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# **User empowerment through Media and Information Literacy responses to the evolution of Generative Artificial Intelligence (GAI)**

## Key messages



- Artificial Intelligence and Generative AI are having a significant impact on people's engagement with information, digital technology, and media. This raises concerns about **control** – human agency and autonomy over information, decision making, gender equality, and freedoms in general.



- **User empowerment** through Media and Information Literacy (MIL) as a response to GAI, which is still in its infancy, needs to be fully deployed and public policy makers should be concerned in developing it well from the outset.



- MIL is necessary to build people's **ethical use of synthetic media**, i.e. video, text, image or voice content fully or partially generated by AI-systems.



- The societal opportunities being deepened by GAI include: access to information, **participation, employability, creativity**, lifelong learning and creative industries.



- The societal potential risks being deepened by GAI include: **disinformation**, loss of **data privacy**, threats to integrity of elections, **surveillance**, lack of **source reliability**, discrimination, including **gender-based and racial stereotypes**, and copyrights violations.



- Building on **familiarity** in the face of urgency, AI literacy can be embedded in MIL to teach and train all sorts of communities (educators, librarians, youth workers, women networks, etc.).



- Ensuring **explainable AI** is key to both the design of MIL curricula and to the design of policy and governance around GAI.



- To build trust in information and education, **source reliability** needs to be revised to encompass the different types of “evidence” provided by GAI.



- MIL can train informed people from outside the technology industry to participate in **the design, implementation and regulation of AI**, in a manner that remains human-centered, gender-responsive and mindful of the **public interest**.



- Training for MIL is within **the remit of governments and institutions of higher education**, which have a duty to ensure MIL policy actions are sustained and strengthened over time, to **be future-proof**, in the face of an ever-evolving AI/GAI.



## Introduction

The goal of this policy brief is to demonstrate how stakeholders can apply the lens of Media and Information Literacy for all to Artificial Intelligence/Generative Artificial Intelligence (AI/GAI) to address its risks and opportunities in the information and digital ecologies. A special focus is on the empowerment of youth and highlighting issues of gender and cultural diversity. It also aims to provide recommendations based on Media and Information Literacy (MIL) principles and competences that can lead to concrete policy actions. This policy brief is also useful for civil society organizations and a variety of stakeholders, including media, digital platforms, and governments.

Generative Artificial Intelligence (GAI) is the driving most AI systems today. GAI systems can reorganize statistically the vast amount of content they are trained on (text, images, videos, etc.). They can produce outputs that conform to instructions (“prompts”) given by users. Such systems rely on foundation models (Jones 2023) and are currently being used by millions of individuals and institutions around the world, with tools such as ChatGPT gaining 100 million global monthly active users in two months.

AI systems provide numerous benefits to almost all aspects of our lives, such as health and education (Trust et al 2023), but they also raise concerns of oversight, regulation and ethics. Ethical considerations include monitoring misalignments on human rights principles, ensuring responsible and unbiased use, respecting intellectual property rights, and addressing potential societal implications (UNESCO 2022a). Research has shown, for instance, that AI tools and deepfakes, including those that use GAI, have generated disinformation and hate speech and presented them convincingly as credible to users (Ngo et al 2023). Such uses could have a deep impact on crucial moments of collective decision-making such as elections or public consultations.

Since the release of GAI in the public sphere, the heads of major digital labs have called for a “pause” (Future of life Institute 2023) and for “AI governance” (Open AI 2023) on the grounds that AI poses an “existential risk” to humanity because a super-AI could outwit humans, and program itself in ways that can contravene human interests and values. This request for oversight brings regulators and many other stakeholder groups and individuals into direct dialogue with digital platforms.

Many shapes of oversight are being considered, but the perspective of user empowerment has been underserved and underplayed. This can be mitigated through MIL strategies and policies, which are increasingly necessary to equip people with the pertinent knowledge, skills, attitudes and values not to only protect themselves from the risks but also to benefit from the opportunities that AI brings. Promoting MIL for all is both preventative and restorative and responds to the felt need to enable citizens to participate in the current discourses about AI use in their lives, thereby enabling them to influence AI developments and to hold AI accountable for its intended and unintended consequences.

MIL encompasses the various and evolving information, digital and media competencies required to navigate today’s increasingly complex communication environment. MIL empowers people with critical thinking skills and other necessary competencies (Figure 1).

**Figure 1: 7 Broad Non-exhaustive Media and Information Literacy Competencies**



Source: UNESCO, *Media and Information Literate Citizens: Think Critically, Click Wisely (Curriculum)*

I. The urgency of MIL for all in the face of Generative AI and synthetic media



**I.1 Why it matters**

**MIL matters when dealing with GAI because this rapid change – via a variety of user-friendly, relatively inexpensive, and easily accessible applications – in the information and communication sectors brings forth the importance of teaching and training people to use synthetic media and interact with non-human agents in their everyday life activities.**

Users have progressively been exposed to narrow AI, created for specific tasks (Schlegel and Uenal 2021), some of which are directly related to social media and streaming platforms. They are increasingly exposed to general AI. GAI, a form of general AI, is based on foundational models such as large language models (LLMs) that are pre-trained with massive databases containing millions of documents – including social media contents (Bryant 2023). Users also have to deal with synthetic media, defined as video, text, image or voice content that has been generated in whole or in part by computer manipulation and modification of data (Stieglitz et al 2022). Looking at the timeline of media and AI evolutions, the increasing convergence between the two domains points to the emergence of another massive shift in the digital communication ecology. (Figure 2. Media and AI timeline).

