The Jack in the Black Box
Teaching College Students to Use ChatGPT Critically
Shu Wan

The release of ChatGPT to the public in late 2022 marked the start of the age of generative AI. Prior to the ongoing AI mania, I was fortunate enough to stand at the forefront of the newfound amusement with generative AI technology. In early 2022, I participated in UK-based AI artist and researcher Geoff Davis's AI Creative Writing Anthology project by contributing a short novel combining AI-created text and my handcrafted assessment. I set my intentions to explore the revolutionary influence of generative AI on pedagogy while also recognizing the risk of abuse. In the summer of 2023, I designed course assignments aiming to advance student information literacy on ChatGPT in the history classroom. This essay primarily reviews the design and deployment of a critical generative AI and information literacy assignment along with its inspirations for instructional librarians in American colleges today.

In the years following the introduction of ChatGPT, there is still no consensus on whether generative AI benefits higher education or not in American colleges. According to a Chronicle of Higher Education survey in early 2024, "While 78 percent of administrators said AI tools would have a positive impact on teaching in the next five years, only 46 percent of faculty members felt that way. Faculty members who believed that AI posed a threat argued that its usage would undermine academic integrity, students' critical thinking and writing skills, and creativity."[1] In advance of most college instructors and library workers' recognition of potential risks, I attempted to integrate the innovative tool into my classroom in early 2023. When teaching the winter course Asian Civilizations 1 in January, I lectured on the latest progress of generative AI and designed an assignment encouraging students to take particular consideration toward its impact on academic integrity. After posing questions about historical films to ChatGPT, students were required to discuss how to use generative AI tools in an academically appropriate manner on Padlet. Their posts predominantly focus on critiques of the misuse of ChatGPT for plagiarism, which encouraged me to think about the integration of Padlet into my further attempts to add generative AI into course teaching.

In the summer of 2023, I was assigned to teach another undergraduate course, China and the World. At that moment, ChatGPT had already become one of the most popular tools for acquiring new knowledge in American colleges. When walking in the library at my institution in March 2023, I happened to see one of my students asking ChatGPT to help him to complete a writing assignment for my course. This observation motivated me not to give the "What is ChatGPT" lecture again but instead to devise an instructional section advancing college students' information literacy. In order to catch up with my Gen Z students, I also asked ChatGPT to answer academic questions. While I was occupied with preparing the summer course in early 2023, I became frustrated by how ChatGPT answered my question about female figures in Chinese political history, such as Republican China's "founding mother" Song Qinglin. ChatGPT-generated biographical information prioritizes her identity as the wife of Sun Yat-sen, the founding father of

About the Author

Shu Wan (shuwan@buffalo.edu) is a doctoral student at the University at Buffalo. © 2024.

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Republican China. Furthermore, ChatGPT summarized Song's achievements without significant attention to her advocacy for gender equality in 20th-century Chinese society, while it is commonplace for Chinese and gender historians to recognize this. Reckoning with the results from the perspective of a college history instructor, I was concerned about students' abuse of ChatGPT: without knowledge of the bias underlying its algorithm, they often unconditionally trust ChatGPT-generated information.

When preparing for that summer course, I decided to include a ChatGPT-based information literacy section based on an interactive writing assignment. Across two weeks, this assignment consisted of a class lecture and readings, critical practice with ChatGPT-generated information, and reflective postings on Padlet. I first lectured on the prejudice and social injustice underlying ChatGPT and their influence on the technology's outputs. Following the introduction, I requested that students choose among the following female figures in Chinese history and to select one of the relevant academic books to read:

- Empress Wu Zhetian
    - *N. Harry Rothschild, Emperor Wu Zhao and Her Pantheon of Devis, Divinities, and Dynastic Mothers*, Columbia University Press, 2018.
- Xue Shaohui
    - Nanxiu Qian, *Politics, Poetics, and Gender in Late Qing China: Xue Shaohui and the Era of Reform*, Stanford University Press, 2020.
- Song Qinglin
    - Louise Edwards, *Gender, Politics, and Democracy: Women's Suffrage in China*, Stanford University Press, 2022.
- Jiang Qing and Deng Yingchao
    - Zheng Wang, *Finding Women in the State: A Socialist Feminist Revolution in the People's Republic of China, 1949-1964*, University of California Press, 2017.

