

Developing two undergraduate courses in critical information & data literacy to advance new college learning outcomes

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Leadership: Stepping Up to the Line



Cornell University

At your current institution, do you teach a credit-bearing information literacy class?



Our focus has shifted what we teach, and how we teach, but most crucially: how we align with the objectives of the colleges that we serve.

Critical information literacy asks librarians to work with their patrons and communities to co-investigate the political, social, and economic dimensions of information, including its creation, access, and use.

This approach to information literacy seeks to involve learners in better understanding systems of oppression while also identifying opportunities to take action upon them.

Barbara Fister, "Practicing Freedom in the Digital Library: Reinventing Libraries" (2013)



Our Library

**Some background on
our instruction model**

The Albert R. Mann Library

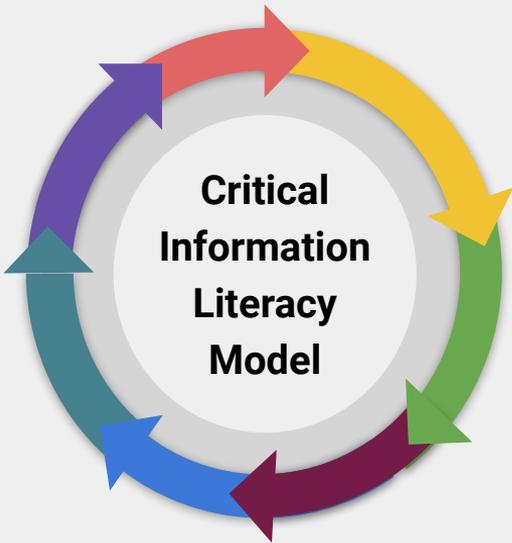


- Mann Library first opened its doors in 1952
- An agriculture and life science library
- A New York State land-grant library
- Serving two colleges:
 - College of Agriculture and Life Sciences (CAL'S)
 - College of Human Ecology (CHE)
- One of two “big” libraries on Cornell’s campus
 - There are 16 physical and virtual libraries on the main campus
- 31 staff (including faculty librarians)

Features of a Team-based Service Model

- Instruction Team made up of 5 librarians plus 2 public services assistants
- Roughly 80 instruction requests per semester distributed among this team
- Team members don't have collection development responsibilities or liaison/outreach expectations.
- Team members have time for professional development focused on pedagogy, assessment, learning technologies

Programmatic Learning Outcomes



1. **Describe** the strengths, limitations and biases of different information types and be able to select those most suitable for their question or need.
2. **Explain** how economic, cultural, and political factors influence the production and preservation of information, and marginalize the perspectives, histories, and research of certain communities.
3. **Identify** system components used in the discovery of information and utilize this knowledge to find content most relevant to their needs.
4. **Articulate** how the automation and embedded biases of algorithms lead to personalization, sorting and discrimination.
5. **Apply** the definitions of credibility and contextual authority when evaluating content, sources, claims, or evidence and utilize techniques like lateral reading and upstream searching to verify accuracy and trustworthiness.
6. **Articulate** how data and knowledge evolves with each review, analysis or manipulation and be able to draw appropriate conclusions based on the strengths and limitations of each iteration.
7. **Understand** the ethical obligation and appropriate mechanisms for including attributions when creating new forms of scholarship.



Our Why

**What led us to change to
a new instruction model**

Team-based Service Model

Liaison Model

- “One shot” instruction
- “Click and show” instruction
- Confused for a “how to use the library” session
- Unmoored and uneven workloads
- Not connected to college-level learning outcomes
- Very faculty-request driven
- Reactive model

Team Model

- Theoretical, scaffolded, impactful
- In some cases semester-long, 1-credit courses
- Librarians seen as guest lecturers, with expertise
- More meaningful instruction
- A shared workload among a team
- Focused on critical information literacy
- Connected to college learning outcomes
- Strategic model

Changing our Instruction Model

- Liaison model required basic competencies for several distinct jobs: collection, outreach, instruction and research consultations.
- Uneven distribution of service; Some academic departments request and want significantly more than other departments. Liaison model did not account for this disparity.
- Some librarians eager to focus on instruction only; Others eager to focus on research consultations or just outreach.

Recrafting existing job descriptions

A goal of integrating digital literacy and technical skills into college courses as well as positioning current and new inclusive learning technologies, our

Makerspace and Special Equipment Specialist

became the new...



Emerging Literacies Instruction Support Specialist

An aim to address current gaps in undergraduate data instruction and promote a kind of digital citizenship and essential critical inquiry skills to make sense of the vast data that surrounds them, our

Applied Social Science Librarian

became the new...



Data Literacy Librarian

A focus on integrating underutilized digital collections with underrepresented histories, topics and/or perspectives into our programmatic lessons, our

Teaching and Learning Librarian

became the new...