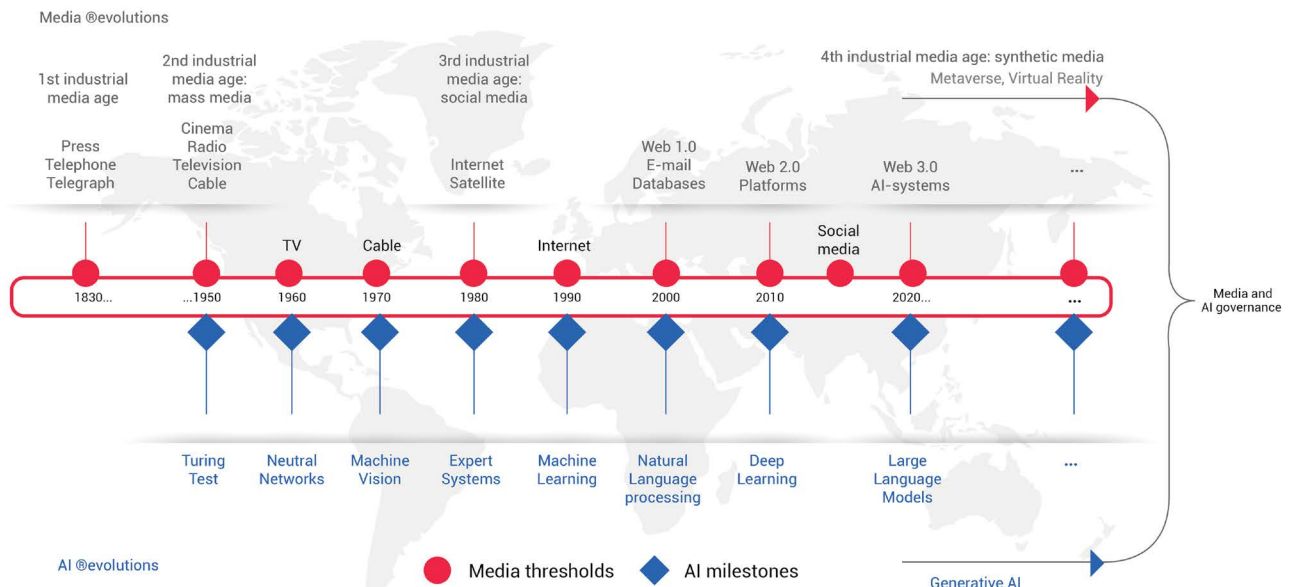


Figure 2: Media and AI @evolutions timeline

This convergence culminates with Artificial Neural Networks, which can modify their internal structure related to a functional objective (Grossi et al 2008), and Deep Learning, interpreted as a layered structure that tries to replicate the structure of the human brain (Möeller 2023). They are being used to make significant improvements in areas related to image recognition and generation, text and image classification, identification of objects, data curation and algorithmic recommendation and prediction. The terms AI and GAI are thus used interchangeably in this policy brief.

Consequently, five major areas, with their attendant pitfalls, are currently reaching fruition that affect the media ecologies and consequently MIL: customer interaction (virtual assistants), decision making (recommender systems), analytics (opinion mining, personalized learning), prediction (detecting people’s gender, race, age, etc.) and communication (synthetic media, virtual reality experiences). An example of the latter are the popular GAI systems shaped as “Generative Pre-trained Transformers” (GPT). Familiar brands are available on the market, such as Google (Bard), Open AI (ChatGPT), Microsoft Copilot (formerly Bing Chat, uses GPT-4), as well as new entrants such as MidJourney, Anthropic (Claude 2), Open AI (DALL·E 2) and Stability AI (Stable Diffusion). These so-called conversational and text-prompted visual “AI assistants” are becoming embedded in many household goods and all kinds of information services. For instance, they can help users to draft briefs, write scripts or generate images that produce lifelike photographs that do not always have a counterpart in the real world – making them hard to trace.

This generalization has the potential to revolutionize the very idea of information as a public good - amplifying it for more knowledge benefits or privatizing it behind “black boxes” (UNESCO 2021a). This urgently calls for AI-literacy to inform people in their non-technical daily uses and interactions with mass, social and synthetic media as they affect information, education, and culture. It puts AI-literacy within the remit of Media and Information Literacy, as MIL can enlighten the interrelationships between media and data and use familiarity with prior methods to facilitate knowledge acquisition on this new rapidly evolving topic. This process of familiarity could make AI-literacy less daunting to educators and learners as it can be set within a learning and teaching continuity rather than requiring a huge leap in training and upskilling.



## 1.2 What shared vision?

***For MIL, the response to GAI consists in incorporating AI literacy as a subset of nested literacies (data-, algorithms, and AI-literacy) to ensure familiarity for educators and learners.***

Currently, AI literacy is still in its infancy and comes in the wake of “data literacy” and “algorithmic literacy”. Critical data literacy focuses on understanding data and tends to concentrate on privacy and consumer protection (Nguyen and Beijnon 2023). Algorithmic literacy focuses on awareness as well as selection, organizations and presentation of content (Droguel, Masur and Joeckel 2022), and posits that “Algorithmic literacy — a subset of information literacy, is a critical awareness of what algorithms are, how they interact with human behavioral data in information systems, and an understanding of the social and ethical issues related to their use” (Head, Fister and MacMillan 2020).

