Exploring ChatGPT with Undergraduate Students: Misinformation and Fabricated References

By Laurie M. Bridges and Diana Park (this blog post was written entirely by humans, despite Laurie's urge to do otherwise)

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Educators everywhere are grappling with the disruptive technology of generative artificial intelligence (AI). Librarians, who are at the center of information literacy instruction in many schools and universities, are juggling the task of learning about this quickly evolving technology while also teaching students about the algorithms within language learning models that lead to the creation of false information and fabricated references. As librarians and other educators explore these quickly emerging AI tools, we should involve students in conversations and experiential activities that investigate both the potential and challenges associated with using AI tools as part of the learning process.

In the spring of 2023 we, two librarians, were teaching a 2-credit class at Oregon State University titled Wikipedia and Information Equity. Halfway into the term, we decided to dedicate one 50-minute class period to a hands-on activity and discussion about ChatGPT. The capstone project in our course is a student-authored Wikipedia article on a topic of their choice. Students go through an iterative process in creating a Wikipedia article, which includes drafting their work in a sandbox and receiving feedback via peer review, along with instructor review. In mid-May, after students had finished their final draft but before publishing their articles, we facilitated the ChatGPT class activity.

This activity was not the first time we had discussed ChatGPT in our class. In an earlier class discussion on disinformation, a few students brought up the issue of ChatGPT generating

misinformation. Thus, all students were already familiar with ChatGPT even if they had not used it before participating in this activity. Our goal was that after the activity, students would be able to articulate the advantages and challenges of using ChatGPT to write Wikipedia articles and other class assignments. In addition, students would understand the problem of AI reference fabrications (also called hallucinations). A recap of the class session follows and could be reproduced in any class where students have conducted intensive secondary research on a limited topic. The class was split into three activities.

Solo Activity:

Students were instructed to bring a laptop or other mobile device to class for this activity (or they could check out a laptop at the library front desk).

Each student logged into ChatGPT (if the student, for any reason, did not feel comfortable creating a ChatGPT account, they could ask us to do the first task for them, and we would share the results via email).

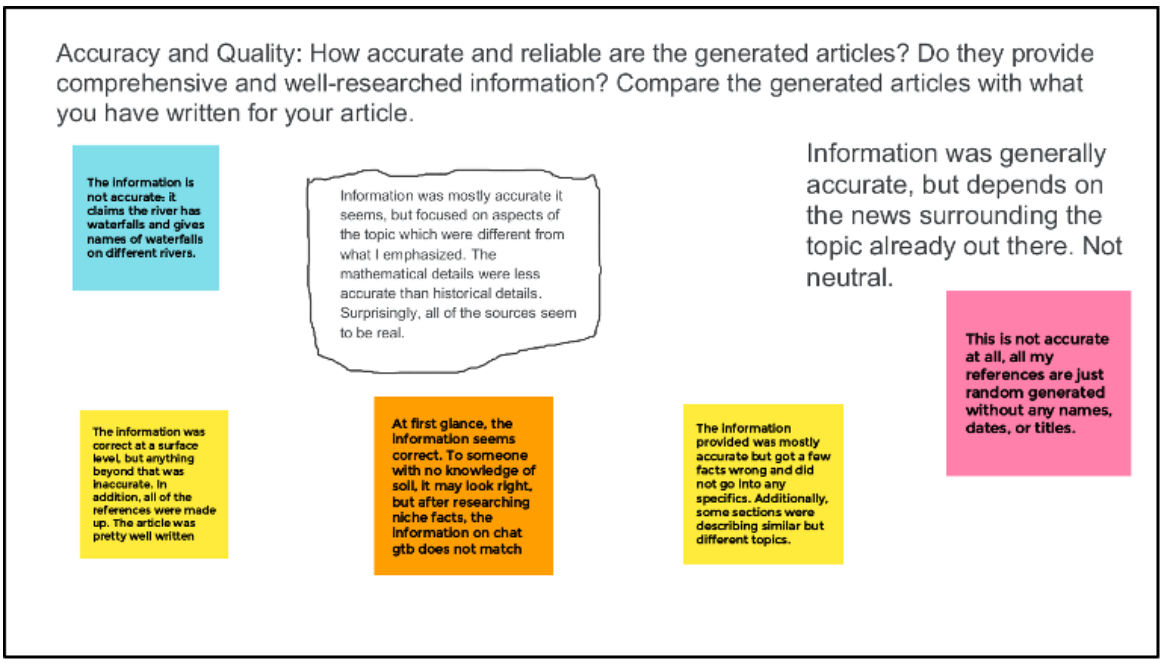
Each student typed the following prompt into ChatGPT (word for word): You are a Wikipedia editor. You are going to write a Wikipedia article about _____. The article should be 800 words or more. It needs to include a lead section and references.

