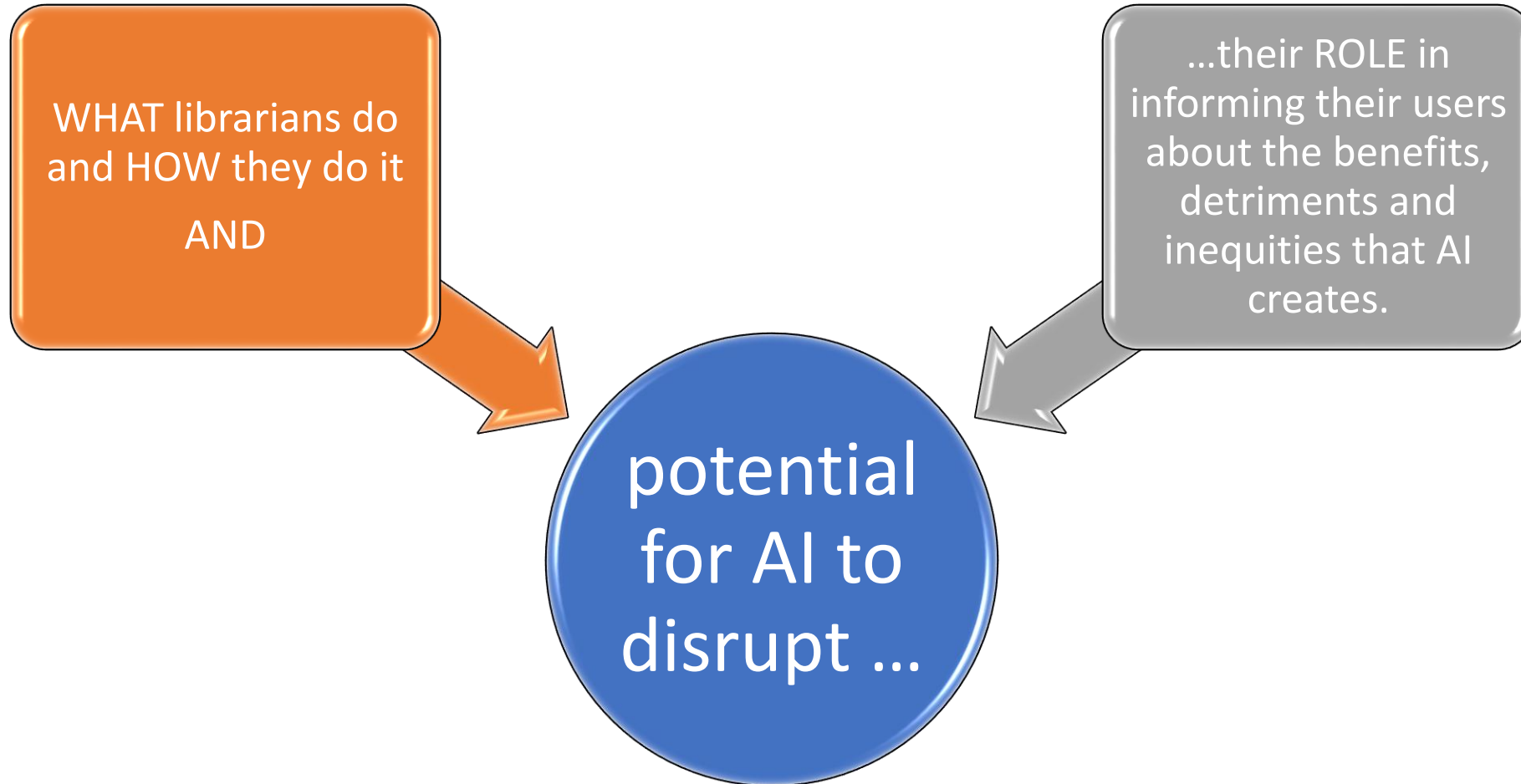


International Insights on AI Literacy

Clara M. Chu <cmchu@Illinois.edu>

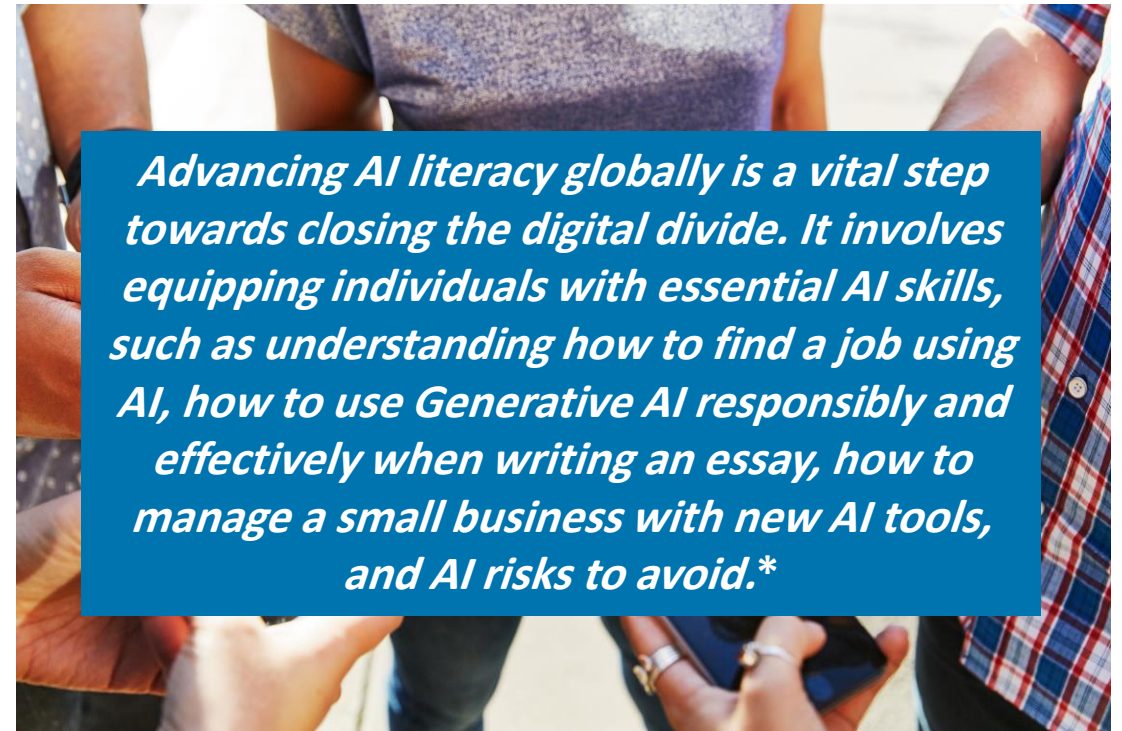
Mortenson Center for International Library Programs
University of Illinois at Urbana-Champaign
United States



=> You/Us?

AI is rapidly changing how people learn, create content and access information.

- For example, for everyday users able to afford a smartphone, AI has been seamlessly incorporated to enhance their use, such as organizing their photos based on image recognition, so that they are using AI without much question.



* = AI literacy and the new Digital Divide - A Global Call for Action. <https://www.unesco.org/en/articles/ai-literacy-and-new-digital-divide-global-call-action#:~:text=It%20involves%20equipping%20individuals%20with,and%20AI%20risks%20to%20avoid.>

=> libraries/librarians?

- While librarians have some awareness of AI, in order to keep up, libraries have adopted diverse strategies, from training existing staff, to hiring new staff with a computing background, to buying turnkey solutions.





• However, an area that libraries can play a critical role in is teaching AI literacy.



FIVE LAWS OF MEDIA AND INFORMATION LITERACY (MIL)

LAW 1
 Information, communication, libraries, media, technology, the Internet as well as other forms of information providers are for use in critical civic engagement and sustainable development. They are equal in stature and none is more relevant than the other or should be ever treated as such.

LAW 2
 Every citizen is a creator of information/knowledge and has a message. They must be empowered to access new information/knowledge and to express themselves. MIL is for all - women and men equally - and a nexus of human rights.

LAW 3