A limited body of literature also assesses budding AI literacy, outside computer science-centric approaches for STEM specialists. Some researchers consider the competences users need to interact effectively with AI, and to design learner-centered AI technologies and methodologies (Long and Magerko 2020). The definition most directly akin to MIL posits that AI literacy is a “set of competencies that enables people to critically evaluate, communicate and collaborate effectively with AI” (Hargittai et al 2020). In this case, the emerging examples of AI literacy courses include content very similar to that found in the plethora of MIL courses and resources that exist globally.

Researchers of such nested literacies confirm the urgent need for education and training and point to major gaps. They call for more algorithmic literacy tools and resources to help young people and adults at large acquire the knowledge they need to protect themselves and their information in digital spaces. In the education field, additional challenges are observed: “(1) lack of AI knowledge, skills, and confidence among teachers; (2) lack of curriculum design; and (3) lack of teaching guidelines.” (Su et al 2023).

These approaches tend to confirm the strong linkages between data, algorithms, and AI as nested literacies. They also confirm that they can be part of the MIL paradigm as they promote critical thinking about data and foster ethical and social uses of information and AI tools. Rather than treating them as separate literacies, their inclusion in MIL encompasses the whole information-communication chain, from the production system to the users' consumption. This holistic approach is characteristic of MIL as a transliteracy (Frau-Meigs 2012) that responds to the felt experience of people as they navigate information cultures (media, documents, data), build their knowledge, form their identities, and make their choices (Figure 3: AI-literacy in the scheme of MIL).

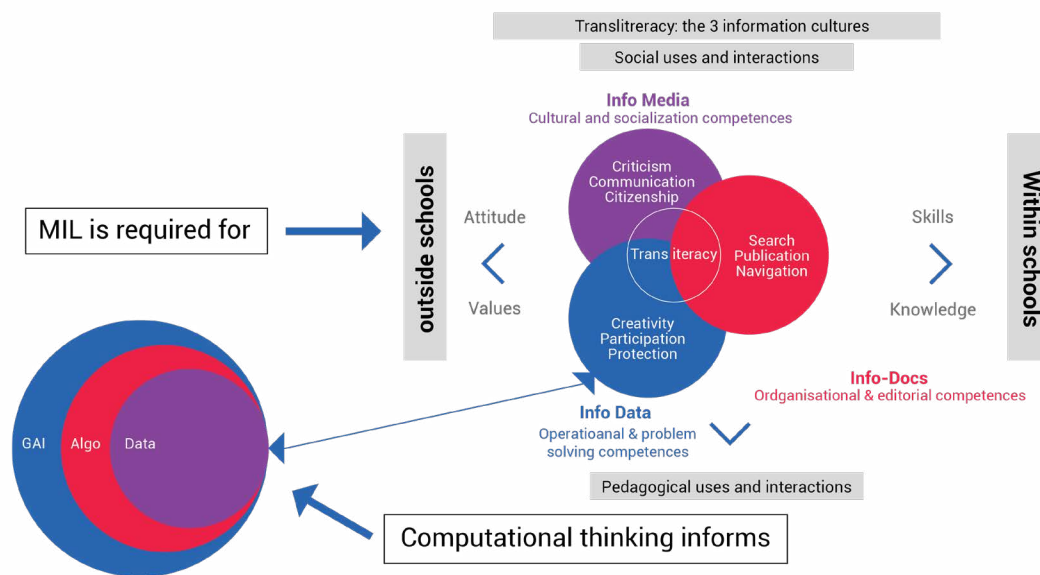


Figure 3: AI-literacy in the scheme of MIL

***To foster user resilience, MIL can provide solutions on why and what to teach and learn not only for children and youth but also for adults whose everyday uses, attitudes and values are affected by the rapidly evolving pace of AI-systems. This holistic approach calls for a shared vision in the formulation and implementation of public policies to allocate the proper resources to support the empowerment of people through AI/GAI.***

## II. Opportunities for MIL with AI/GAI

***For MIL, the expanded scope of AI/GAI bolsters users' empowerment by promoting civic agency (access to information, freedom of expression, synthetic media ethical uses, etc.) and employability (lifelong learning, creative industries, etc.)***

Media and Information Literacy has often been legitimized on the grounds that it nourishes citizenship. That is, it promotes civic agency and the ethical use of media and information for better participation in societal affairs. Increasingly though, the productive and participatory nature of media has opened another point in favor of MIL legitimacy: employability in a fast-evolving labor market that calls for creativity and human-media-machine interactions. Employability, defined as “an individual’s (perceived) ability to obtain and maintain employment throughout his or her career” (Römngnes, Scoupe and Beausaert 2020) relies on educational preparedness, which can then lead to all kinds of entrepreneurship. These two prongs, civic agency and employability, are deeply modified by AI/GAI and, in turn, modify the way to think about and operationalize MIL.

The rapidly increasing use of GAI systems, their commercialization and their purported democratization can be seen as serving both citizenship and employability within the MIL framework of critical and creative thinking. They can enhance creativity in the production of media materials, from copy-paste to copy-create,

with low barriers to content creation and diffusion. They can augment interactions with robots, sensors and captors as well as chatbots and AI-assistants.

Such democratization affects the inter-related fields of MIL such as information and communication sciences, library and documentation sciences, journalism as well as data sciences and creative industries. It has far-reaching implications for individuals and society as a whole, as more personalized digital media on the rise, changing the way users communicate with each other, to learn, to work and to entertain themselves.



