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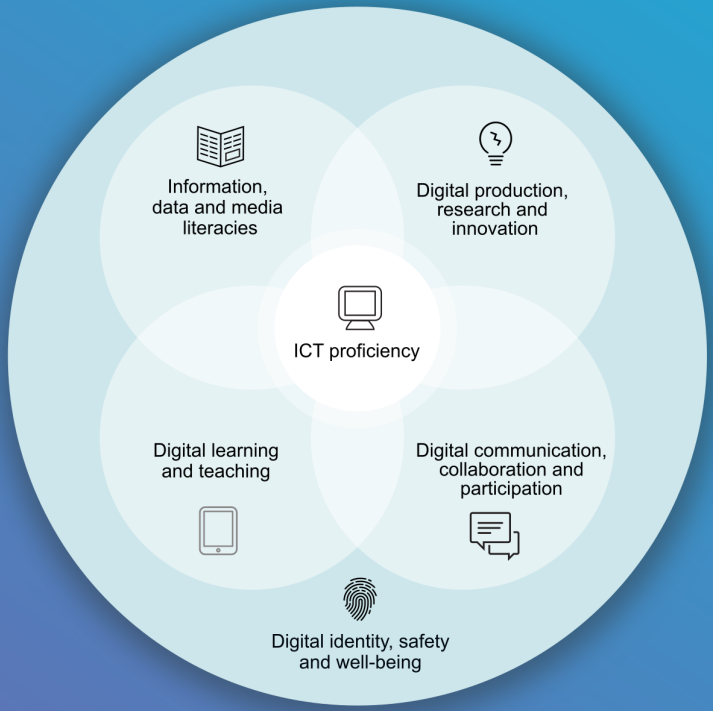
Framework
Digital Literacies



Educational Technologies | Project «Digital Literacies»
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Framework Digital Literacies

The phrase “digital literacy” stands for a system of capabilities and skills that go beyond the level of mere technical know-how.

Being ‘digitally literate’ means having a deeper critical knowledge about technology and digital transformation, on the basis of which individuals can act autonomously and creatively in the digital world.

1

General ICT proficiency

Proficiency in Information and Communication Technologies, or "ICT proficiency" for short, stands for the practical and technical skills that are required to effectively pursue goals in a digital environment. It means being able to select and operate hardware (devices), software (applications), and services (such as web platforms).

Practical digital skills are the basis on which other digital capabilities are founded.

An understanding of basic concepts in computing, coding and information processing, as well as an understanding of how digital technology is changing practices at work, at home, in social and in public life, are also components of digital proficiency.

At the practical level, being **digitally proficient** means having the capacity to:

- use ICT-based devices, applications, software and services;
- confidently adopt new devices, applications, software and services;
- stay up to date with ICT as it evolves;
- deal with problems and failures of ICT when they occur, and design and implement ICT solutions.

At the practical level, being **digitally productive** means having the capacity to:

- use ICT-based tools to carry out tasks effectively, productively and with attention to quality;
- choose devices, applications, software and systems relevant to different tasks having assessed their benefits and constraints;
- to adopt and (where necessary) adapt digital tools to personal requirements such as accessibility;
- to work fluently across a range of tools, platforms and applications to achieve complex tasks.

2

Information, data and media literacies

Being digitally literate in the area of information, data and media content means being able to find, evaluate, organise, use and permanently store information and data in different formats to answer questions, solve problems, and gain knowledge.

In the context of digitalisation, raw data can be defined as records of real-world events, captured and stored using digital devices. One way of producing information consists in analysing and interpreting raw data in order to offer a re-description that can serve for human communication. Information comes in different formats, so that news articles, documentary films, picture books, or podcasts may all be seen as different vectors of information.

In the age of digital multimedia, the cost of producing and diffusing data and information decreases. As a result, the quantity of openly accessible information rises, while its overall quality tends to vary more widely. In consequence, the capacity to evaluate the trustworthiness of data and information in various formats acquires a particular importance.

Concerning data, it is important to have an understanding of how data, as well as the information deriving from it, are used in professional and public life; how personal data may be collected and used; and what are the main legal, ethical and security guidelines in data collection and use. For this, a basic understanding of the nature of algorithms is useful.

At the practical level, **information literacy** means the capacity to:

- find, evaluate, manage, curate, organise and share digital information;
- interpret digital information for academic and professional/vocational purposes;
- review, analyse and re-present digital information in different settings;
- critically evaluate information in terms of its provenance, relevance, value and credibility;
- reference digital works appropriately in different contexts, while respecting the rules of copyright and open licenses, such as Creative Commons.

At the practical level, **data literacy** means the capacity to:

- collate, manage, access and use digital data in spreadsheets, databases and other formats;
- interpret data by running queries, data analyses and reports;
- all while applying the principles of personal data security.

At the practical level, **media literacy** means the capacity to:

- critically receive and respond to messages in a range of media – text, graphics, audio, video, animation;
- curate, re-edit and repurpose media, giving due recognition to originators;
- critically evaluate media messages in terms of their provenance and purpose;
- understand digital media as a social, political and educational tool.

3

Digital production, research and innovation

In the age of digital multimedia, it becomes easier to access information in a range of media. In the same way, with digital tools and techniques, new possibilities emerge for the production, transformation, diffusion and re-diffusion of data and information.

In this area, digital literacy means knowing the tools and techniques that help produce and transform digital artefacts with attention to quality (content in various media, instructions to machines in the form of algorithms, scripts or programs, etc.).

It also means a capacity to solve problems, gather evidence and creatively engage in new forms of innovation and research using technology. In particular, digitalization makes collaboration over long distances easier, which results in new opportunities for collective approaches to research and problem solving (eg open science, citizen science, open innovation).