 Information, knowledge, and messages are not always value neutral, or always independent of biases. Any conceptualization, use and application of MIL should make this truth transparent and understandable to all citizens.


LAW 4
 Every citizen wants to know and understand new information, knowledge and messages as well as to communicate, even if she/he is not aware, admits or expresses that he/she does. Her/his rights must however never be compromised.

LAW 5
 Media and information literacy is not acquired at once. It is a lived and dynamic experience and process. It is complete when it includes knowledge, skills and attitudes, when it covers access, evaluation/assessment, use, production and communication of information, media and technology content.

United Nations Educational, Scientific and Cultural Organization

Alton Grizzle and Jagtar Singh

UNESCO Five Laws of Media and Information Literacy
<https://www.unesco.org/en/media-information-literacy/five-laws>



**What does it mean to be
AI literate in an
international context?**

AI literate in an *inequitable* world

- AI is being experienced and accessed differently in an inequitable world. What do we need to know to be AI literate in a world of haves and have-nots?



- *What are the basic AI literacy elements that we should know and teach worldwide, and are there different perspectives and approaches we need to use internationally?*



Table 1. AI competency framework for students

Competency aspects	Progression levels		
	Understand	Apply	Create
• Human-centred mindset	• Human agency	• Human accountability	• Citizenship in the era of AI
• Ethics of AI	• Embodied ethics	• Safe and responsible use	• Ethics by design
• AI techniques and applications	• AI foundations	• Application skills	• Creating AI tools
• AI system design	• Problem scoping	• Architecture design	• Iteration and feedback loops

Miao, Fengchun and Shiohira, Kelly. *AI competency framework for students*. UNESCO, p. 19.