### II.1 Civic agency

MIL responses to GAI systems and services can facilitate citizens’ autonomy and users’ agency in various fields and their related policy areas, such as information retrieval, social and synthetic media engagement, collaborative verification and annotation, not to mention speech recognition and translation (Table 1: GAI advancements and MIL responses for civic agency).

Advancements	Policy areas	MIL responses
Information search and access	Quality of data control	Empower users to ensure diversity in search, such as results with gender perspectives
Social media participation	Freedom of expression	Stimulate ethical use and the capacity to promote and protect human rights, including freedom of expression and gender equality
Synthetic media creation	Creativity, innovation	Stimulate critical awareness and ethical use
Voice recognition, computer vision	Accessibility for people with disabilities, non-discrimination	Help understand gaps – losses and gains in human digital technology interaction
Speech to text, text to image, automated translation	Inclusion, intercultural dialogue, cultural diversity	Foster appreciation for translating texts from one medium to the another (or one language to another); acknowledge dangers involved with changes in messages and media
Cross-referencing of multiple sources, collaborative verification, annotation	Participation, contribution	Encourage appreciation of how digital technology can support research; empower citizens to avoid AI-generated problems during elections and key public moments

Table 1: GAI advancements and MIL responses for civic agency

Several types of MIL actors stand to benefit from such AI reinforcement and democratization, mostly (public) broadcasters, journalists, educators and librarians who deal with information overweight (in the shape of news, documents and data). Publishers, broadcasters, and online media platforms can host and distribute synthetic content created by users. Conversely, they can broadcast their own productions and use AI to assist them in several expanding domains such as search, indexing assistance, speech-to-text, etc., as well as manage multi-channel content that is ever expanding across several channels.

The work of journalists is complex and indispensable to society. There are many ways that AI can help journalism. One simple aspect is freeing them from repetitive tasks that require the management of large quantities of data, such as localized weather forecasts that can be presented by synthetic avatars for instance. Journalists can better serve their readers by carrying more complex and longitudinal investigations, using databases to uncover deep trends such as tax evasion in tax havens in the case of the “Pandora Papers” investigation conducted by the International Consortium of Investigative Journalists. Journalists can engage citizens in critical reporting about AI, exploring power relationships between digital platforms and authorities, and conversely, inquiring about the risks of digital exclusion and the violation of human rights due to AI (UNESCO 2023b).

Educators (teachers, librarians, youth workers) are another MIL community that can benefit from the ability to cross-reference of multiple sources, collaboratively review, annotate, and translate. Increasingly, the AI-powered tools of journalists and fact-checkers are being extended to teachers, researchers, and civil society activists. Such actors are becoming more proficient in combatting disinformation and promoting citizenship as exemplified by projects such as Crossover (<https://crossover.social>). One implication is that integrating MIL into media policies and programming can help to rebuild trust in media and journalism, thus contributing to media viability and sustainability. It can also engage social media influencers in sending positive and ethical messages about GAI changes (UNESCO 2019).



## II.2 Employability

Similarly, embedding MIL in digital training can empower digital entrepreneurs online. The generations whose jobs are being affected more rapidly than predicted need to upgrade their competences or risk being marginalized. And those most at risk are women. In addition, people from minorities and with lower incomes (OECD 2023). The competences offered by MIL – whether in information management, critical thinking or creativity – can thus address the current gap between training and employment that plagues labour conditions increasingly based on media and ICTs. They can complement ICT skills in the workplace as many companies and organizations address the transition to digital literacy. They can support inclusion and help fight poverty, deprivation and marginalization, if supported by adequate policies.

MIL responses to GAI systems and services can facilitate people’s employability in various fields and their related policy areas, such as higher education, e-learning and creative industries (UNESCO 2023b). MIL education is affected by synthetic media as AI systems help “mediatize” learning and e-learning, as exemplified with AI video creation platforms such as Synthesia or Pictory (Table 2: GAI advancements and MIL responses for employability)

Advancements	Policy areas	MIL responses
Learning analytics	Lifelong learning, continuous education	Support awareness of data rights, protection, and redress; early detection of learning problems
Teaching methodologies: data visualization, avatars, gamification	Curriculum design, course designs to support teachers and learners	Aid logical learning through multiple media based on reasoning, causes and effects; learn through interaction linking formal and informal settings
Variability across various types of learners	Inclusion, diversity	Bring to the attention of all the urgency to ensure media and information literacy and digital competences for all.
Enhanced feedback	Participation, contribution	Encourage critical analysis of digital engagement (gains and losses); call attention to usefulness of the co-creation of MIL content, and content in general
Multiple personalized pedagogies	Education, lifelong learning	Stimulate awareness of how individual background and experiences interacts with messages, and forms of media used; foster co-design of learning projects (including MIL)
Platforms for music and video content creation	Creative industries, culture	Foster greater user intervention and participation in culture; stimulate audience engagement and women’s engagement

Table 2: GAI advancements and MIL responses for employability



Several types of MIL actors can benefit from such AI advances, in education and culture. MIL educators, in schools and universities, can train learners to recognize synthetic media when they encounter it, which may imply teaching them to master prompts, the art of designing queries that will yield valuable outputs. Such exposure to AI-produced content can be provided through active pedagogies that entail having a hands-on approach to the tools offered for teaching and learning, such as the ones favored by MIL course designs. They can enhance employability by making students and educators aware of the constant upskilling needed in the digital workforce.

