenden.ch](http://www.nicht-verschenden.ch)
- Hotline: 0800 005 005 / [hotline@bwl.admin.ch](mailto:hotline@bwl.admin.ch).

which vaccine is best?

Tutto Immagini Video Notizie Mappe Impos

✓ Svizzera (de) Ricerca sicura: moderata Qualsiasi data

<https://www.healthline.com> > health > vaccinations > which-covid-vaccine-is-best

**Which COVID-19 Vaccine is Best: For Adults, Children & More - Healthline**

21 mar 2022 · Receiving any of the COVID-19 vaccines is better than remaining unvaccinated. The CDC recommends ...

<https://www.medicalnewstoday.com> > articles > which-covid-vaccine-is-best

**Which COVID-19 vaccine is best? Pfizer, Oxford, and more**

29 mar 2022 · The Centers for Disease Control and Prevention (CDC) recommend getting Moderna or Pfizer-BioNTech if ...

<https://wexnermedical.osu.edu> > blog > which-covid-19-vaccine-is-best

**Which COVID-19 vaccine is the best? | Ohio State Medical Center**

12 mar 2021 · Considering the data we have available now as well as available vaccine supply, the vaccine that's best for you is likely the vaccine that's available to you. The data right now suggests that both the Pfizer vaccine, which was formally approved by the FDA on Aug. 23, 2021, and the Moderna COVID-19 vaccine, which is authorized for emergency use, are very effective at preventing COVID-19 illness.

## Bio in cifre

Conferenza stampa 2022.



**459**

l'importo **pro capite** speso dai consumatori e dalle consumatrici in Svizzera per prodotti alimentari biologici.



**56 %**

la percentuale **di consumatori** che acquista prodotti biologici giornalmente o più volte a settimana.



**10,9 %**

la **quota del biologico** nel mercato alimentare in Svizzera nel 2021.



**7'216**

**aziende agricole** in Svizzera e nel Principato del Liechtenstein che producono secondo le direttive di Bio Suisse.



**17 %**

**delle superfici utili agricole** coltivato in modo biologico in Svizzera.



**4'005 mio**

il **fatturato** derivante dai prodotti alimentari bio in Svizzera.

# IL: a definition

Information literacy is  
the ability to think critically  
and make balanced judgements  
about any information  
we find and use

It empowers us as citizens to  
reach and express informed  
views and to engage fully with  
society

Today,  
it is largely applied online  
and through search  
engines

# The Big6



# IL as a key competence

## Section 3

### The competences

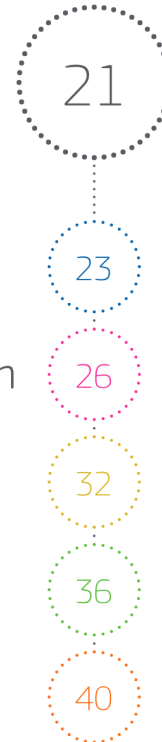
Competence area 1: information and data literacy

Competence area 2: communication and collaboration

Competence area 3: digital content creation

Competence area 4: safety

Competence area 5: problem solving



Carretero, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1. The Digital Competence Framework for Citizens. With eight proficiency levels and examples of use*. Publications Office of the European Union.

## IL and pre-service teachers

IL can be effectively taught in schools  
only as long as teachers  
are information literate  
and are aware of the issues at stake

Method

Screencasting online searches



## Research questions

This study explores the **naïve, pre-instruction concept of online search** of **pre-service teachers**

1. What **concept** of online search do pre-service teachers demonstrate?
2. What type of search **instruments** do pre-service teachers use?
3. What type of digital **documents** do pre-service teachers consider?
4. How do they assess their **quality or credibility**?

# Assignment

Your goal is to develop a short video tutorial in which you demonstrate how to search for information online about a topic of your choice.

Show how you perform the search and how you decide on which results you click. Visit at least three results and make a brief comment on each webpage.

The expected length of the video-tutorial should be between 1 and 3 minutes; it should have an audio commentary and it may have background music. You can decide if you want to appear in the video (with a PiP) or not.

When you are done, upload your screencast with the homework tool on this page.

