AI (Literacy) in Teaching and Learning

MEDIA & LEARNING WEBINAR, 20 NOVEMBER 2024

VITOR TOMÉ, DIVINA FRAU-MEIGS

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1. AI with MIL

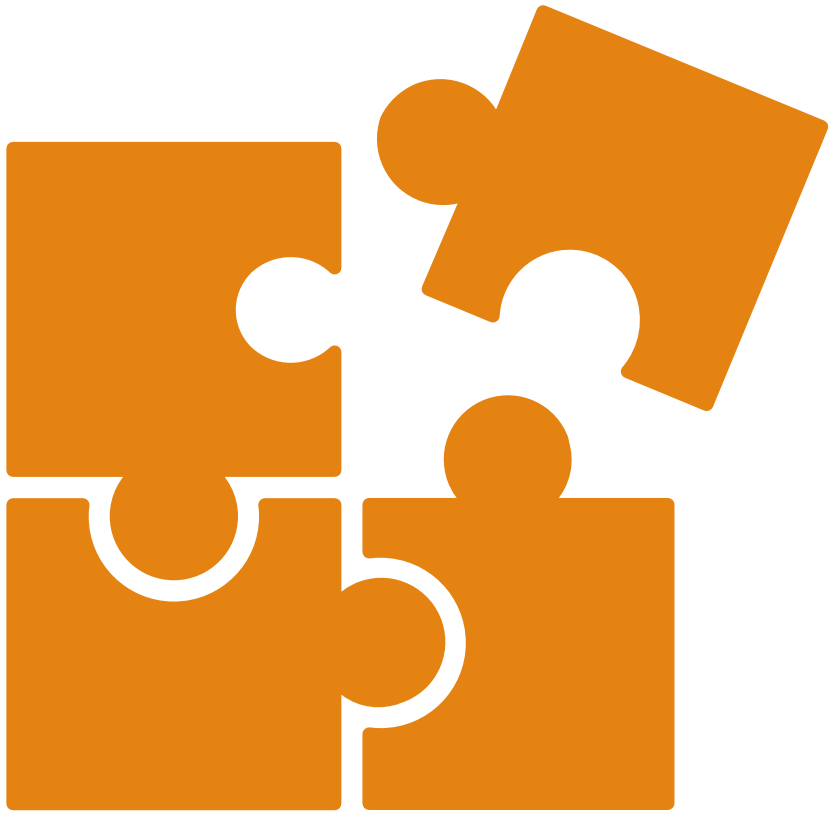
DEFINITION, APPROACH AND INTEGRATION

Definition

Definitions of algo-literacy anchored in MIL practices refer “to the combination of users’ awareness, knowledge, imaginaries, and tactics around algorithms” (Swart 2021). Algowatch adds …. “around algorithms and AI systems”.

