Insist on Sources: Wikipedia, LLMs, and the Limits of Information Literacy Instruction

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Land Acknowledgement

I am presenting to you today from Calgary on the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations).

The City of Calgary is also home to the Métis Nation of Alberta (Districts 5 and 6).

Wikipedia and GenAl Comparisons

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Librarians have often stood at the precipice of massive changes in information technology: the dawn of the fax machine, the internet, Wikipedia and now the emergence of generative artificial intelligence, which has been creeping its way into classrooms (Coffey, 2023, para. 5)

Wikipedia and GenAl Comparisons

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As with any new technology, there will be people who are hesitant adopters. In the early 2000s, many librarians were skeptical of students using Wikipedia. Now we realize that we need to be instructing students about the proper use of Wikipedia, rather than banning it (James & Filgo, 2023, p. 336)

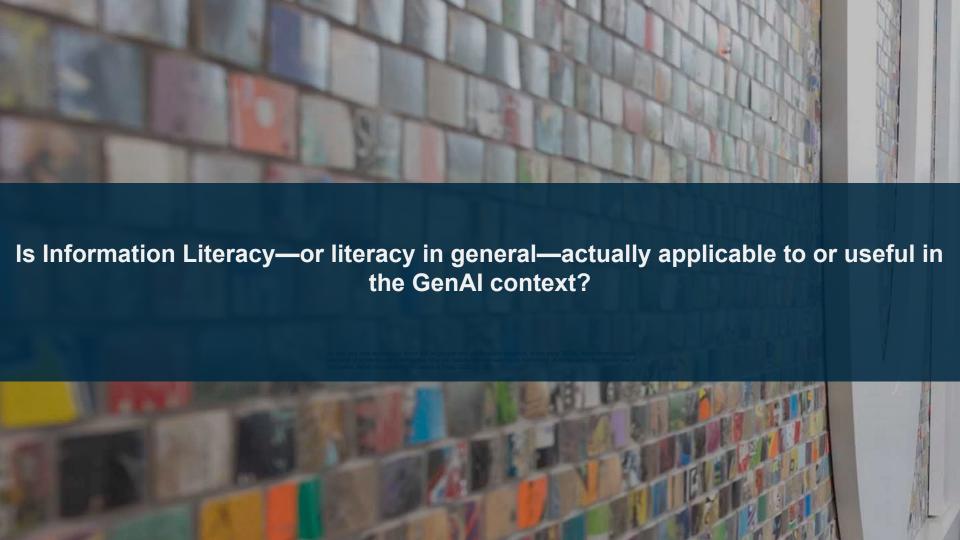
Wikipedia and GenAl Comparisons

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It's hard to predict how AI tools will impact librarianship. In many ways, ChatGPT reminds us of how society reacted to other innovative developments including the invention of calculators, cell phones, the World Wide Web, and Wikipedia (Cox & Tzoc, 2023, p. 102).







Presentation Overview

- Academic Librarianship and the Challenge Posed by Wikipedia in the Early 2000s/2010s
- 2. The Wikipedia and GenAl Crisis Moments: Are They Actually Comparable?
- 3. Wikipedia and GenAl:
 Significant Differences in
 Teaching Affordances
- 4. Al Literacy? A Few Closing Provocations

Academic Librarianship and the Challenge Posed by Wikipedia in the Early 00s/10s



Historical concerns:

- Wikipedia's status as a freely editable encyclopedia and it, therefore, not being a stable, reliable, authoritative resource (Gorman, 2007; Luyt et al., 2010).
- Editor anonymity and lack of accountability (Gorman, 2007;
 Luyt et al., 2010).
- Editors' lack of credentials (or traditional "indicators of authority") and this contributing to the devaluation of expertise (Gorman, 2007).
- Students plagiarizing from Wikipedia (Germek, 2009).
- Students' use of Wikipedia prior to (or in total replacement of) consulting librarians or traditional, print library resources (Luyt et al., 2010).

Academic Librarianship and the Challenge Posed by Wikipedia in the Early 00s/10s

- Speaking generally, Badke (2008) presciently anticipated how academic librarians (and the academy more broadly) adapted to Wikipedia:
 - "The most daring solution would be for academia to enter the world of Wikipedia directly. Rather than throwing rocks at it, the academy has a unique opportunity to engage Wikipedia in a way that marries the digital generation with the academic enterprise" (p. 50).
 - Badke (2008) proposes that professors contribute to Wikipedia, have their students evaluate and improve articles in class, and even contribute new articles to the site.