Artists, designers and creative workers in television, cinema and game sectors can access additional creative perspectives, as AI systems provide them with visibility and readability of the brain. They can work with new relationships to memory, imagination, and the ability to engage users and their interactions in very inclusive ways. A.I.-writing apps, for instance, use customization to help authors (with samples of their own writings) to increase the quality of their online content. Synthetic media art and fiction can be created by trading palettes for algorithms and screens, and new entrants such as amateurs can gain access to cultural production and consumption.

These different MIL responses point to the need for professionals and users at large to adjust to different media and modify their interactions with different situations, experiences, and tools. The institutions of culture and education need to evolve accordingly, to prevent workforce gaps and to support creative forms of contribution and content creation that are accessible to a larger number of people. This is an opportunity for MIL in schools and universities, in libraries and museums, and in the workplace, to address a specific digital divide: the gap between STEM and non-STEM fields, in the Humanities and the Arts, where the notion of humanity is of paramount importance.

### III. Challenges and risks for MIL with AI/GAI

***For MIL, the risks of GAI impair users' empowerment by undermining citizenship (on issues such as disinformation, surveillance, privacy, ethics, etc.) and eroding employability (pseudo-science, source reliability, copyright, intellectual property, etc.).***



#### III.1 Civic Agency

One major concern associated with GAI comes from the fact that it is a technology in which algorithmic experimentation is carried out without understanding, that is via the sheer might of computational calculations. This is in contrast to the experiments of human intelligence where the search for understanding is the main drive. Another disturbing fact about synthetic media is how the act of creation is separated from the thought processes and the emotions involved in writing and visualizing. The efforts of human knowledge building and transfer that went into such creation – and still go into it – should not be underestimated and undervalued, let alone disappear. GAI systems should be design with such values in mind the very beginning, and should comply with universal human rights.

The major risk to information lies in GAI-produced and distributed disinformation, which can be automated through untraceable deepfakes, just a click away. This can lead to other disorders, such as producing automated content that is not gender-sensitive and racially biased, thus further reinforcing existing gender stereotypes and racial profiles (Ngo et al 2023). Factors driving gendered disinformation and its negative impacts (United Nations 2023), news personalization (Van Drunen et al 2022), hate speech (Henderson et al 2023), revenge porn (Garon 2023) or data theft (Wach et al 2023), as well as collective risks such as electoral fraud (Srivastava et al 2023) and mass surveillance are other concerns, where MIL responses tend to overlap with human rights protection.

MIL responses to GAI risks can foster users' agency in various fields and their related policy areas, such as freedom of expression, data privacy, commercial concentration and surveillance (Table 3: GAI risks and MIL responses). These risks predated AI, but GAI has exacerbated them, making them more complex to address (UNESCO 2023c).

Risks	Policy area	MIL responses
Existential/proliferation	Geopolitical competition ethics	Enable emphasis on self- and co-management; take stock of misaligned values such as on gender equality
Concentration/Monopoly	Lack of level playing field, of fair competition and therefore of pluralism in the digital ecosystem	Stimulate understanding of the importance of diversity and pluralism in information and digital technologies
Spam, intrusive advertising	Lack of quality data and content	Empower users to know how to seek redress, hold actors accountable
News personalization	Lack of diversity	Alert to filter bubbles and echo chambers
Disinformation/Deepfake	Loss of trust, loss of freedom of expression and access to reliable information	Support learning of diverse fact checking strategies
Algorithmic Bias	Racism, social manipulation, inequalities, discrimination	Train users to identify biases; some are inherent and afford mitigation techniques
Hate speech and cyberbullying	Defamation, loss of freedom of expression	Help to identify debunk, and offer counter narratives and defend freedom of expression, dialogue, tolerance and ethics
Revenge porn	Visual label and abuse, invasion of privacy	Enable emphasis on self- and co-management and user redress based on regulations
Elections fraud	Democratic disruption, loss of voter integrity	Enable user awareness and engagement, signalling, verifying, and safeguarding
Data theft	Personal data violation, automated job loss	Empower through data rights awareness, privacy skills and how to seek redress
Mass surveillance	Invasion of privacy, loss of security, censorship	Stimulate awareness, independence, and transparency
Environmental footprint	Sustainable development	Raise awareness on pollution caused by AI materiality (minerals, chips, data servers...)

Table 3: GAI risks and MIL responses for civic agency

There is no sure-proof system for training an AI system to consistently refuse to produce disinformation or take harmful actions. Researchers have demonstrated the possibility of “jailbreaks” – special queries that can induce unintended responses from AI systems – and shown that they could bypass the barrier protections of LLMs providers (Zou et al 2023). The lack of safeguards puts many MIL actors at risk, as journalists, educators, and participants in media cultures at large find themselves faced with uncertainty about the content they access and use to make decisions. AI can thus undermine social cohesion and collective rights. User engagement and agency are also at risk as trust is eroded and the polarization of audiences and communities could be amplified within synthetic echo chambers.

MIL actors are responding in a variety of ways to empower users. They can rely on media watchdogs like *Newsguard* that monitor synthetic media via their AI tracking center. As of September 2023, it identified 450 AI-generated news and information sites operating with little to no human supervision (<https://www.newsguardtech.com>). *Newsguard* also makes their tools available to schools, public libraries, and universities for MIL purposes.

