Is it *fake news?*

A Teaching Brief

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INTRODUCTION

The purpose of this teaching brief is to share a pedagogical teaching sequence aimed at dealing with untrustful and fake information on the web. Interacting with information in an unreflective manner can bring about risks. As pre-service teachers, we hope that this teaching brief can contribute to the development of abilities needed to interact with information in a purposeful and reflective manner.

This document includes three broad sections. First, we delineate the identified issue. Then, we develop in further detail such an issue. Following this, the teaching sequence is provided. Lastly, a glossary of terms is offered.

IDENTIFIED ISSUE

Evidence suggests that Chile's secondary school students have only developed basic digital abilities to succeed in an information society, but not higher-level digital abilities. Congruently, students face hardships when interacting with tasks required for a knowledge society. For such a society, their ability to filter data and to identify biased content online becomes paramount. The perceivable gap in digital ability development (i.e., for an information society vis-à-vis for a knowledge society) sheds light on various issues that should be addressed; including the need to reflect on the reliability and relevance of information available on the web.

OVERVIEW OF ISSUE

It can be argued that when using the construct information society, one is alluding to a society where the focus is on the sharing and manipulation of information through the performance of basic tasks using lower-level digital abilities (cf., Anderson, 2008; van Dijk & van Deursen, 2014). Accordingly, the focus is on practices such as opening a new tab and searching for information on the internet.

On the other hand, a knowledge society can be understood as the requiring the generation, manipulation, and transformation of information into knowledge through the use of higher-level digital abilities (cf., Repanovici, 2006, p. 138). Here the needed practices would slant towards, for example, the ability to filter data and to identify biased content as well as its reliability and relevance.

> " *Recent research in Chile suggests that students have merely developed the digital abilities needed to benefit from resources and assets offered by an information society*

That is, a society which is driven by the use of hardware and software to search for information without judging nor filtering the data (Bolaños & Pilerot, 2021). Therefore, they do not possess the fundamental abilities to take advantage of the potentialities of a knowledge society.

A society which requires the development of higher-order thinking skills that will facilitate the transformation of information into knowledge (Bolaños & Pilerot, 2023). An example of such research is the 2018 IEA International Computer and Information Literacy Study. It reveals that Chilean students are currently situated in the most basic levels regarding Computer and Information Literacy (CIL) (Fraillon et al. 2019). Such a level denotes that students have solely acquired the skills and abilities to thrive in an information society (i.e., they can open a link in a new browser tab, use software to crop an image and insert it into a document, among others).

This leaves room for improvement and for our society to evolve into a "knowledge society [that] necessarily presumes an information society, but not the other way around" (Anderson, 2008, p. 6). CIL varies depending on the student's capacity to perform certain tasks. From students recognizing and working with basic features of software and hardware (e.g., CIL levels 1 and 2), to a more independent and purposeful use and management of a computer system to gather, evaluate, and select information (CIL levels 3 and above).

At Level 3, one of the levels that need further development in the Chilean context, students are supposed to work independently to perform exhaustive research and information gathering by selecting the most appropriate source to retrieve information; all while also using recognized software commands to edit and add content. Likewise, at Level 3 they can recognize the motives and inclinations behind the information and thus determine its credibility and relevance. Level 3, then, entails being able to enact practices for a knowledge society (Fraillon et al., 2019).

Some tasks that Chilean students should be able to perform at this level are evaluating the reliability of the information on a website, identifying biased content, selecting relevant information, and demonstrating control of image and text layout when creating a poster. Yet Chilean students are far from CIL level 3 (i.e., they are far from being able to enact practices for a knowledge society). As Fraillon et al. (2019, p. 74) reported, 70% of the Chilean participants were positioned between Levels 1 and 2, while only 10% achieved Level 3 and none Level 4.

This suggests that students do not possess the ability to discern between reliable and questionable sources; and, as such, they are more likely unable to recognize biased sources, and discriminate and select relevant information.

For a knowledge society, then, students need various abilities to construct knowledge in a world that requires everyone to stay up-to-date with new political, economic, technological, and cultural changes and advancements (Anderson 2008). Such a sentiment is present in Chile. For example, the Chilean curricular bases (developed by the Chilean Ministry of Education) echo such sentiment by arguing for the development of twenty-first-century skills. These skills are key for students to adapt to new "ways of working, thinking, and learning" (MINEDUC, 2019, p. 25), highlighting the efficient use of information for students to critically search for, classify, evaluate, and use different sources of information inside and outside the classroom (MINEDUC, 2019, p. 26).