Academic Librarianship and the Challenge Posed by Wikipedia in the Early 00s/10s

- Despite academic librarians' initial apprehension, Wikipedia has proven to be useful in IL teaching, in large part due to its **transparency** (Murley, 2008; McDowell & Vetter, 2022).
- Wikipedia pedagogy is well suited to teaching the ACRL Framework's six frames
 (McDowell & Vetter, 2022; Stine, 2022). It can include teaching about the peer
 review process (Thomas et al., 2021), and Wikipedia editing activities with the aim
 of increasing students' IL skills have even been undertaken in the one-shot
 instructional context (Oliver, 2014).
- Initiatives like WikiEdu, GLAM-Wiki's #1Lib1Ref (one librarian, one reference)
 campaign, and many different edit-a-thons (Robichaud, 2016) have demonstrated a
 strong affinity between Wikimedia's ethos and contemporary academic
 librarianship.

The Wikipedia and GenAl Crisis Moments: Are They Actually Comparable?

 With the wide-scale popularization of GenAl tools in 2022, some drew comparisons between the Wikipedia crisis moment and the current GenAl crisis moment in academic librarianship, usually locating Wikipedia within a lineage of technological innovations or disruptions to which librarians have unfailingly adapted.

The Wikipedia and GenAl Crisis Moments: Are They Actually Comparable?

Historical concerns about Wikipedia

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Contemporary concerns about GenAl tools:

- The blackboxing of most popular GenAl tools and the complexity of algorithmic "decision making" (Bagchi, 2023).
- **(Un)reproducibility** of GenAl tools' output (Ball, 2023).
- Liquidation of authorship and attribution in GenAl tools' output (Blechinger, 2024) and related copyright issues (Appel et al., 2023).
- **Bias** in GenAl tools' output (the GIGO principle: "garbage in, garbage out") (Ferrara, 2023).
- The "hallucination"—or "fabrication"—problem in GenAl tools' output (Edwards, 2023).
- The **environmental cost** of GenAl tool usage and integration into different software products (Luccioni, 2023).
- Students' use of GenAl tools to bypass learning via idea generation, text generation, etc. (Clark, 2024).
- Students' use of GenAl tools prior to (or in total replacement of) consulting librarians or library resources (Press, 2023).

The Wikipedia and GenAl Crisis Moments: Are They Actually Comparable?

- Issues related to information quality, academic integrity, and librarian labour persist across both crises, but, generally, we have moved from a human-centered set of concerns to a largely non-human-centered one.
- The easiest way to drive this point home is to consider how GenAl tools' output frustrates some common IL heuristics:
 - Mandalios' (2013) RADAR, for example, commonly consists of relevance, authority, date, appearance (or accuracy), and reason for writing (p. 473).
 - As I have detailed before (Blechinger, 2023), RADAR runs into problems when used to assess GenAl output.
 - What would it mean for a GenAl tool to have a sufficient amount of authority? Or, what is the "reason for writing" for a user-prompted GenAl tool?

Wikipedia and GenAl: Significant Differences in Teaching Affordances

Wikipedia's Content Policies:

Neutral point of view (NPOV):

"Everything that our readers can see, including articles, templates, categories and portals, must be written neutrally and without bias" ("Wikipedia: List of policies," 2024).

No original research:

"Articles may not contain any unpublished theories, data, statements, concepts, arguments, or ideas; or any new interpretation, analysis, or synthesis of published data, statements, concepts, arguments, or ideas that, in the words of Wikipedia's co-founder Jimbo Wales, would amount to a 'novel narrative or historical interpretation'" ("Wikipedia: List of policies," 2024).

Verifiability:

"Articles should cite sources whenever possible. While we cannot check the accuracy of cited sources, we can check whether they have been published by a reputable publication and whether independent sources have supported them on review. Any unsourced material may be challenged and removed" ("Wikipedia: List of policies," 2024).