Each student read through their ChatGPT article and considered its accuracy. They were also asked to consider the references, “Are they real?”

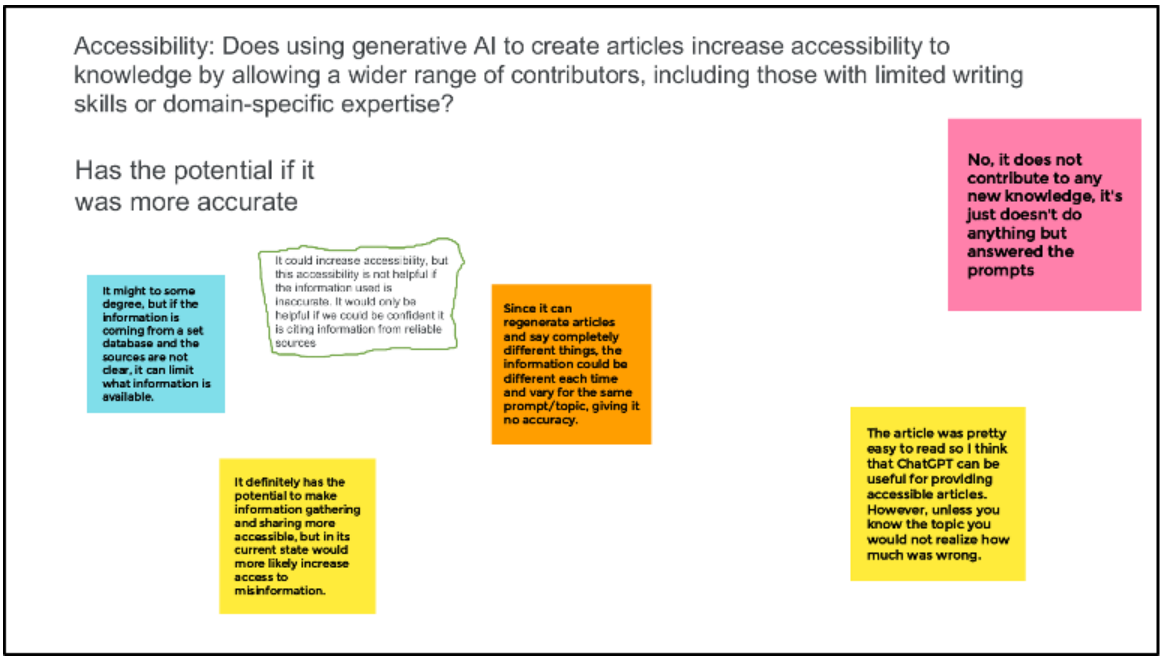
Small Group Activity:

In small groups of three, students discussed four questions face-to-face and recorded their thoughts on Jamboard. The four questions and Jamboard responses follow.