At the practical level, **literacy in digital production** means the capacity to:

- design, create and/or transform new digital artefacts and materials such as digital writing, digital imaging, digital audio and video, digital code, apps and interfaces, or web pages.
- understand the digital production process and the basics of editing and coding.

At the practical level, **literacy in digital research and problem-solving** means the capacity to:

- use digital evidence to solve problems and answer questions;
- collect and collate new evidence;
- evaluate the quality and value of evidence, and to share evidence and findings using digital methods;
- understand digital research methods;
- understand different data analysis tools and techniques.

At the practical level, **literacy in digital innovation** means the capacity to:

- adopt and develop new practices with digital technology in different settings (personal and organisational, social and work-based);
- use digital technologies in developing new ideas, projects and opportunities;
- understand and practice innovation, enterprise and project management in digital settings.

4

Digital communication, collaboration and participation

The Internet is a technology that is increasingly used not primarily to spread messages in a unilateral way, but to support communication and to enhance the exchange and circulation of data and information. The cost of spreading data and information by way of text and figures, audio and video, as well as the cost of communicating with others via multimedia channels, decreases.

In consequence, more people can connect, exchange and share information in open digital environments. This enables new forms of collaboration, including over very long distances, as indicated by the growth of collaborative projects such as open software development and online encyclopedias.

Literacy in this area means the capacity to participate safely and effectively in the emerging culture of exchange and collaboration made possible by open digital environments.

At the practical level, **literacy in digital communication** means the capacity to:

- communicate effectively in digital media and spaces, such as text-based forums, online video, audio and social media;
- design digital communications for different purposes and audiences;
- respect others in public communications;
- maintain privacy in private communications;
- identify and deal with false or damaging digital communications;
- pay attention to the varieties of communication norms and needs.

At the practical level, **literacy in digital collaboration** means the capacity to:

- participate in digital teams and working groups;
- collaborate effectively using shared digital tools and media;
- produce shared materials;
- use shared productivity tools;
- work effectively across cultural, social and linguistic boundaries;
- pay attention to the varieties of cultural and other norms for working together.

At the practical level, **literacy in digital participation** means the capacity to:

- participate in, facilitate and build digital networks;
- participate in social and cultural life using digital media and services;
- create positive connections and build personal contacts;
- share and amplify messages across networks;
- behave safely and ethically in networked environments;
- appreciate how digital media and networks influence social behaviour.

5

Digital learning and teaching

Digital technology offers new possibilities for learning and teaching. The communication between students and teaching staff, as well as the communication between students, becomes easier: this enables new forms of learning (eg peer learning), new forms of tutoring and coaching, and new forms of evaluation.

Teachers can search for, re-use, and share teaching materials, in the spirit of open education. They can re-design their teaching to take advantage of the opportunities offered by digital technology.

Using digital technology for learning requires an understanding of the opportunities and challenges involved in learning online – and of one's own needs and preferences as a digital learner (eg access, media, platform and pedagogy).

Using digital technology for teaching requires an understanding of the educational value of different media for teaching, learning and assessment, and of different educational approaches and their application in digitally-rich settings.

At the practical level, **literacy in digital learning** means the capacity to:

- participate in and benefit from digital learning opportunities;
- identify and use digital learning resources;
- participate in learning dialogues via digital media;
- use learning apps and services (personal or organisational);
- use digital tools to organise, plan and reflect on learning;
- record learning events/data and use them for self-analysis, reflection and showcasing of achievement;
- monitor own progress;
- participate in digital assessment and receive digital feedback;
- manage own time and tasks, attention and motivation to learn in digital settings.

At the practical level, **literacy in digital teaching** means the capacity to:

- support and develop others in digitally-rich settings;
- teach, work in a teaching or curriculum team;
- design learning opportunities;
- support and facilitate learning;
- be proactive in peer learning;
- all while making effective use of the available digital tools and resources.

6

Digital identity, safety and well-being

The number of human activities that rely on digital technology has grown exponentially. The increasing miniaturization of computers, the sinking costs of technology, and the simplification of human-computer interaction have made digital devices accessible to all. Furthermore, mobile Internet access has become ubiquitous in many countries accross the globe.

In order to spread and exchange information over the Internet, and in order to access services on the World Wide Web, an identification of some kind ("Log in") is in most cases necessary. The multiplication of accounts transforms the proper management of one's own access data into a central issue.

Moreover, many web platforms offer the possibility to diffuse and store information about one's own person. This information is collected in individual, sometimes publicly accessible "Profiles".

The consequence of these transformations is that individual online presence has become a central feature of the age of digital multi-media. Moreover, an increasing number of persons expect from others permanent availability and connected-ness. This can be a source of distraction and stress.

Being literate in the area of digital identity, safety and well-being means being aware of the benefits and risks online that presence and digital participation entail for identity, reputation, personal integrity, individual property, health, well-being and sustainability, both at the individual and at the collective level.

The issues of identity, safety well-being are transversal to all areas of the digital transformation.

At the practical level, **literacy in digital identity management and safety** means the capacity to:

- develop and project a positive digital identity or identities;
- manage digital reputation (personal or organisational) across a range of platforms;
- build and maintain digital profiles and other identity assets such as records of achievement;
- review the impact of online activity;
- collate and curate personal materials across digital networks;
- act safely and responsibly in digital environments.

At the practical level, **literacy in digital well-being, health and environmental issues** means the capacity to:

- look after personal health, safety, relationships and work-life balance in digital settings;
- use digital tools to pursue personal goals (eg health and fitness) and to participate in social and community activities;
- negotiate and resolve conflict;
- manage digital workload, overload and distraction;
- act with concern for the human and natural environment when using digital tools.