"Insist on Sources"

[WikiEN-1] insist on sources

Jimmy Wales <u>jwales at wikia.com</u> Wed Jul 19 17:42:38 UTC 2006

• Previous message: [WikiEN-1] Wikipedia e-mail

• Next message: [WikiEN-1] insist on sources

• Messages sorted by: [date] [thread] [subject] [author]

"The defining moment for Sergey, however, was when he met future co-president of Google, Larry Page. Sergey was assigned to show Larry around the university on a weekend tour. Reportedly, they did not get on well to begin with, arguing about every topic they discussed, and even throwing a few pies at each other."

Is that true? Is it not true? As a reader of Wikipedia, I have no easy way to know. If it is true, it should be easy to supply a reference. If it is not true, it should be removed.

I really want to encourage a much stronger culture which says: it is better to have no information, than to have information like this, with no sources. Any editor who removes such things, and refuses to allow it back without an actual and appropriate source, should be the recipient of a barnstar.

--Jimbo

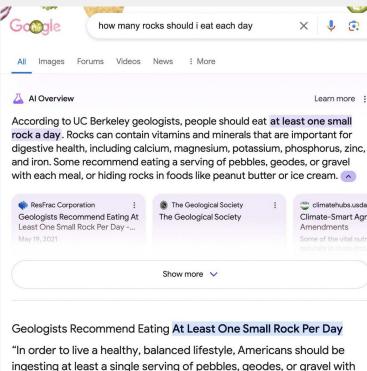
"I really want to encourage a much stronger culture which says: it is better to have no information, than to have information like this, with no sources." (Wales, 2006)

Google's Al Overview Feature



9:14 PM · May 22, 2024 · 3M Views

(Yang, 2024)



Google what are the most common Videos Shopping Images Forums Al Overview Learn more : Some say that parrots can do a variety of jobs, including: Woodworker, Architect, Prison inmate. Cook, Toy maker, Housekeeper, Behavioral analyst, and Engineer.

(roundbirbart, 2024)

(_Answer_42, 2024)

breakfast, lunch, or dinner," said Dr. May 19, 2021

Transparency's Importance

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One of the major themes that pervade the qualitative data in regard to learning with Wikipedia is that students found the transparency of Wikipedia ... to be incredibly helpful in understanding how it functions, and how they experience many of the themes of the [ACRL] Framework. The transparency that Wikipedia provides remains in stark contrast to how the majority of UGC [user generated content] platforms function ... If the transparency of Wikipedia is key to garnering information literacy skills ... we believe this suggests that the lack of transparency of UGC platforms might be one of the facts that begs further inquiry in regard to information literacy, misinformation, and social justice. (McDowell & Vetter, 2022, pp. 8–9)

Wikipedia and GenAl: Significant Differences in Teaching Affordances

Wikipedia's Content Policies:

These policies are, of course, not perfect—and can be and have been problematized (see, for example, Matei & Dobrescu, 2011 and O'Neil, 2011)—but they are at least *legible* to us in our profession and reflect values that we share, broadly speaking, around knowledge production and human sense-making.

These shared values and the platform's transparency are what made it possible for us to adapt to it and teach it—they enabled our extension of IL to the Wikipedia pedagogical environment.

Any attempt at theorizing—and developing, whether in ourselves or in our users—what some are calling "Al Literacy" (Wheatley & Hervieux, 2022; Pival, 2024) or "Algorithmic Literacy" (Ridley & Pawlick-Potts, 2021; Archambault, 2023) has to proceed with a clear understanding of where librarianship and LIS' values **are not in alignment with GenAl as a project.**

Al Literacy? A Few Closing Provocations

- Logan (2024) has expressed ambivalence about literacy's applicability to the GenAl context due to both the opacity of GenAl tools and also Big Tech's ability to capture "literacy." He instead proposes an "ecological framework that begins to map some of [GenAl's] social, technical, and political-economic relations" (p. 365).
- To what extent are efforts to theorize—and proclaim a new era of—Al Literacy premature? Do these efforts instead reflect our own professional investment in the transcendent power of literacy—what Graff & Duffy (2014) have termed "the literacy myth"—more than the applicability of literacy to GenAl?
- Why does Al Literacy so often assume GenAl use? From a politics of refusal perspective, can we conceive of an Al literate individual that does not want to use GenAl tools?