## Participants

- 92 students, Bachelor 1<sup>st</sup> year
- Engaged as part of a mandatory assignment in a course about digital media
- No prior instruction about IL or online search
- **89 valid screencasts**

## Coding process

- Coding scheme development
- Independent coding test with 2 coders
  - Big6 elements;  $k=0.913$
  - Web documents;  $k=0.909$
- Coding scheme fine-tuning
- Final coding
- Descriptive analysis



## Coding / 1

#	Field	Type	Operational definition
<b>1.</b>	<b>SCREENCAST DATA</b>		
1.1	Duration	integer	Overall duration of the screencast (seconds)
1.2	Topic	text	Short description of the chosen topic of the screencast (text)
1.3	Target audience	label	Identified target audience of the screencast (either declared or implicit): Children, Teachers, Adult, Generic
<b>2.</b>	<b>BIG6 ELEMENTS</b>		
2.1	Task definition	1/0	The student explains what the information target/need is, not only stating the general topic (e.g., "cats") but formulating precise questions (e.g., "how long does a cat live?")
2.2	Information seeking strategies	1/0	The student explains where and how to search, for example what search instruments to use, what keywords to use, if it would be useful to refine the search query, etc.
2.3	Location & Access	1/0	The student explains how to find and access websites, e.g., how to reach a search engine page, where to write keywords, what buttons to click, etc.
2.4	Use of information	1/0	The student explains how and where to find relevant information within documents of different formats, e.g., reading the title or summary, etc.
2.5	Synthesis	1/0	The student explains how to make a summary of the information or use it to solve the information need
2.6	Evaluation	1/0	The student proposes an evaluation of the search process or of its results
2.7	Big6 score	0 to 6	Sum of the values assigned for the Big6 elements (2.1 through 2.6)
2.8	Credibility	1/0	The student discusses credibility criteria: why the selected documents can be considered credible (reliable) or not.

## Coding /2

**3. WEB DOCUMENTS**

3.1	Search engine	text	Name of search engine used
3.2	Number of searches	integer	Number of searches performed in the screencast
3.3	Motivation	1/0	The student motivates the choice of the used search engine
3.4	Demonstration	1/0	The student demonstrates how to perform the search
3.5	Criteria	1/0	The student explains the criteria that the search engine uses to select and rank results
3.6	Comment	1/0	The student provides comments on the SER page or on individual documents
3.7	Web.number	integer	Number of web pages reached via a SER page shown in the screencast
3.8	Web.choice	1/0	The student motivates the choice of the web page among the other search results
3.9	Web.content	1/0	The student illustrates the contents or structure of the web page
3.10	Web.comments	1/0	The student provides comments on the credibility of the web page
3.11	Selected.number	integer	Number of web pages shown by the author without performing a search
3.12	Selected.choice	1/0	The student motivates the choice of the selected web page
3.13	Selected.content	1/0	The student illustrates the contents or structure of the web page
3.14	Selected.comments	1/0	The student provides comments on the credibility of the web page
3.15	Wiki.number	integer	Number of Wikipedia articles shown in the screencast
3.16	Wiki.choice	1/0	The student motivates the choice of the selected Wikipedia article
3.17	Wiki.content	1/0	The student illustrates the contents or structure of the Wikipedia article
3.18	Wiki.comments	1/0	The student provides comments on the credibility of the Wikipedia article
3.19	Comparison	1/0	The student compares web pages and information, e.g., about format or credibility
3.20	Useless search	1/0	An already known URL is entered into a search bar.