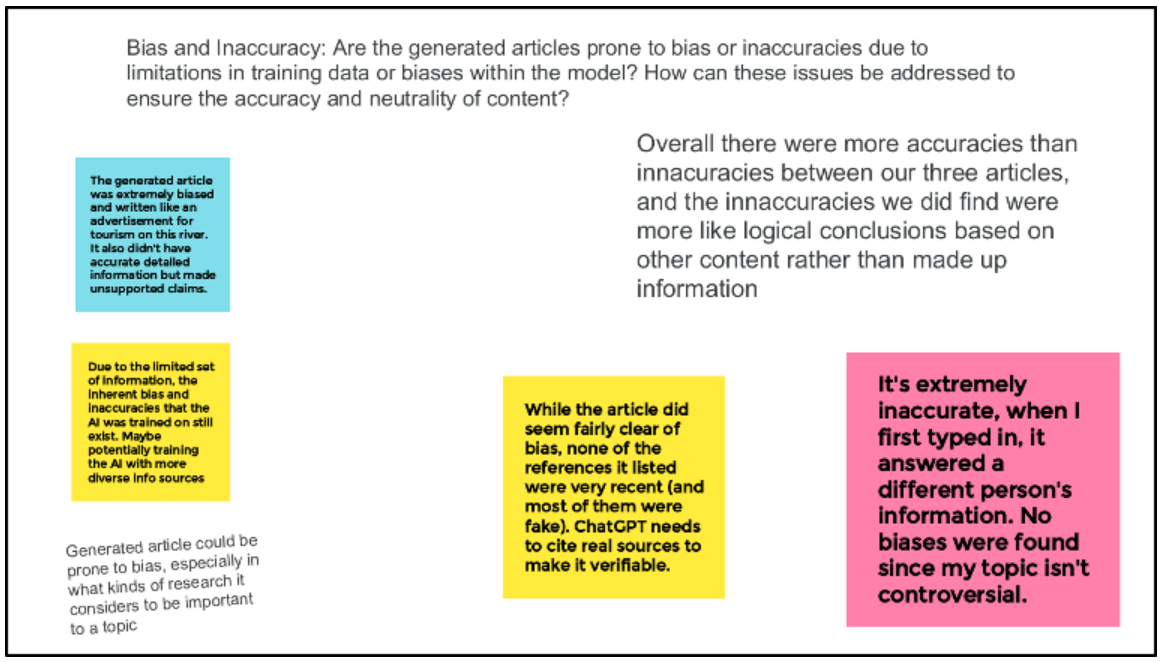
1. Accuracy and Quality: How accurate and reliable are the generated articles? Do they provide comprehensive and well-researched information? Compare the generated articles with what you have written for your article.



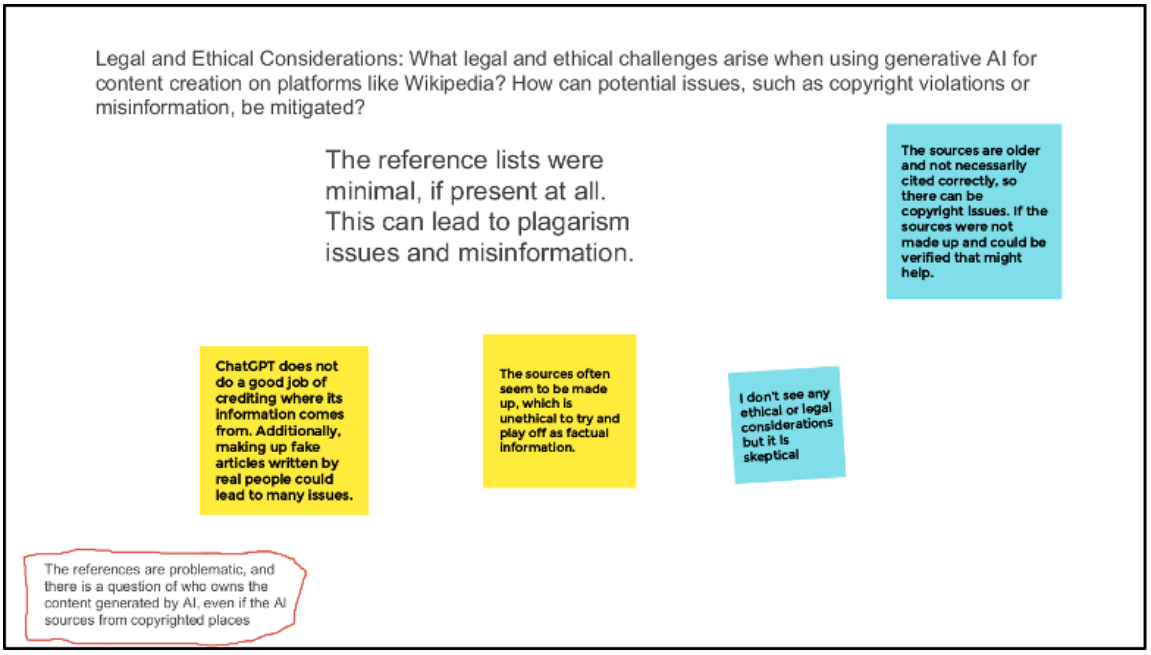
2. Accessibility: Does using generative AI to create articles increase accessibility to knowledge by allowing a wider range of contributors, including those with limited writing skills or domain-specific expertise?