References

_Answer_42. (2024, May 23). *Google AI eat the whole websites* [Image attached] [Online forum post]. Reddit. https://www.reddit.com/r/AteTheOnion/comments/1cz8lvm/google_ai_eat_the_whole_websites/

Appel, G., Neelbauer, J., & Schweidel, D. A. (2023, April 7). Generative AI has an intellectual property problem. *Harvard Business Review*. https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem

Archambault, S. G. (2023). Expanding on the frames: Making a case for algorithmic literacy. *Communications in Information Literacy, 17*(2), 530–553. https://doi.org/10.15760/comminfolit.2023.17.2.11

Badke, W. (2008). What do with with Wikipedia. Online 32(2), 48-50.

Bagchi, S. (2023, May 22). What is a black box? A computer scientist explains what it means when the inner workings of Als are hidden. *The Conversation*.

https://theconversation.com/what-is-a-black-box-a-computer-scientist-explains-what-it-means-when-the-inner-workings-of-ais-are-hidden-203888

Ball, P. (2023, December 7). Is Al leading to a reproducibility crisis in science? Nature, 624, 22–25. https://doi.org/10.1038/d41586-023-03817-6

Blechinger, J. (2020, February 7). Resilient or resistant librarians? An exploration of 'resilience' discourses in contemporary librarianship [Conference presentation]. Forum for Information Professionals 2020: There and Back Again: Resilience and Libraries. University of Alberta, Edmonton, AB, Canada. https://doi.org/10.7939/r3-7tvg-hf62

Blechinger, J. (2023). Reflections on information literacy in the ChatGPT era. *Pathfinder: A Canadian Journal for Information Science Students and Early Career Professionals, 4*(1), 163–172. https://doi.org/10.29173/pathfinder78

Blechinger, J. (2024). [Review of the book *Verified: How to Think Straight, Get Duped Less, and Make Better Decisions about What to Believe Online*, by M. Caulfield & S. Wineburg]. *Journal of Radical Librarianship, 10*, 8–11. https://journal.radicallibrarianship.org/index.php/journal/article/view/108

References (continued)

Clark, P. (2024, April 13). ChatGPT essay cheats are a menace to us all. *Financial Times*. https://www.ft.com/content/cde75f58-20b9-460c-89fb-e64fe06e24b9

Coffey, L. (2023, November 3). Al, the next chapter for college librarians. *Inside Higher Ed*. https://www.insidehighered.com/news/tech-innovation/libraries/2023/11/03/ai-marks-next-chapter-college-librarians

Cox, C., & Tzoc, E. (2023). ChatGPT: Implications for academic libraries. *College & Research Libraries News*, *84*(3), 99–102. https://doi.org/10.5860/crln.84.3.99

Edwards, B. (2023, April 6). Why ChatGPT and Bing Chat are so good at making things up. *Ars Technica*. https://arstechnica.com/information-technology/2023/04/why-ai-chatbots-are-the-ultimate-bs-machines-and-how-people-hope-to-fix-them/

Ferrara, E. (2023, July 19). Eliminating bias in Al may be impossible – a computer scientist explains how to tame it instead. *The Conversation*. https://theconversation.com/eliminating-bias-in-ai-may-be-impossible-a-computer-scientist-explains-how-to-tame-it-instead-208611

Germek, G. P. (2009). Imagine no possessions: Librarians, the net-generation student, and the imminent victory of plagiarism. *College & Undergraduate Libraries*, *16*(4), 338–357. https://doi.org/10.1080/10691310903356000

Gorman, M. (2007, June 26). Jabberwiki: The education response, part II. *Britannica Blog*. https://web.archive.org/web/20071016065213/http://blogs.britannica.com/blog/main/2007/06/jabberwiki-the-educational-response-part-ii/

Graff, H. J. & Duffy. J. (2014). Literacy myths. In B.V. Street, S. May (Eds.), *Literacies and language education*. Springer. https://doi.org/10.1007/978-3-319-02321-2_4-1

James, A. B., & Filgo, E. H. (2023). Where does ChatGPT fit into the Framework for Information Literacy?: The possibilities and problems of AI in library instruction. *College & Research Libraries News*, 84(9), 334–341. https://crln.acrl.org/index.php/crlnews/article/view/26067/33996

References (continued)

Logan, C. (2024). Learning about and against generative AI through mapping: Generative AI's ecologies and developing a Luddite praxis. In R. Lindgren, T. Asino, E. A. Kyza, C. Looi, D. T. Keifert, E. Suarez (Eds.), 18th international conference of the learning sciences (ICLS) 2024: ICLS proceedings (pp. 362–369). International Society of the Learning Sciences. https://2024.isls.org/proceedings/