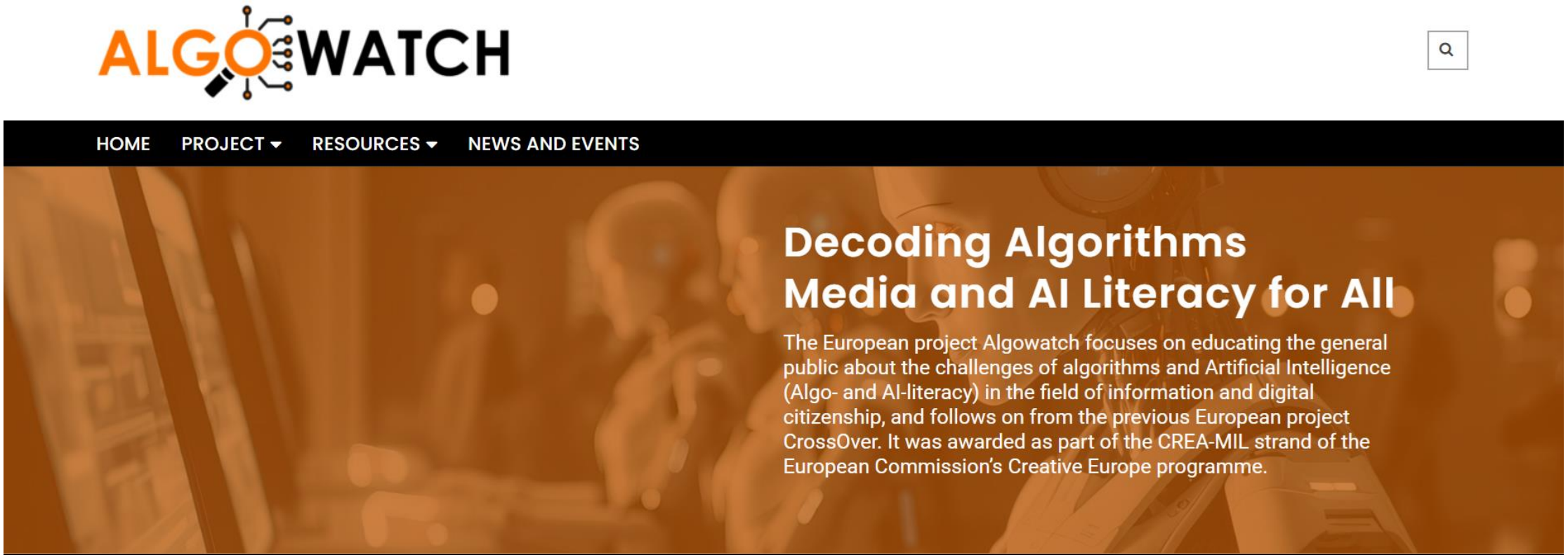
Approach

Algowatch approach emphasizes user agency and reactivity by adding “explicit and implicit actions to curate algorithms and adjust browsing behaviour” (Savoir Devenir definition) with a more explicit competence-based approach.



Integration

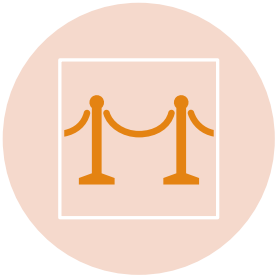
Algowatch considers that algorithm and AI literacy can be integrated as an essential part of MIL (rather than seen as a separate literacy, more akin to computational thinking rather than coding and computing).


ALGOWATCH
HOME
PROJECT
RESOURCES
NEWS AND EVENTS
Decoding Algorithms
Media and AI Literacy for All
The European project Algowatch focuses on educating the general public about the challenges of algorithms and Artificial Intelligence (Algo- and AI-literacy) in the field of information and digital citizenship, and follows on from the previous European project CrossOver. It was awarded as part of the CREA-MIL strand of the European Commission's Creative Europe programme.

Activities and deliverables

1. Elaborating a set of competences in Algo-AI literacy

2. Creating a series of interactive quizzes and a game based on the competences



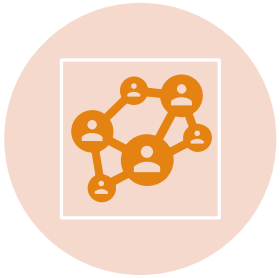
3. Developing an exhibit format for training diverse stakeholders (in schools, museums, ….)

4. Providing a toolkit for transfer (dissemination, evaluation, localization) and publishing the results in research journals (2 articles) and in international conferences

Targets

1st Target group

Youth (15+) in the schools and outside schools, as they represent the highest potential gains.



2nd Target group

Mediators and replicators (including administrators in museums and youth organizations) to reach out to larger audience (adults, seniors, migrants).

Deployment

5 schools (5 teachers, 100 pupils per country) will benefit from the ToT (Teachers and librarians)

1 national youth association will benefit from the ToT (Adults and mediators)

Museum/exposition space will benefit from 1 ToT

Evaluation

Pre-post tests for youth (15+) in schools + interviews for mediators and intermediaries, post intervention

2. Competences

MIL ADDRESSING THE CHALLENGES POSED BY GENERATIVE AI

Towards a framework of competences

Values	Attitudes	Aptitudes (Skills)	Knowledge
• Defend freedom of expression and opinion • Support privacy, participation and intellectual property • Engage in the promotion of quality information and databases • Oppose mass surveillance and promote safety and well-being	• Interpret data, its uses and the effects of algorithms, identify • Report harmful content • Avoid systemic risks (manipulation, data theft...) • Recognize one's own preconceptions, myths, representations and imaginaries • Devise counter-narratives to misinformation and communicate with others	• Use AI tools responsibly • Navigate quality websites and databases • Distinguish between mass, social and synthetic media • Interact with agents and non-human objects • Curate and verify information sources • Master copy creation tools and prompts	• Identify AI (potential and risks) • Recognize the geopolitics of AI (players, ownership, motivations) • Assess the consequences and formulate responses to information opportunities • Be aware of information disorders (hate speech, disinformation...)