Accordingly, and in line with all that has been so far presented, in a knowledge society the concept of fake news becomes relevant in connection to the vast amount of information that students are exposed to nowadays on the internet. The access to the internet and social media, the rapid spread of information, in addition to students lacking the needed skills to critically judge certain information, make them an easy target to be influenced by false information; which could hamper their process to achieve the essential abilities to perform efficiently in a knowledge society. Addressing this specific goal (i.e., dealing with fake news) is the objective of this teaching brief.

The following teaching sequence aims to create a space where secondary school students can analyze and reflect on information found on social media platforms. The end goal is for students to determine whether such information is reliable, truthful, or fake.

To start with, the teaching sequence involves three connected theory and practice sessions that address topics of dealing with information, the importance of identifying reliable information sources, and the creation of a product to consolidate what they have learned. The topics will be covered in three 45-minute workshops involving a collaborative work methodology which includes group discussions, analysis of case studies, reflections, and the construction of an infographic.

TABLE I: OVERVIEW OF THE SESSIONS

SESSION I: INFORMATION DISCRIMINATION	Discerning real and fake information found on social media and reflecting on the importance of vetting information from multiple reliable sources.
SESSION II: RISING AWARENESS ABOUT RELIABLE SOURCES THROUGH DIALOGUE	Understanding and discussing the importance of vetting information as found within so-thought-reliable sources within online environments.
SESSION III: DIGITAL INFOGRAPHIC CREATION	Using the recognized software Canvas to edit and reformat selected information for the creation of a poster.

The proposed work methodology seeks to foster collaboration. The former by means of having students jointly design and publish an infographic.

Details:

🥬 Watch a TikTok video. Such a video will provide information about a natural catastrophe. The TikTok video will be shared through a QR code. Students must watch and analyze the video in teams.

🥬 After a space for personal reflection, students will meet up in groups to discuss if the information in the video is real or fake.

🥬 Once they have discussed their different perspectives regarding the TikTok video, students will create an infographic. To such an end, they will use the design and publishing tool Canva. Such an infographic must spark a conversation regarding the importance of seeking information and vetting it by visiting so-thought-reliable sources.

To link all the sessions into a cohesive sequence, the following situation and thinking questions will be employed as a case study:

TABLE 2: CASE STUDY

THE CASE STUDY:
You are sent a recently posted TikTok video informing you about a natural catastrophe that is happening in the world. How do you decide if it is trustworthy information or not? For this, what you must do is the following:

SESSION I	a) Watch the video as many times as you think is necessary. Then, analyze the video and answer the following questions individually: 　1. Can you identify the source of information in the video? 　2. Does the video propose subjective or objective opinions? 　3. Can the same information be found on other websites? 　4. Is this natural catastrophe happening today? b) Search, select, and read three articles from reliable sources about the news presented in the video. For this, you must consider the following aspects: 　1. The author (s) 　2. The date of publication 　3. The publication site c) Analyze the articles you previously selected by answering the following questions: 　1. Check the authors' profiles: Have they published other articles? What are their other articles about? 　2. Is the information presented by the source of the article outdated or inaccurate? Is it valid and applicable? 　3. Is the source of the information (publication site) in the article reliable and reputable?
SESSION II:	a) Compare the information presented in the articles with that of the TikTok video by answering the following questions:: 　Is the information provided by the article similar to what you learned watching the TikTok video? 　How is the information in the TikTok video and the articles you read different? b) Discuss your findings with your classmates. . 　– Why do you think that people create fake news? 　– If you share this fake news with your parents, do you think they would believe it? Why? 　– Do you think that believing fake news is something that only happens in certain generations? Why? 　– What do you think is important to do to prevent fake news from going viral and people from believing in it? 　– Would this help raise awareness in people to filter out the information that will appear in the news?
SESSION III	a) Selecting and adapting information for the creation of an infographic. 　1. Select and adapt information that you found in the articles requested before. 　2. Head over to the Canva software and select a blank design for the infographic. 　3. Write the selected information in the blank design. 　4. Select the images you will use in your infographic. 　5. Distribute the information and images in your infographic. 　6. Among the options that the software provides, select the font, colors, and images that you will use for your infographic. 　7. Share your infographic with your classmates and explain your reasoning for deciding your reliable sources.