# Results

Google, queries & the Big6

# Searching is (obviously) googleing

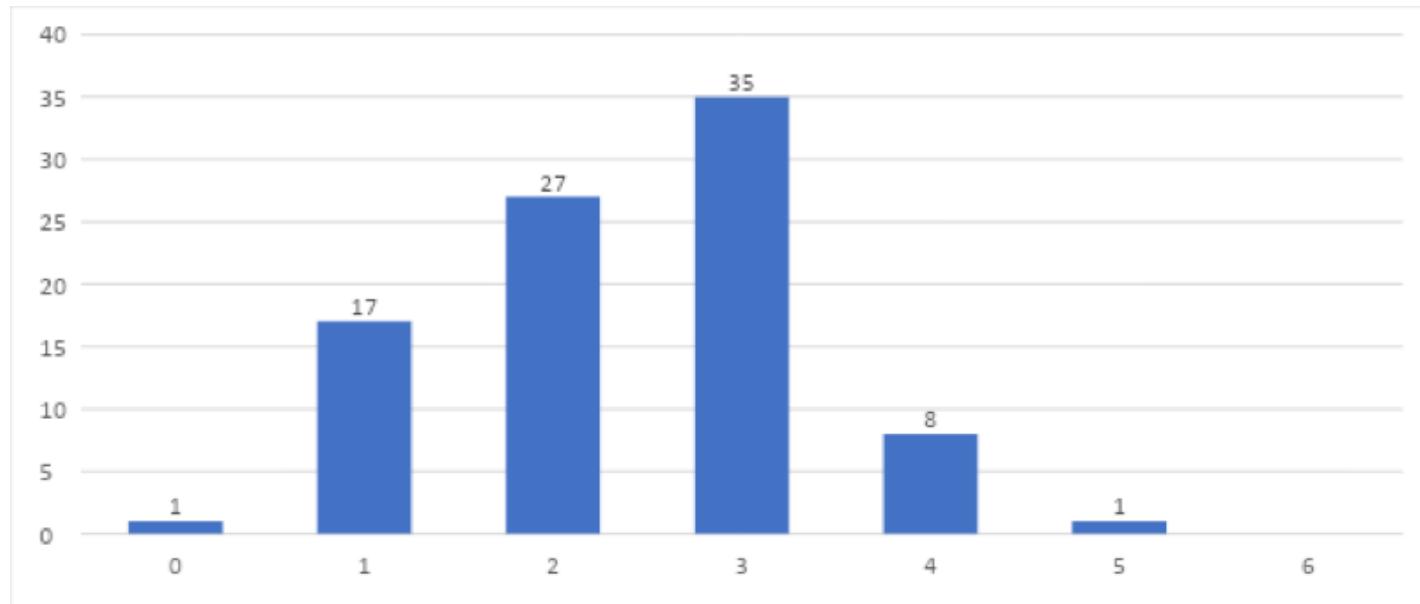
- 71 screencasts (80%) use Google as Search Engine (SE)
- Looks like a mostly unaware choice
  - Only 15 authors declared which SE they are using
  - Nobody mentions *why* they are using it
  - Only 3 authors explains SE criteria of web pages ranking and selection