Digital Literacy Librarian

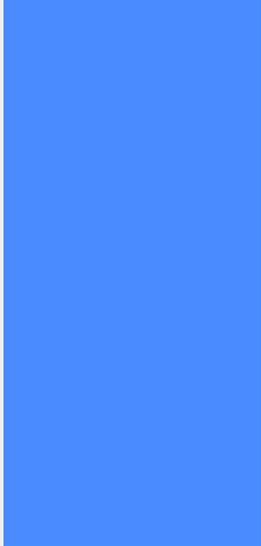


Setting the Stage

**What was happening
at the college level**

Curriculum Mapping & Learning Outcomes Review

- A subcommittee of the CALS College Curriculum Committee convened by Assoc. Dean for Undergraduate Affairs
 - Comprised of 7 TT Faculty, 1 librarian and the Assoc. Director for Assessment from the Center for Teaching Innovation (CTI)
- Over the span of a year, we met monthly to review old college learning outcomes, revise and create new outcomes that reflected new goals of college/University.
- A mapping of the curriculum commenced to understand what LOs were obtainable on the course roster, and which were not.
 - This review showed that some learning outcomes, like data literacy and information literacy, were not addressed in a singular course but instead in bits and pieces across the college.



Developing our courses

**What we did to position our
two undergraduate courses**

Identifying Skill Gaps

- After conducting a literature review, we presented research we had done that validated student skills deficiencies on these topics to faculty.
- We did a pop-up research study in the Mann Lobby and offered free pizza in exchange for 10-minutes of task-based assessment on things like citation navigation, keyword selection, etc.)
- Students weren't very great at these tasks, so we showed these results to faculty, and they were moved!
- To affirm our expertise in these areas, we presented and talked with faculty about the importance of data and information literacy.

Addressing Curricular Gaps

- As the College was identifying curricular gaps, we were settling into our new Team-Based Model with a newly codified Instruction Team focused on Critical Information Literacy.
- We wanted to take on more meaningful and impactful instruction efforts, beyond the one-shot.
- We knew that students lacked the skills that they should be getting (based on our observations and skills-based assessment), and we know that we could help.
- By establishing ourselves as experts in our own right, we drafted syllabi for 2 new courses that we could teach in information and data literacy and proposed new 1-credit courses to the College curriculum committee

Teaching 1-credit Courses

ALS1200

ALS1200: *Information Chaos: Navigating Today's Information Landscape*

This course includes the theoretical, methodological and practical concepts and skills needed to understand and evaluate today's vast information landscape.

Outcomes:

- Compare various information types that exist and articulate the value(s) and problems(s) of each.
- Recognize the structural and ideological differences between various information systems (I.e., News sites, academic databases, federal repositories, etc.) that produce and disseminate information.
- Translate complex research questions into a search strategy with appropriate search tools and platforms.
- Apply various assessment tools to evaluate the credibility of information.
- Utilize citation management software to organize information conceptually and thoughtfully.
- Demonstrate understanding of attribution by properly citing the work of others.

ALS1210

ALS1210: *Data Literacy: Cultivating Skills to Engage with Data*

This class aims to equip students from a variety of non-technical backgrounds with the necessary skills to engage with data in meaningful ways (both quantitative and qualitative data).

Outcomes:

- Define data types and formats and classify based on the research questions that they address.
- Explain why a dataset was collected and who collected it and describe how it was collected and what its known limitations are.
- Identify the importance of data management principles for working with data.
- Utilize open-source and web-based tools for simple data analysis.
- Apply basic visualization concepts to avoid misleading or ambiguous representations when presenting and sharing data.
- Articulate a data-driven argument.



What you can do

**Ways to replicate and adapt
our instruction model**

Identify curricular gaps

- How are the learning outcomes for your college or University being assessed? Are they? If they are not, could you assist with the evaluation of related competencies (in information literacy, data literacy)?
- If there are learning outcomes that aren't being obtained in your college, do you have unique expertise to help address them by offering a new course?
- Are there relevant curriculum committees that you could join? Or, pedagogical journal clubs, or similar campus groups where you'll find more like-minded individuals. If not, could you start such a group on your campus (and invite faculty to join)?
- Is the instruction model at your library giving librarians space to focus on pedagogy, assessment, learning technologies, and other professional development?
- Where are there opportunities for librarians to advocate their expertise?

Resources

Readings:

- Breakstone, J., M. Smith, P. Connors, T. Ortega, D. Kerr, S. Wineburg. "Lateral reading: College students learn to critically evaluate internet sources in an online course." The Harvard Kennedy School Misinformation Review 2, no. 1 (2021). DOI: 10.37016/mr-2020-56
- Head, A. J., Fister, B., & MacMillan, M. (2020). Information Literacy in the Age of Algorithms: Student Experiences with News and Information, and the Need for Change. Project Information Literacy.
- Gooblar, David. How to Teach Information Literacy in an Era of Lies. The Chronicle of Higher Education. July 24, 2018. <https://www.chronicle.com/article/how-to-teach-information-literacy-in-an-era-of-lies/>
- McMurtie, Beth. Tackling Disinformation with Media Literacy. The Chronicle of Higher Education. January 21, 2021. <https://www.chronicle.com/newsletter/teaching/2021-01-21>

Listen:

- Stanford Study Finds Most Students Vulnerable to Fake News. NPR All Things Considered. Nov 22, 2016. <https://www.npr.org/2016/11/22/503052574/stanford-study-finds-most-students-vulnerable-to-fake-news>

Thanks!



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