

Evaluating AI Assignment of LCSH

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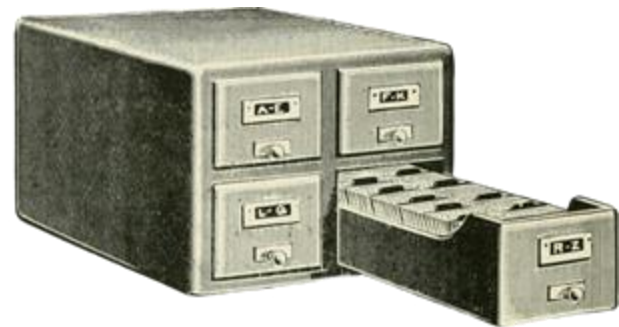
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Purpose

- Libraries incorporating AI tools into workflows
- Potential for metadata - subject cataloging as most challenging and time consuming
- Significant concerns about quality and reliability though
- AI subject cataloging undertested and underexplored
- Larger study on AI subject cataloging



Background

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Next Gen AI: Libraries Work with ChatGPT and Other Em

by [Matt Enis](#)
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The World of AI

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AI, the Next Chapter for College Librarians

Librarians have lived through the disruptions of fax machines, websites and Wikipedia, and now they are bracing to do it again as artificial intelligence tools go mainstream: "Maybe it's our time to shine."

By [Lauren Coffey](#)

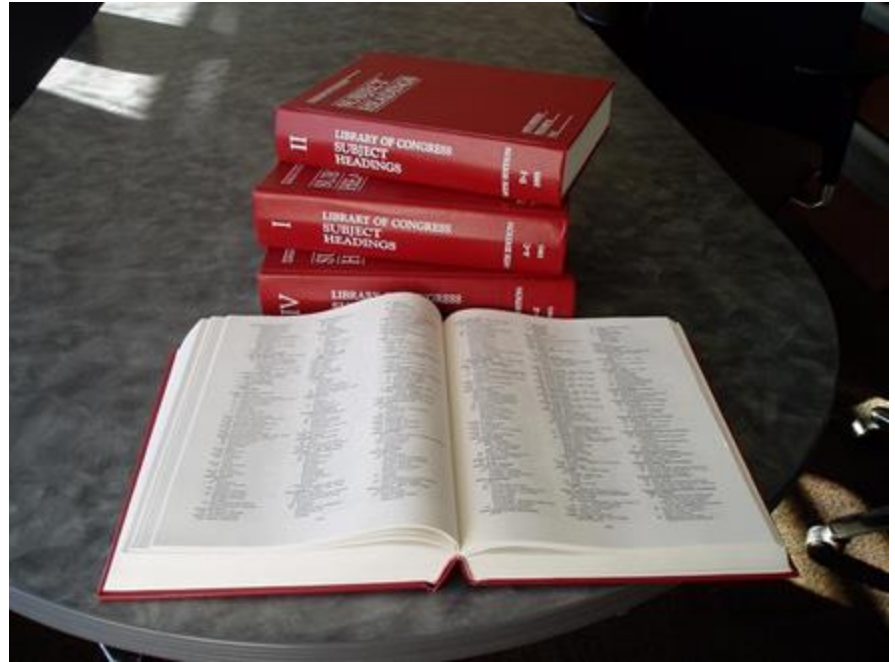
Chatbots

Gemini



Subject Cataloging

- Analysis of “aboutness”
- Translation into subject headings
- Requires comprehension of complex resources
- ... and fluency in systems representing subject and genre
- Library of Congress Subject Headings (LCSH)



Methodology



- Test derived from second edition of Broughton's *Essential Classification* (2015)
 - 5 exercises
 - 50 questions total
- ChatGPT, Gemini, Copilot
- Responses checked using Classification Web, *The Subject Headings Manual*, *Free Floating Subdivisions*

Example

Broughton (2015), p. 142:

Exercise 13.4.11

Construct headings using free-floating subdivisions for the following title:

The artful teapot: exhibition held May 16-Sept. 2, 2002, at COPIA: the American Center for Wine, Food, and the Arts, Napa, Calif. and other locations

Answer: Teapots--Exhibitions.

Example

Prompt

Using Library of Congress Subject Headings construct subject headings using free-floating subdivisions for the following title: “The artful teapot: exhibition held May 16-Sept. 2, 2002, at COPIA: the American Center for Wine, Food, and the Arts, Napa, Calif. And other locations”

Example

ChatGPT Response

To construct Library of Congress Subject Headings (LCSH) with free-floating subdivisions for the title "The artful teapot: exhibition held May 16-Sept. 2, 2002, at COPIA: the American Center for Wine, Food, and the Arts, Napa, Calif. and other locations," we can use appropriate subdivisions that are not tied to specific subject headings. Here are some possibilities:

1. Teapots—Exhibitions (**Correct**)
2. Tea culture (**Invalid**)
3. Art—Exhibitions (**Valid**)
4. Pottery—Exhibitions (**Valid**)
5. Crafts—Exhibitions (**Invalid**)
6. Exhibition catalogs (**Valid**)

Results

	ChatGPT	Copilot	Gemini
Correct	21	4	11
Close	5	1	1
Acceptable alternative	1	0	1
Incorrect	23	45	33
Refusal	0	0	4
Final grade	54%	10%	26%
Number of valid LCSHs	38	18	24
Percentage valid	76%	36%	48%

Common Incorrect Responses

	ChatGPT (n=23)	Copilot (n=45)	Gemini (n=33)
Incorrect topic	1	1	2
LCSH does not exist	5	26	19
LCSH too broad	2	2	3
LCSH too narrow	3	1	8
LCSH lacking subdivision	11	15	0
Incorrect geographic subdivision	1	0	1

All Proposed Headings

	ChatGPT	Copilot	Gemini
Total LCSH provided	298	125	133
Total valid LCSH provided	189	65	64
Percentage valid	63%	52%	48%
Average number of LCSH provided per book	6.0	2.5	2.9
Average number of valid LCSH provided per book	3.8	1.3	1.4

Oddities

- Using title as a subject heading
**American Funeral Vehicles, 1900-2003: An Illustrated History \$x History \$y
20th century \$z United States**
- Anything can happen in square brackets!
Choctaw legends [Thunderstorms]
- Unrelated hallucinations
North-South Dialogue (for the book “The Lawfulness of Deep Seabed Mining”)

Takeaways

- All three tools performed inadequately– for now
- ChatGPT noticeably better than other AI tools
- Cataloger oversight needed:
 1. Double check heading exists
 2. Verify heading means what the tool claims
 3. Verify nothing more specific is available

Conclusion

- Utility in subject heading assignment not indicated
- Continued importance of human fluency in subject cataloging
- Ongoing assessment required as tools continue to develop

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