Users can also choose media that are transparent about their AI practices, with newspaper groups publishing their AI guidelines, or labels to identify AI assistance (Shane et al 2021). This need for ethical standards has led to initiatives such as the Partnership on AI (PAI) which has published “Responsible Practices for Synthetic Media” as recommendations to support the responsible development and deployment of synthetic media, working with representatives from tech platforms, civil society, journalism and academia (Partnerships on AI 2023).

Users can also benefit from reverse engineering solutions, with AI systems that detect AI, such as GPTZero focusing on ChatGPT (<https://gptzero.me/>). Moreover, they can rely on teams of journalists, fact-checkers and data analysts, who have developed some AI tools to fight disinformation and Coordinated Inauthentic Behaviour (spread of disinformation in a coordinated fashion via social media). Vera.ai, for instance, is an AI deepfake detection tool, which offers various services including audio forensics and a repository of previously debunked contents (<https://www.veraai.eu/>).

Users can also train themselves with online global courses, such as the one offered by the Finnish university of Helsinki, “Elements of AI” ([elementsofai.com](http://elementsofai.com)) that has been consulted by participants in 170 countries. UNESCO provides a course on “Defending Human Rights in the Age of AI” that is available in 25 languages (<https://www.edapp.com>); it also has included a module specially dedicated to MIL and AI in its resource “Media and Information Literate Citizens: Think Critically, Click Wisely (MIL Curriculum for Educators and Learners)” (UNESCO 2021c).



### III.2 Employability

The risks of GAI for employability are more difficult to ascertain. They can be direct, linked to the quality of information for teaching and training (pseudoscience, plagiarism affecting the validity of degrees and qualifications...) as well as the impact of the attention economy on users.

They can be indirect, at work, in creative industries, due to the lack of competences and upskilling and devaluation of the humanities as opposed to the STEM fields. Working conditions can be impacted as well with data collection, loss of privacy or surveillance at work, not to mention the threat of job loss or displacement by automation. Furthermore, the gender gap may be widen, according to UNESCO’s report on the “Effects of AI on the working lives of women” (UNESCO 2022b), noting, for instance, the persistence of AI voice assistants projected as young women.

The changes in the job market propelled by GAI require workers to acquire new digital skills through education and lifelong learning. Not being able to be competent in critical, civic and creative thinking can incapacitate people, maintain them in poverty or marginalize them. Besides, the misuse of information that becomes permeated with pseudo-science, “hallucinations” (Wach et al 2023), and misinformation (Lo 2023), where plagiarism and copyright infringements (Vincent 2022) can be detrimental to acquiring ethical attitudes in the face of news, data or documents (Figure 4: GAI risks and MIL responses for employability).

Risks	Policy area	MIL responses
Robots and automation	Loss of jobs, displacement	Enable awareness of benefits and limitations thus need for monitoring and assessment
Job search and hiring bias	Gender inequality, stereotypes	Afford people competences to detect gender discrimination and stereotypical representation in information and content
Work performance monitoring	Gender inequality, loss of privacy	Help identify gender gap and persistence of stereotypes; alert to data privacy
Plagiarism	Loss of academic integrity	Emphasize ethical uses of information and digital technologies
AI Hallucinations and errors	Research and education	Enable emphasis on self- and co-management; resist AI imaginaries and myths
Pseudo-science	Research and education	Reinforce trust in scientific enquiry through links with basic science literacy
Source reliability	Lack of level playing field, of fair competition	Emphasize ability to assess and engage in information life cycle
Intellectual property and Copyright	Theft of authorship, loss of fair compensation	Stimulate ethical use and promotion of authorship and respecting IP rights

Table 4: GAI risks and MIL responses for employability

MIL actors are responding in a variety of ways to such risks. In terms of access to quality information and a healthy online environment, source reliability has become a MIL issue linked to critical writing, fact-checking and trust-worthy indexing. Source reliability is critical to building trust in learning, searching and research, in academia as in other fields such as journalism. It can directly affect employability if workers are not trained to produce reliable, verified, evidence-based content.

Teachers, librarians, editors or publishers lament the absence of reliable systems or standards to help them and their students to state clearly their uses of AI tools and provide proper attribution. Yet, GAI creates another stratum of sources, beyond primary and secondary sources, that could be termed “tertiary sources”, in order to distinguish them from the first two traditional ways of stating evidence and to find means of identifying them as partly or fully AI-generated. Some solutions are being offered to warn users, mostly by digital platforms, such as content labels, watermarks, or context notes about what kinds of synthetic content are permissible to create and/or share but there are no common standards across platforms.

The issue of source reliability and integrity raises another concern, linked to copyright infringement, as content on which the AI-systems have been trained is taken from databases to which creators have contributed without explicit consent, failing to compensate real creators for their time and experience. Copyright and intellectual property issues are being raised by the creative workforce, with movements such as “No to AI generated images” or the unprecedented and protracted strike by the Writers Guild of America, protesting against the chilling effects of such practices on their jobs and careers, fearing displacement and overuse of their creative work without fair compensation.

These ethical issues are part of MIL as young media users need to understand that creative work relies on fair compensation in the information and knowledge societies, especially in terms of their own future employability. The protection of intellectual property rights and the reliability of sources are crucial for a healthy communication system and for information as a public good.