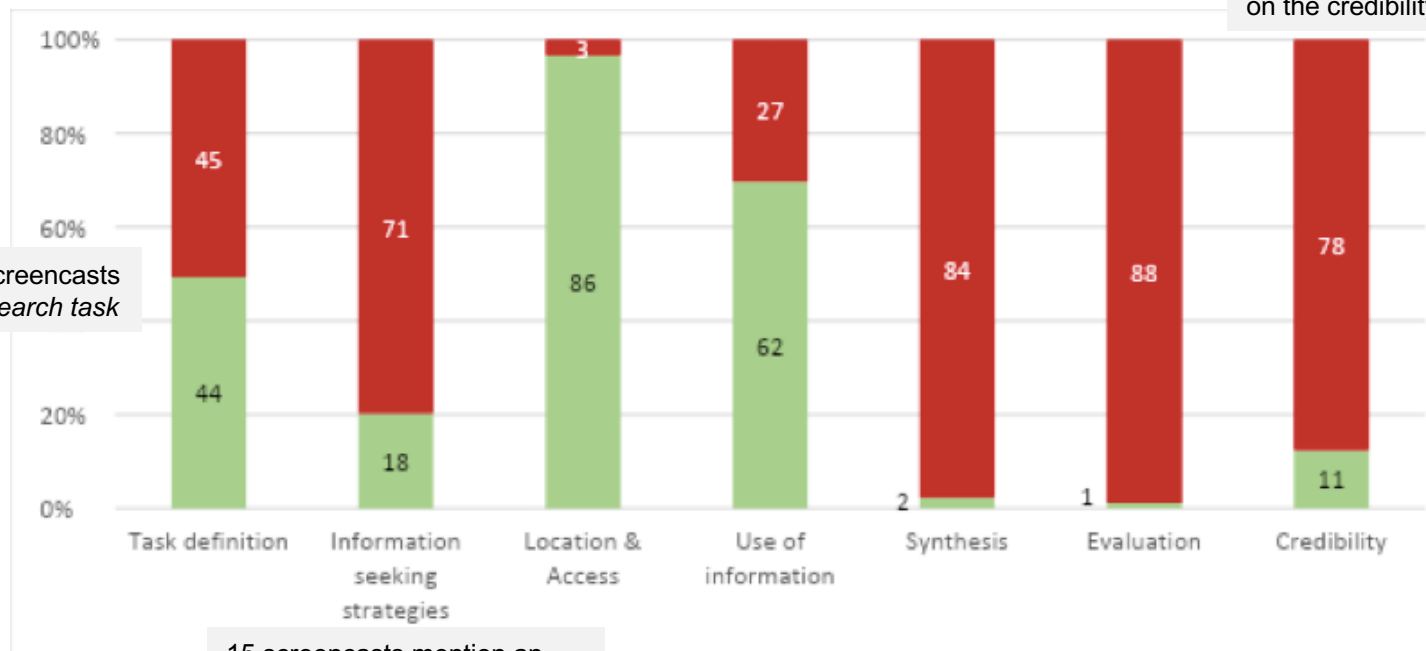
## Big6 dimensions coverage

- No screencast included all Big6 dimensions
- Only one screencast included none
- Big6 score average: 2, 39



# Big6 dimensions coverage and credibility

- Most touched dimensions: *Location and Access* and *Use of Information*



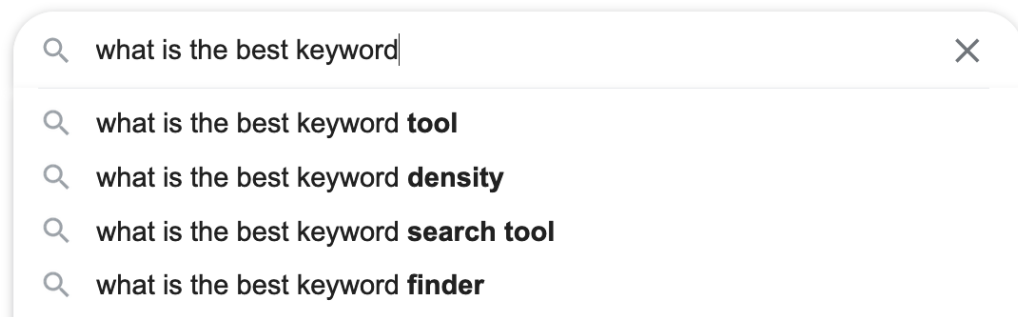
Only 11 screencasts comment on the credibility of documents

Only half of the screencasts define a proper *Search task*

15 screencasts mention an Information Seeking Strategy

## Queries?

- The choice of search terms is not perceived as important
  - Few authors mention the importance of queries
  - Most simply write the topic (e.g., «panda») or a question (e.g., «how do I do X?»)



## Is it reliable?

- Very few authors critically discussed the web pages they show, or indicated why they selected them
- Nobody made a comparison among different pages
- The web simply “answers”, no evaluation seems to be required



# Conclusions & outlooks

## A purely technical skill?

- Online search skills are conceived as something **practical**
  - No conceptual issues were addressed
  - more related to search behaviour than to information literacy
- The lack of critical reading and comparison between web pages relates to the lack of consideration of the **credibility** dimension
- Very low consideration of
  - *Task definition*
  - *Search strategy*

## Outlooks

- A small-scale exploratory study
  - Different stimuli?
  - Larger population?
  - Different moment in teacher ed?
  
- Open issues
  - Teacher competence in IL and online search
  - Teacher self-efficacy
  - Alignment and implementation of the official curricula

## Q&A

Full paper on the Journal of Media Literacy Education (pre-print)

<https://digitalcommons.uri.edu/jmle-preprints/39/>

[www.loisresearch.wordpress.com](http://www.loisresearch.wordpress.com)

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