TO KNOW > knowledge - to know, to understand, to be aware of...	
DIGCOMP 2.2 compences	**MIL competences**
157. Knowing that algorithms, and therefore programs, are designed to help solve real-life problems; the input data models known information about the problem, while the output data provides information relevant to solving the problem. There are different algorithms, and therefore different programs, for solving the same problem. + **156.** Knowing that a programme plan is based on an algorithm, i.e. a progressive method for producing an output from an input.	**1.** Knowing what an algorithm is
1.4 Being aware that search engines, social media and content platforms often use AI algorithms to generate responses tailored to the individual user (e.g. users continue to see similar results or content). This is often referred to as 'personalisation'. (AI)	**2.** Understanding how search engine ranking algorithms work
1.21. Being aware that AI algorithms may not be configured to provide only the information desired by the user; they may also convey a commercial or political message (for example, to encourage users to stay on the site, to look at or buy something, to share specific opinions). This can also have negative consequences (reproduction of stereotypes, sharing of incorrect information). (AI)	**3.** Knowing what recommendation algorithms can and cannot do
105. Be aware that AI systems collect and process several types of user data (e.g. personal data, behavioural data and contextual data) to create user profiles which are then used, for example, to predict what the user might want, see or do next (e.g. offer advertisements, recommendations, services). (AI)	**4.** Understanding how predictive algorithms work

Turning macro into micro competences – TO KNOW 1

TO KNOW > knowledge - to know, to understand, to be aware of...	
DIGCOMP 2.2 competences	**MIL competences**
NA	**5.** Understanding the definition and functions of artificial intelligence (AI)
NA	**6.** Understanding generative artificial intelligence (GAI)
NA	**7.** Understanding GAI: How LLMs generate answers
NA	**8.** Do you speak AI? Knowing how to translate specific keywords (for non-English speakers): Machine Learning, big data...
NA	**9.** Having a basic understanding of the history of algorithms
NA	**10.** Understanding the algorithmic mechanisms that can encourage disinformation campaigns on social media

Turning macro into micro competences – TO KNOW 2

KNOW-HOW - Be able to, know how to….	
DIGCOMP 2.2 competences	**MIL competences**
119. Being aware that AI systems can be used to automatically create digital content (e.g. text, news, essays, tweets, music, images) using existing digital content as a source. This content can be difficult to distinguish from human creation.	**11.** Being able to recognise the information produced by AI
27. Being able to recognise that some AI algorithms can reinforce existing opinions in digital environments by creating 'echo chambers' or 'filter bubbles' (for example, if a social media stream favours a particular political ideology, additional recommendations may reinforce that ideology without exposing it to opposing arguments).	**12.** Knowing how to combat filter bubbles and echo chambers
22. Being aware that the data on which AI depends may contain biases. If this is the case, these biases can be automated and worsen the use of AI. For example, occupational research results may include stereotypes about male or female jobs.	**13.** Being able to judge the quality of the databases (and possible biases) on which the AI and algorithms are working
113. Knowing how to modify user configurations (e.g. in applications, software, digital platforms to allow, prevent or moderate the AI system from tracking, collecting or analysing data (e.g. not allowing the mobile phone to track the user's location).	**14.** Developing strategies to combat algorithmic disinformation and hate speech

Turning macro into micro competences – KNOW HOW 1

KNOW-HOW - Be able to, know how to….	
DIGCOMP 2.2 competences	**MIL competences**
113. Knowing how to modify user configurations (e.g. in applications, software, digital platforms to allow, prevent or moderate the AI system from tracking, collecting or analysing data (e.g. not allowing the mobile phone to track the user's location).	**15.** Limiting the influence of recommendation algorithms on social media
NA	**16.** Assessing the reliability of the sources provided by AI
NA	**17.** Limiting the influence of recommendation algorithms on websites
8. Knowing how to formulate search queries to get the desired result when interacting with conversational agents or smart speakers (e.g. Siri, Alexa, Cortana, Google Assistant), for example by recognising that the query must be unambiguous and clearly worded for the system to respond appropriately. (AI)	**18.** Being able to "converse" with the Generative AI knowing that it is not a human and without anthropomorphising it.

Turning macro into micro competences – KNOW HOW 2

KNOWING HOW TO BE (and TO BECOME/Values) - Behave in a way that ... ("soft skills" and values)	
DIGCOMP 2.2 competences	**MIL competences**
216. Considering the ethical consequences of AI systems throughout their lifecycle: these include both the environmental impact (environmental consequences of the production of digital devices and services) and the societal impact, e.g. the platformisation of work and algorithmic management, which may infringe workers' privacy or rights; the use of cheap labour to label images to train AI systems. (AI)	**19.** Being sensitive to the ethical issues associated with informational algorithms
2. Being aware that online content made available to users free of charge is often funded by advertising or the sale of user data.	**20.** Having a well-informed and critical attitude towards the economic models underlying the systems offers, particularly free offers
56. Knowing that all EU citizens have the right not to be subject to fully automated decision-making (for example, if an automated system refuses a credit application, the customer has the right to request that the decision be reviewed by a person).	**21.** Showing a willingness to fight against manipulation