3. Bias and Inaccuracy: Are the generated articles prone to bias or inaccuracies due to limitations in training data or biases within the model? How can these issues be addressed to ensure the accuracy and neutrality of content?



4. Legal and Ethical Considerations: What legal and ethical challenges arise when using generative AI for content creation on platforms like Wikipedia? How can potential issues, such as copyright violations or misinformation, be mitigated?



Whole Class Activity:

We led and participated in the whole class activity, which followed the students' small group discussions. We circled our desks, along with the students, to allow for a more spontaneous and natural conversation.

We went through the Jamboard responses with students. While discussing the first question, every student, except one, reported inaccuracies in their articles. For example, a student who had written an article about a river in Michigan for Wikipedia, shared that ChatGPT's article included information about waterfalls that did not exist. Another student who had created a Wikipedia article about a bestselling book shared that ChatGPT's chapter titles and summaries were completely fabricated. All students, except one, reported the references were either missing or fabricated. Students were generally surprised by how plausible the information and references appeared to be when they were, in fact, fabricated.

At the very end of the session, we revealed the Jamboard questions were created by ChatGPT. This led to further interesting conversations about the use of ChatGPT in other classes at Oregon State University (OSU) and how ChatGPT might be used to create more engaging conversation questions for classroom discussion.

Reflections from the Activity and Discussions:

Our class is rooted in participatory learning experiences with an emphasis on group discussions. In this model, everyone –including the instructors– shares their expertise while also learning from each other. We were interested in student perceptions of ChatGPT and also wanted to use relevant examples when creating this activity. Because students were already experts on the topics they were writing about, they could accurately pinpoint misinformation and fabrications by ChatGPT. Students were actively engaged, and we were excited to see them thinking critically about the information presented. In addition to the Wikipedia article, we ask students to write a reflection essay about the class. We were surprised to see that a few students mentioned AI as a topic they continued to think about after our classroom activity. One student mentioned the ethical concerns with AI-generated art and literature. A couple of students mentioned issues with bias and a lack of transparency in what information is used to train AI. We were gratified to see this is a topic that students have continued to reflect on and also make connections outside of the classroom.

This activity is a low-stakes exploration of a tool that has, for the most part, been dismissed and vilified by many faculty. As librarians that teach about and use Wikipedia in the classroom, this attitude is very familiar to us because of historical concerns with the accuracy of Wikipedia content. Based on our experience, faculty objections and bans on a new tool will likely have the opposite effect, and students will continue to use ChatGPT and other AI tools for schoolwork; a recent report from Tyton Partners substantiates this notion. Instead of making these tools taboo, we encourage librarians and faculty to have critical discussions with students about these tools and how to use them effectively.