#### IV. MIL considerations for user empowerment in AI/GAI : user awareness and competences

***MIL can foster user awareness with critical and creative thinking on various issues: digital divide, digital gender divide, AI concentration and ownership, AI imaginaries, interactions with synthetic media and non-human agents and robots.***

MIL strategies need to raise awareness of the risks of AI proactively or unintendedly trained to produce harmful content and carry out harmful actions (i.e., actions that are not aligned with human values and rights). They support human rights principles and sustain the civic agency of users to prevent the greatest danger of all, the threat to democratic societies and human autonomy. To establish a certain degree of MIL readiness for current and future challenges arising from GAI, massive campaigns of sensitization of the public can be conducted, possibly using AI-powered tools and platforms that could allow for translation and localization. Sustaining wide-scale MIL for all programs, via massive online courses for instance, can also empower many individuals of all ages and nationalities. Ultimately, MIL with AI should be treated as a basic literacy, from K1 to K12, that young people need to live, learn, work and create in a digital environment.

Additionally, significant gaps remain in designing and implementing gender equality specific MIL training courses that foster gender responsive and gender transformative interventions (especially awareness-raising materials to fight AI-generated gender bias). This reality also applies to digital skills training, as demonstrated in “I would blush if I could” (UNESCO 2019) and persists in emerging AI literacy courses. Users must be enabled to understand and question the gaps between men and women’s contribution to the development and use of AI (UNESCO 2020). MIL can help raise people’s awareness of the gendered implications of AI, and empower citizens to advocate for the positive applications and benefits of AI for women’s empowerment.

Designing a MIL-compatible AI competence framework involves spelling out the MIL competences for AI/GAI distributed along four categories: knowledge, skills, attitudes and values, so as to empower educators and policymakers to evaluate the impact of such interventions and establish much-needed baselines for evaluation

**1/** knowledge: identifying AI (potentials and risks), recognizing geopolitics of AI (actors, ownership, motivations), assessing consequences, and formulating responses to information benefits (LLMs, chatbot and AI-assistants...) and information disorders (hate speech, disinformation...), monitoring the ecological footprint of GAI systems.

**2/** skills: using AI-tools responsibly, navigating websites and quality databases, comparing search engines, discriminating across mass, social and synthetic media, interacting with non-human agents and objects, curating and verifying information sources, mastering copy-creating tools and prompts.

**3/** attitudes: critically and creatively interpreting data, their uses and algorithms effects, identifying and reporting harmful content (violence, hate speech, porn, disinformation...), avoiding systemic risks (manipulation, virality, automaticity, data privacy, data theft...), acknowledging one's own preconceptions, myths, representations and imaginaries, devising counter-narratives to disinformation and communicating with others.

**4/** values: advocating for freedom of expression and opinion, promoting gender equality, supporting privacy, participation, intellectual property, engaging in promotion of quality information and data-bases, opposing mass surveillance and fostering security and wellbeing.

Table 5: MIL-compatible AI competency framework

## V. Promotion and Protection of MIL in the face of AI/GAI governance: public policy responses

***MIL can support policy responses and principles by enabling users to proactively contribute to the monitoring and policy-shaping of explainable AI, and by encouraging them to enter in dialogue with other stakeholders for better AI governance and healthy knowledge societies.***

Although digital platforms have made strides in AI safety, the safeguards put in place can be intentionally or unintentionally breached and put to unethical use. The lack of human oversight and control can create damaging distrust in the computer technology, in the institutions and actors that promote it, as well as in professional media and other established institutions of governance (governments, state entities, intergovernmental organizations, etc.). The current responses by other stakeholders show emerging frameworks of AI governance policy at global and national level, as AI platforms and tech companies either resist or call for co-regulation.

Different frameworks are in the making, with a larger multi-stakeholder perspective. The UN is establishing a Multistakeholder Advisory Body on Artificial Intelligence as part of the Secretary-General's "Roadmap for Digital Cooperation (A/74/821)". Its purpose is to advance recommendations for the international governance of artificial intelligence. UNESCO is developing "Guidelines for Safeguarding Freedom of Expression and Access to Information in the Governance of Platforms: A multistakeholder approach" (UNESCO 2023d). The user empowerment component of these guidelines is being operationalized through the development of a "Multi-stakeholder Action Plan to Integrate Media and Information Literacy in Digital Platforms Strategic Plans, Policies and Products" (UNESCO 2023e, unpublished).

Most frameworks (with the exception of UNESCO's) tend to focus on risk management and transparency and to ignore issues of MIL education, making very vague mentions in broad strokes to education as a human-centered way of integrating AI into society, without details for implementing and funding it. Among these frameworks, the principles most akin to user empowerment and most related to MIL are connected to accountability and explainability. They are the most likely to provide the checks and balances to counteract the risk that AI poses to AI governance: the worsening of governance because of unintended results, internal instability and existential threat to humans, including the transfer of government decision-making powers to robots and their human enablers.

Explainability requirements are increasingly emerging for the benefit of users. AI Explainability (or XAI) overrides the “black box” myth –and anthropomorphic imaginaries of “intelligence”, “hallucinations”, etc.– by presenting technical information in a form understandable to specific user categories, so that they can check if it meets their needs (Sajid et al 2023). XAI provides specific explanations that can pave the way for audits and evaluation metrics. These could provide a means for some sections of the general public (users, researchers, governance bodies or auditors) to ensure that principles such as fairness, equality, diversity, safety and privacy are applied, and, if not, to take actions such as claims for effective remedy (both legal and non-judicial).