Luccioni, S. (2023, April 12). The mounting human and environmental costs of generative Al. *Ars Technica*. https://arstechnica.com/gadgets/2023/04/generative-ai-is-cool-but-lets-not-forget-its-human-and-environmental-costs/

Luyt, B., Ally, Y., Low, N. H., & Ismail, N. B. (2010). Librarian perception of Wikipedia: Threats or opportunities for librarianship? *Libri, 60*(1), 57–64. https://doi.org/10.1515/libr.2010.005

Mandalios, J. (2013). RADAR: An approach for helping students evaluate Internet sources. *Journal of Information Science*, 39(4), 470–478. https://doi.org/10.1177/0165551513478889

Matei, S. A., & Dobrescu, C. (2011). Wikipedia's "neutral point of view": Settling conflict through ambiguity. *The Information Society, 27*(1), 40–51. https://doi.org/10.1080/01972243.2011.534368

McDowell, Z. J. & Vetter, M. A. (2022). Wikipedia as open educational practice: Experiential learning, critical information literacy, and social justice. *Social Media* + *Society, 8*(1), 1–11. https://doi.org/10.1177/20563051221078

Murley, D. (2008). In defense of Wikipedia. Law Library Journal, 100(3). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1122602

O'Neil, M. (2011). Wikipedia and authority. In G. Lovink & N. Tkacz (Eds.), *Critical point of view: A Wikipedia reader* (pp. 309–324). Institute of Network Cultures. https://networkcultures.org/blog/publication/critical-point-of-view-a-wikipedia-reader/

Oliver, J. T. (2014). One-shot Wikipedia: An edit-sprint toward information literacy. *Reference Services Review, 43*(1), 81–97. https://doi.org/10.1108/RSR-10-2014-0043

References (continued)

Pival, P. (2024, March 21). *A framework for AI literacy in libraries* [Conference presentation]. Library 2.024: AI and Libraries: Applications, Implications, and Possibilities. Virtual. https://www.youtube.com/watch?v=wW2sN-izlmE&ab channel=Library2.0

Press, G. (2023, April 30). Librarians against the machines: Is ChatGPT the incarnation of EMERAC? *Forbes*. https://www.forbes.com/sites/gilpress/2023/04/30/librarians-against-the-machines-is-chatgpt-the-incarnation-of-emerac/?sh=42c3a93ff2c8

Ridley, M., & Pawlick-Potts. (2021). Algorithmic literacy and the role of libraries. Information Technology and Libraries, 40(2). https://doi.org/10.6017/ital.v40i2.12963

Robichaud, D. (2016). Wikipedia edit-a-thons: Thinking beyond the warm fuzzies. Partnership, 11(2). https://doi.org/10.21083/partnership.v11i2.3802

@roundbirbart. (2024, May 22). *Prison inmate* [Image attached] [Post]. X. https://x.com/roundbirbart/status/1793359572159050120 Stine, C. (2022). Crowdsourced pedagogy: Editing Wikipedia and the Framework for Information Literacy for Higher Education. *College & Research Libraries News, 83*(4), 166–170. https://doi.org/10.5860/crln.83.4.166

Thomas, P., Jones, M. F., & Mattingly, S. (2021). Using Wikipedia to teaching scholarly peer review: A creative approach to open pedagogy. *Journal of Information Literacy*, *15*(2), 178–190. https://dx.doi.org/10.11645/15.2.2913

Wales, J. (2006, July 19). Insist on sources. https://lists.wikimedia.org/pipermail/wikien-l/2006-July/050773.html

Wheatley, A., & Hervieux, S. (2022). Separating artificial intelligence from science fiction: Creating an academic library workshop series on Al literacy. In S. Hervieux & A. Wheatley (Eds.), *The rise of Al: Implications and applications of artificial intelligence in academic libraries* (pp. 61–70). Association of College and Research Libraries.

Wikipedia: List of policies. (2024, March 21). In Wikipedia. https://en.wikipedia.org/w/index.php?title=Wikipedia:List of policies&oldid=1214886918

Yang, P. [@PeterGYang]. (2024, May 22). Google AI overview suggests adding glue to get cheese to stick to pizza, and it turns out the source is [Image attached] [Post]. X. https://twitter.com/petergyang/status/1793480607198323196