Following this, students were requested to take the following two steps: 1) ask ChatGPT to evaluate the selected figures; and 2) contrast the rhetorical difference in the machines' and historians' opinions (in the class reading) on them. In particular, students were encouraged to consider how and why gender historians' emphasis on women's rights and equality were overlooked by ChatGPT. Subsequently, students asked ChatGPT to assess Li Shimin (Empress Wu's husband and, later, father-in-law, also the greatest emperor in the same dynasty), Liang Qichao (Xue's contemporary, who pioneered in feminism and women's emancipation in in the 20th century), Sun Yat-sen (Song's husband, and the founding father of the Republic of China), Mao Zedong (Jiang's husband, who is widely known as "Chairman Mao"), and Zhou Enlai (Deng's husband, who is known as "Premier Zhou"). Contrasting the ChatGPT-generated information about paired political figures of different sexes, such as Wu Zetian and Li Shimin, students were expected to deliberate on how generative AI depicts men and women differently. Finally, all students were requested to post their critical reflections on Padlet and review each other's work. The dialogue between students could further their critical reckoning with ChatGPT-generated information from a feminist perspective.

While originally being designed for an Asian history course, my pedagogical experiment is expected to inspire college library workers to consider how to educate college students today. Traditionally, they commonly reference Google for academic information, but many have turned their attention to utilizing ChatGPT more recently across the world. Confronting the changing patterns of information behaviors, the training of information literacy should emphasize the risks

of using generative AI without the use of critical thinking skills. ChatGPT does not arise from out of nowhere but operates based on existing training data and algorithms. A proliferation of interdisciplinary critical studies of AI has revealed the bias underlying ChatGPT-generated information about, gender, race, and other factors. For instance, Nicole Gross examined ChatGPT-generated information in 2023, which led to the conclusion that "ChatGPT is gender biased."[2] More recently, medical experts Peter Lio and Kripa Ahuja reported, "When ChatGPT is prompted to "create an image of the most beautiful [man/woman/child/teenager], all images produced display subjects with Fitzpatrick Skin Type I," which refers to white skin color in everyday language."[3] Despite the rapid evolution and prevalence of ChatGPT and the proliferation of reports on its biases, college students rarely realize that generative AI is not an entirely reliable source of academic information, and that it does not replace Google. As Artur Strzelecki points out, "AI chat can be a great complement to traditional search engine services, but it cannot be relied upon as a sole source."[4] Instructional librarians should take responsibility for protecting students from ChatGPT-generated prejudicial content through instruction on information literacy.

Moreover, l feel alone among American historians when dealing with the influence of generative AI on higher education. Within the current debates on the appropriate use of ChatGPT in college education, American historians seemingly stand on the side of keeping caution, if not censorship, over the new technology in college education. Being trained as a librarian prior to becoming a historian, I am reluctant to bury my head in the sand and instead suggest fostering collaboration between historians. Composing this essay for this well-known academic journal widely read by library workers across the world, I encourage readers to consider reaching out to college instructors, especially those in humanities departments. In accordance with the varied requirements of different courses, librarians and instructors could adjust the content of information literacy instruction by including specific examples. For example, an African American studies course could request students to contrast the ChatGPT-generated discussions of Martin Luther King Jr. and Malcolm X. Likewise, gender studies courses could use the examples of feminists like Elizabeth Stanton and Ida B. Wells. Through contrasting generative AI's opinions on different figures, students are meant to comprehend how to seek and use academic information more critically.

Overall, generative AI represents a jack-in-the-box for both library workers and college instructors today. Aside from keeping an eye on the threat of the new technology to academic integrity, we can also integrate critical thinking about this new technology into the curriculum of information literacy.

ENDNOTES

[1] Beth McMurtrie, "Professors Ask: Are We Just Grading Robots?", *Chronicle of Higher Education*, June 13, 2024, https://www.chronicle.com/article/professors-ask-are-we-just-grading-robots.

[2] Nicole Gross, "What ChatGPT Tells Us about Gender: A Cautionary Tale about Performativity and Gender Biases in AI," *Social Sciences* 12, no. 8 (August 1, 2023): 435.

[3] Peter Lioand and Kripa Ahuja, "Beautiful Bias from ChatGPT," *The Journal of Clinical and Aesthetic Dermatology* 17, no. 6 (2024): 10.

[4] Artur Strzelecki, "Is ChatGPT-like Technology Going to Replace Commercial Search Engines?," *Library Hi Tech News* 41, no. 6 (April 4, 2024): 19.