MIL can add explainability to its repertoire of notions, as it provides insight into issues of transparency and accountability that are traditionally difficult for users (Ananny and Crawford 2018). Explainability can also be introduced into MIL curriculum design, along with the additional notion of interactions with non-human tools and objects (Long and Magerko 2020). These principles of AI/GAI governance should also be mainstreamed in the various industrial and societal sectors in the form of guidelines and standards, as exemplified by the UK Information Commissioner’s Office (ICO), which published its “guidance on explaining decisions made with AI”, with specific mention of data use, fairness in design, safety, and impact.

However, without active appropriation by citizens, these frameworks will have limited impact and will not be sustainable. Unless citizens are aware of their existence and intended benefits, they cannot act as AI watchdogs with their own trusted third parties. User representatives, such as those found in MIL community actors, and civil society in general, should be included in the regulatory mechanisms being considered for GAI. They can partake in the discussions occurring at the local, national, and global levels concerning AI Governance and can be seen as assets in the implementation, deployment, and monitoring of AI governance.

Government regulators are currently woefully underprepared to take over the stewardship and oversight of AI in order to draw proper regulation. Furthermore, there are regulatory risks, the risks of inaction or lack of implementation and enforcement. At public action level, public policy makers should take greater steps to educate themselves on the latest AI developments, to be able to apply the appropriate safeguards and monitoring tools. This awareness has led 32 countries in Africa to request UNESCO’s support in policy standard setting and capacity building, leading to the provision of “a decision maker’s toolkit of AI” (UNESCO 2023e). Civil servants and policy makers can also benefit from MIL training and resources (UNESCO 2021c). UNESCO has also launched the “Deep Dive for Policymakers in Media and Information Literacy” MOOC, to support much needed training (UNESCO 2023f).

### Conclusion

The implications for policymakers have to do with their embracing the full scope of their stewardship on AI, which even their creators call for. Such stewardship can be fostered by ensuring that:

1. safeguards and guidelines for trustworthy AI are created and monitored,
2. users can be trained in the MIL competences that have been developed,
3. information quality is preserved, with explainability and relevant data sets,
4. human-centered control remains in the hands of humans, aligning AI objectives on human rights and focusing AI systems on pressing pro-human issues such as the environmental crisis and the digital divide.

Putting the onus of training and awareness on the sole individual is an insufficient solution and must be accompanied by systemic and structural changes to the AI/GAI market. Governments should support user advocacy to promote fair competition, prevent potential geopolitical strife, and ensure that data privacy laws are effectively implemented. Governments should also ensure that GAI developers prioritize ethical considerations such as privacy, accountability, and security in the design of their systems. They have to restore trust and goodwill among users with respect to information and data by curtailing social manipulation and surveillance. They also have to pay attention to the wellbeing of the growing audiences and communities using synthetic media.

Looking at AI through the lens of MIL yields renewed perspectives on how to deal with AI governance and restore trust in media and information. Scaling up citizens' agency and resilience is key to democratic societies capacity to harness the benefits of data, algorithms, and AI while reducing their negative effects on information quality and transparency. Tying such training to problem-solving activities, in everyday life, can lead to better sense-making practices that incorporate crucial algorithmic and AI concepts. MIL education for the whole citizenry can foster such capacity-building and coalition-building without starting from scratch or reinforcing silos. MIL can help bridge the digital divide by providing solutions between STEM and Non-STEM sectors, training technical and non-technical people to master the basic concepts needed to use AI proficiently, safely and ethically.

Ultimately, with and beyond AI-systems, the goal for humanity is to construct viable and sustainable knowledge societies with collective intelligence – an environment in which ensuring media and information literate citizens is an imperative.

## 10 Key recommendations for MIL, AI literacy and AI governance

1. To convene a high-level group to spell out the overarching principles of AI literacy basic core curriculum within a holistic human-centric MIL foundational perspective, from K1 to K12, emphasizing gender equality and non-racial discrimination perspectives in the context of disinformation and hate speech.
2. To develop strategic priorities for MIL/AI in education, culture, gender equality and youth ministries and authorities for management and evaluation of AI-literacy programs, with proper guardrails for educators and learners.
3. To adopt and adapt Explainable AI standards and guidance in MIL education design and policy and apply them to the EdTech and any actor proposing AI-literacy solutions.
4. To offer a global MIL portal with training resources for educators (teachers, librarians, youth workers, women networks, etc.) to enhance capacity-building and scalability of MIL, via on-line materials aligned on AI Open Educational Resources.
5. To bridge the AI digital divide and digital skills gender divide by fostering localization of MIL programs with AI so as to help various communities (women, youth...).
6. To foster diversity and inclusion by embedding the measures of impact on diversity and inclusion in the early design of MIL resources and integrated materials for AI-literacy.
7. To create a global MIL observatory to fund research and development in a sustainable way so as to produce evidence and baselines about people's learning about AI-systems contribution to well-being, education and society
8. To support the global UN Oversight Body on Information and AI, with all stakeholders, including the MIL community, for regular reporting and monitoring on MIL.
9. To submit an official UNESCO recommendation (to be launched during Global MIL Week 2024) about "user empowerment with MIL and AI", for global public dialogue on trust and explainable, dependable AI governance.
10. To hold a cross-sectoral event at UNESCO to review source reliability issues with major stakeholders from all sectors, especially civil society and NGO sector (IFLA, IAMCR, MILID, WAN-IFRA...) to ensure the integrity of Knowledge Societies in the future.

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Published in 2024 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris 07 SP, France and UNESCO Field Office / UNESCO Institute  
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CI/FMD/MIL/2024/3



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