<https://doi.org/10.54675/IKJB9835>

Table 1. The AI competency framework high-level structure: aspects and progression levels for teachers

Aspects	Progression		
	Acquire	Deepen	Create
1. Human-centred mindset	Human agency	Human accountability	Social responsibility
2. Ethics of AI	Ethical principles	Safe and responsible use	Co-creating ethical rules
3. AI foundations and applications	Basic AI techniques and applications	Application skills	Creating with AI
4. AI pedagogy	AI-assisted teaching	AI–pedagogy integration	AI-enhanced pedagogical transformation
5. AI for professional development	AI enabling lifelong professional learning	AI to enhance organizational learning	AI to support professional transformation

Miao, Fengchun and Cukurova, Mutlu. *AI competency framework for teachers*. UNESCO., p. 22. <https://doi.org/10.54675/ZJTE2084>

A Framework for AI Literacy in Libraries

- Paul R. Pival, March 25, 2024 <https://www.library20.com/ai-libraries-cfp/a-framework-for-ai-literacy-in-libraries>

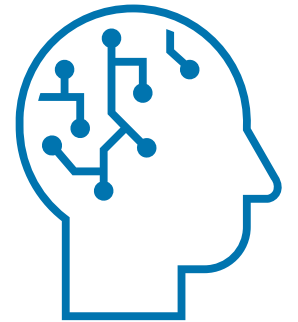
AI literacy for librarians should include, at a minimum, the following:

- **How LLMs work:** Librarians should know the basic principles of how LLMs are trained, how they generate text, and what are the main components and architectures of LLMs. This would help them to evaluate the quality and reliability of LLM outputs, as well as to use LLMs effectively for their own tasks.
- **What biases might be inherent within a LLM:** Librarians should be aware that LLMs can inherit and amplify biases from their training data, such as gender, racial, cultural, or ideological biases. These biases can affect the content and tone of LLM outputs, as well as the representation and inclusion of different groups and perspectives. Librarians should be able to identify and mitigate these biases, as well as to educate their users about them.
- **What are hallucinations:** Librarians should understand that LLMs can produce hallucinations, i.e., false or misleading information that is not supported by the input data or the real world. One of the common types of hallucination experienced in library-use of LLMs is that of the non-existent.
- **What are some of the ethical considerations:** Librarians should consider the implications of using LLMs, such as the impact on privacy, data security, intellectual property, access, and human agency. Librarians should follow ethical principles and guidelines, such as the *Library Ethics* and the *AI Ethics*, when using LLMs.

...currently no agreed-upon literacy for library/librarian use of Artificial Intelligence.

For library professionals, AI literacy is the ability to:

- understanding the basics of how AI works
- use AI effectively and ethically (and teach others to do so)
- make informed decisions about using AI technologies



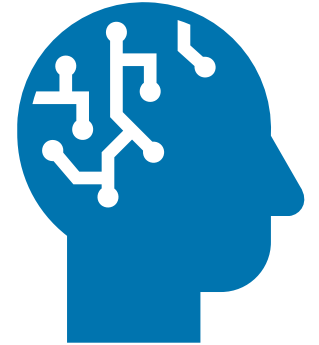
Hennig, Nicole. *AI Literacy* (webinar; May 18, 2023)

<https://libguides.library.arizona.edu/elearning/training#s-lg-box-wrapper-35677527>

...and use ChatGPT?

Why might library professionals want to use it?

- To help you understand what your users are doing with it?
- To help you generate for teaching and learning activities.
- To help you with writing.



Hennig, Nicole. “Why might you want to use ChatGPT?”, *AI Literacy* (webinar; May 18, 2023 recording – starting at 19:20m) <https://libguides.library.arizona.edu/elearning/training#s-lg-box-wrapper-35677527>

What do we teach in AI literacy?

- Introduction to AI
- Search terms for Artificial intelligence.
- Train our users on Prompt
- Advantages and disadvantages of AI
- Tools available for AI use
- Train on ethical issues in the use of AI
- Implications of using the AI
- Evaluate and develop existing policies for AI Use, Introduce the policies to the users
- Social and ethical considerations (copyright issues)
- The more important thing is to develop critical thinking approach
- How to use and evaluate AI tools and software
- To prevent hallucinations we should check the facts
- To educate the users on pros and cons of on the AI tools and software and their pros and cons (e.g., AI prompt generator - a tool that uses natural language processing and machine learning algorithms to generate prompts for AI tools like ChatGPT)

What do we teach in AI literacy?