GLOSSARY:

HIGH SCHOOL STUDENTS

In Chile, according to The General Education Act (2009)[1], formal education is divided into nursery education (children aged from four to six years old), basic education (eight years of formal education, students from ages six to fourteen years – on average) and secondary education (four years of formal education, students from ages fourteen to eighteen – on average). When referencing secondary school students, we mean students ages fourteen to eighteen of the Chilean schooling system.

1 Ley General de Educación, 2009

INFORMATION SOCIETY

An information society is characterized by its reliance on information and communication technologies (ICTs) to create, process, distribute, and use information (Bundy, 2004; Anderson, 2008). However, the transition to an information society is not solely technological but also involves cultural, economic, and institutional changes, making information a central aspect of various aspects of life (van Dijk & van Deursen, 2014).

Knowledge society

According to Meier (2012, p. 191), "a knowledge society distinguishes itself by the fact that it organizes the acquisition, assurance, utilization, and distribution of knowledge and that it allows institutions and citizens to access knowledge-based systems". In Chile, its Ministry of Education (MINEDUC, for its acronym in Spanish) seeks to improve and evolve their students from an information society towards a knowledge society through the development of 21st-century skills. For a knowledge society, ICT plays a significant role but are not assigned responsibility for the creation of knowledge (Dutton, 2003).

The idea of a knowledge society could even be misleading if policymakers conclude that ICTs create knowledge, rather than reconfigure access to knowledge and expertise. It is more likely that ICT initiatives will be balanced with other educational priorities if educators and politicians focus on the value of ICTs as carriers that support 'tele-access', rather than as creators of knowledge.

21st-century skills

During the 21st century, digital technologies impact society (Bolaños & Pilerot, 2023), and those impacts require particular competencies, identified internationally as 21st-century skills (MINEDUC, 2019). According to studies, 21st-century skills "include creativity, critical thinking and problem-solving, collaborative skills, information technology skills, and new forms of literacy, and social, cultural and metacognitive awareness" (Care & Griffin, 2015, par. 1). These skills prepare students for the challenges and opportunities of today's society, ensuring necessary tools to succeed in the world of work and contribute to the sustainable development of society.

Digital abilities

Abilities needed to interact with Information Communication Technologies (ICT) can be referred to under different concepts. There are onto-epistemological differences between concepts, therefore they cannot be used interchangeably (Bolaños & Salinas, 2020). Notwithstanding, according to Bolaños et al. (2023), some similarities can be found within the different concepts used to refer to abilities needed to interact with ICT. In this teaching brief the term digital abilities (DA) was employed to refer to these abilities. DA are understood to be:

> a. Abilities to enable the adequate use of digital tools, both hardware and software.
> b. Communication and collaboration abilities in digital environments.
> c. Information searching and retrieving abilities in digital environments.
> d. Content creation abilities in digital environments.

These abilities "are key for social participation and equality, as well as fundamental players in the bridging of socio-economic and cultural gaps" (Bolaños & Pilerot, 2021, p. 2) and for activities that require students to interact with the information.

Computer and Information Literacy Levels

Computer and information literacy (CIL) is the "individual's ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in society" (Fraillon, 2019, p. 53). The structure of the CIL construct references four strands that frame the skills and knowledge addressed by the CIL assessment: understanding computer use, gathering information, producing information, and digital communication (Fraillon et al., 2019).

Based on those strands, Fraillon et al. (2019) created an achievement scale and ranked CIL levels from easiest to hardest using the following levels:

Table 3: CIL Levels

Level 1	"Students demonstrate a functional working knowledge of computers as tools and a basic understanding of the consequences of computers being accessed by multiple users" (Fraillon et. al, 2019, p. 57).
Level 2	Students use computers to complete basic and explicit information gathering and management tasks [...] They make basic edits and add content to existing information products in response to specific instructions" (Fraillon et. al, 2019, p. 57).
Level 3	"Students demonstrate the capacity to work independently when using computers as information gathering and management tools" (Fraillon et. al, 2019, p. 58).
Level 4	"Students select the most relevant information to use for communicative purposes [...] They also use appropriate software features to restructure and present information in a manner that is consistent with presentation conventions" (Fraillon et. al, 2019, p. 58).

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