Turning macro into micro competences – HOW TO BE 1

KNOWING HOW TO BE (and TO BECOME/Values) - Behave in a way that ... ("soft skills" and values)	
DIGCOMP 2.2 competences	**MIL competences**
NA	**22.** Being prepared to work with others to obtain better and more reliable information
NA	**23.** Being able to consider the different levels of AI risk in information in accordance with the AI Act
NA	**24.** Using AI to project into everyday life and the jobs of the future

Turning macro into micro competences – HOW TO BE 2

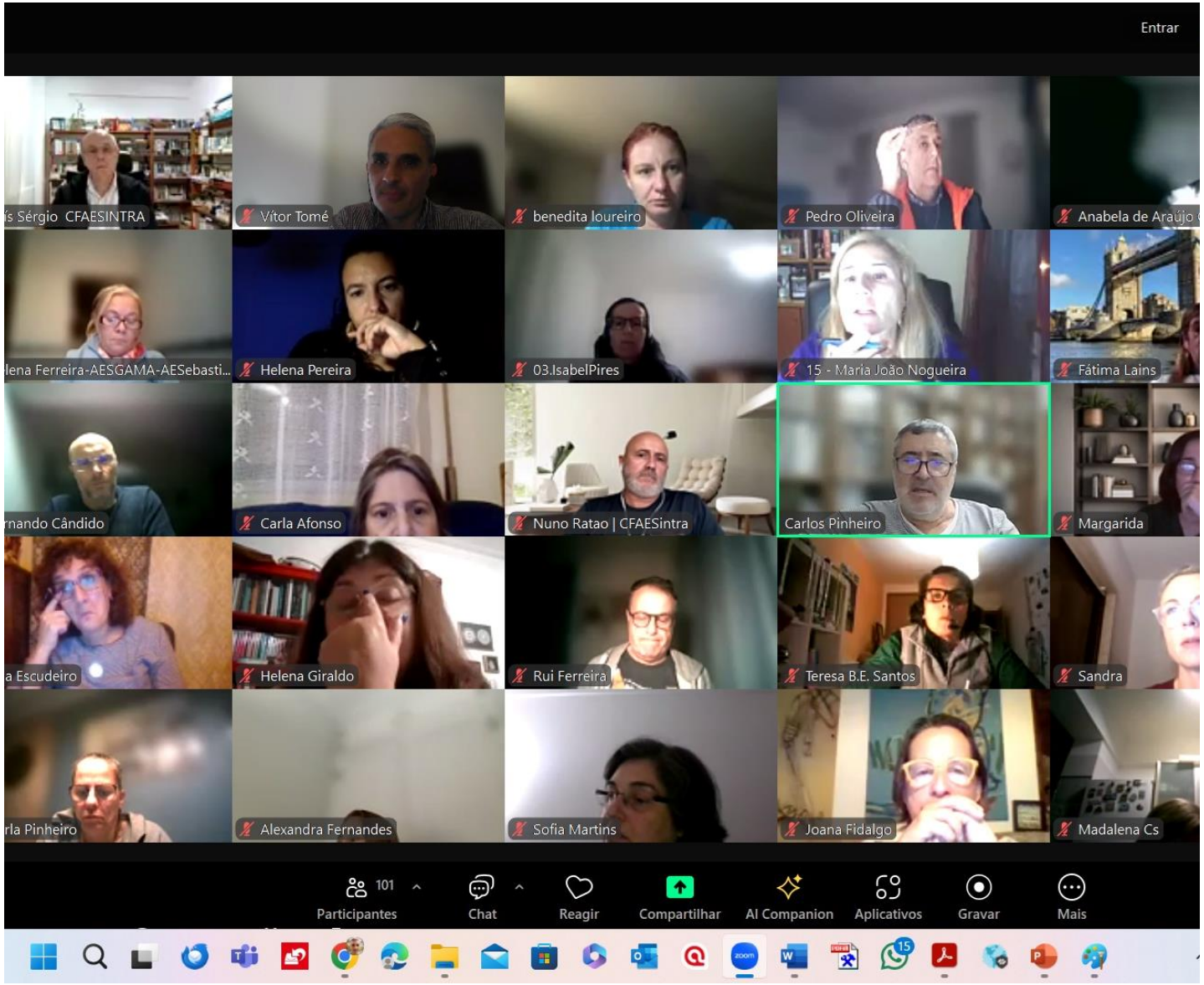
3. Resources

TO EMPOWER TEACHERS AND MEDIATORS

Implementing a MIL design: quiz

Implementing a MIL design: game

Co-creating resources: quizzes and game



Thank you for your attention!

www.algowatch.eu