Other Literacies

- Transliteracy
- Cross-modal/trans modal literacy

AI Issues and Concepts

- Information integrity
- Academic ethics

Application/Use of AI

- Prompt engineering
- AI for academic writing
- Science and technology novelty
- Paper reading
- Report writing
- AI assisted smart searching through voice/natural language
- Smart recognition
- Smart pushing message

Why AI? (benefits)

- Save the time for librarian and for researchers
- get more information in less time
- AI support technology innovation
- AI support for science development
- Development of scientific tools based on AIGC

Competencies and Skills

- How librarians acquire new skills in technology

OVERVIEW: *What do we teach in AI literacy?*

About	Social/institutional context	Implications/Benefits	Use/Application	Professional development
<ul style="list-style-type: none"> • Intro to AI • Machine learning (ML) • Algorithmic bias • Information/data integrity • Data privacy • Large language models (LLM) • Labor displacement 	<ul style="list-style-type: none"> • Social and ethical considerations • Policies, legislation • Accessibility and inclusivity 	<ul style="list-style-type: none"> • Pros & Cons • Other literacies • Save time of professionals and users • More and contextual information in less time • support for tech innovation and scientific development • Support/enhance scholarship, teaching, learning (reading, writing, summarizing), fact-checking, administrative functions • Learning analytics 	<ul style="list-style-type: none"> • Searching and terms (NLP and prompts) • Critical thinking • Recognize and prevent hallucinations • AI tools 	<ul style="list-style-type: none"> • training, keeping up

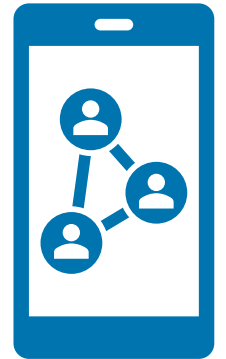
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Technical, Practical, Ethical

Selected “Go to” resources

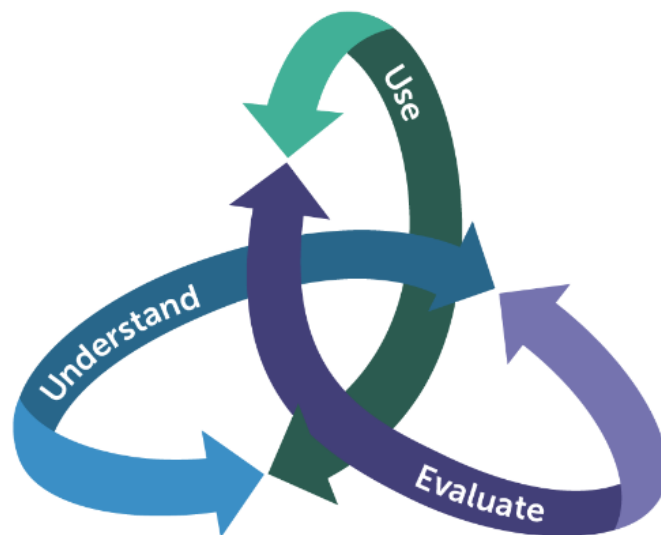
- Artificial Intelligence SIG <https://www.ifla.org/units/ai/>, International Federation of Library Associations and Institutions (IFLA) – e.g., *Developing a library strategic response to Artificial Intelligence*. <https://www.ifla.org/g/ai/developing-a-library-strategic-response-to-artificial-intelligence/>
- Artificial Intelligence and Machine Learning in Libraries Interest Group, CORE, American Library Association <https://connect.ala.org/core/communities/community-home?CommunityKey=c6ad80f9-1866-4041-801e-a9bccb7c9a72>
- Charleston In Between Conference, e.g., Charleston In Between 2023: The Future of Scholarly COmmunication in a ChatGPT World <https://www.charleston-hub.com/charleston-in-between-2023-the-future-of-scholarly-communication-in-a-chatgpt-world/>
- IDEA Institute on AI (ASIS&T) <https://www.asist.org/meetings-events/idea-institute/>
- Top 10 Sources for Librarians to Learn About Utilizing AI <https://liblime.com/2024/08/23/top-10-sources-for-librarians-to-learn-about-utilizing-ai/>
- Webinars
- Web



What does it mean to be AI literate in an international context?

AI development and resources may be different,
but **the opportunities, challenges and implications are unavoidable**

(universal AI literacy, diversity in AI development and deployment)



AI Literacy Framework



<https://www.weforum.org/agenda/2022/03/without-universal-ai-literacy-ai-will-fail-us/>;

framework: <https://digitalpromise.org/2024/06/18/ai-literacy-a-framework-to-understand-evaluate-and-use-emerging-technology/>



Clara M. Chu



University Library

Mortenson Center for International Library Programs

<https://www.library.illinois.edu/mortenson>

Image: <https://www.streetsensemedia.org/article/i-would-like-to-say-thank-you/#.X2OI5JNKjq0>