Lessons Learned from Integrating Artificial Intelligence into a Writing-Intensive Research Methods Course

Gina M. Fernandez Tim Pressley
Christopher Newport University

Generative artificial intelligence (AI) has provided college students, and anyone else with internet access, an almost instantaneous ability to produce academic work (Banh & Strobel, 2023). As a result, higher education has been compelled to address new and evolving challenges related to AI. As with any significant shift in higher education, AI provides instructors with an opportunity to reflect and adapt the way we assess learning objectives. Our institution, a small, regional liberal arts university that mostly enrolls undergraduate students, is attempting to catch up with AI advances by offering a semester- long fellowship for faculty interested in incorporating AI into their classes (AI@ CNU). The fellowship provides faculty with a small stipend and dedicated workshops, facilitated by our Center for Effective Teaching (CET). Through this fellowship, we had the opportunity to pilot the use of AI in a writing intensive psychology (PSYC) course (PSYC 301; Research Methods in Psychology). The overall goal of using AI was to help students understand the strengths and weaknesses of AI, but also help students become more comfortable with AI. By modeling the use of ChatGPT, Consensus, and Connected Papers to find relevant sources, we were able to reduce a component of the anxiety students experience during the writing process, especially as they developed their first literature review.

Preparing for our AI Course

Since we both were AI novices, we relied heavily on video tutorials to explore ChatGPT, Consensus, and Connected Papers. Whenever we found an informative and engaging tutorial, we shared it with one another and assigned our students to view them as part of their assignment. The more we played with these AI programs, the more we realized that they would not only be beneficial to our students, but to ourselves as well. Throughout the semester, we used ChatGPT to develop prompts and AI related questions for assignments. We found that it was extremely time-saving, and rather than replacing our role as instructors, it helped us generate a variety of examples we would not have had time to write ourselves.

We selected AI programs that would help students with an initial step towards writing a comprehensive research paper that involved finding and evaluating relevant primary sources. We approached AI with equal parts of curiosity and caution, excited about the possibilities, but mindful of the ethical gray areas. We also made it clear to students that we were learning along with them

throughout the semester. This allowed students to see that using AI was an ongoing learning process.

Integrating AI into our Classes

At the beginning of the semester, students reported a fear of plagiarism related consequences (e.g., being referred to the Honor Council for cheating) and hesitations about the accuracy of the information provided by AI in relation to writing. We addressed their cheating related concerns by communicating clear guidelines on when and how students could use AI within their assignment prompts. Students were repeatedly reminded that AI tools are acceptable for brainstorming, but not for writing the bulk of their literature review.

After introducing these policies, we believe that most students were honest about using AI (Chan & Hu, 2023). When concerns arose, we provided opportunities for students to discuss them with us during office hours or their dedicated writing time during laboratory sessions. We approached student questions regarding AI use in our classroom with an understanding that they want AI to be integrated responsibly rather than banned. During class lectures and assignments dedicated to American Psychological Association (APA) citation guidelines, we also reviewed their suggestions for citing AI related content (Alea Albada & Woods, 2024).

In response to students' concerns about accuracy, we provided them with links to YouTube tutorials on Consensus and Connected Papers (AI-powered search engines) to help them explore empirical literature. Additionally, students had to verify the source material, demonstrating that critical thinking is still required in an AI- assisted approach to research. In class, we also had ChatGPT write an introductory paragraph on a research topic, which we then revised as a class. Students were able to observe our review process, modeling the revision process that is crucial to writing. Students were then given an opportunity to revise a second prompt with feedback provided by the professor. This allowed students to revise a prompt independently, which the class then reviewed together to clarify any questions.

In developing our AI class content, we adapted previous assignments. The original work had asked students to use library databases to find sources, and our updated assignment simply asked students to also use Consensus. Since Consensus can generate accurate source annotations and citations, we replaced our annotated bibliography assignment with one that asked students to use Connected Papers to practice prompt generation and compare and contrast results obtained from the library databases. From our observations, students found relevant sources faster, articles from higher quality journals, and were less likely to reference thesis/dissertation abstracts compared to previous semesters.

Overall, students responded positively when AI tools were framed as learning aids, especially those who fell within the B through C grading range. Interestingly, students who were performing well noted that they did not want to use AI outside of the required assignments because they were already comfortable with the research and writing process. However, students who were hesitant

about their capacity to conduct research appreciated the instantaneous feedback that AI provided. We also noted that student perspectives were consistent across our course sections. Students appreciated AI for brainstorming and fact-checking, but hesitated to use it for final answers. A number of students indicated that Consensus and/or Connected Papers were confusing to use, and preferred to use programs they were already familiar with (e.g., ChatGPT; Google Scholar). Overall, we found that integrating AI supported several APA learning goals, such as Communication, Psychological Literacy, and Technology Skills. This integration also prepared students for modern research practices (APA, 2023).

Moving Forward

Given that this was our first intentional use of AI in the classroom, we came across some difficulties that we have not fully addressed. Prompt engineering proved challenging. Early on, we were not always sure how to ask ChatGPT for precisely the content we wanted. It took trial and error (and time viewing video tutorials) to realize that AI outputs depend heavily on prompt wording and iterative feedback. Because of this, we did not introduce prompt writing to students; however, we recognize in the future that this will be an important concept to incorporate into the use of AI. As students had initially feared, ChatGPT sometimes produced plausible but incorrect information (i.e., hallucinations). For example, a student shared an incorrect answer that ChatGPT had generated for a take-home quiz question. This immediately prompted the need for in-class discussion regarding the limits of AI use (e.g., what constitutes the use of AI as a study guide; the importance of reviewing AI output) within the first weeks of class. As mentioned previously, we encouraged students to approach AI with the same level of skepticism required for any other source of information.

Our AI related assignments in PSYC 301 were an initial step that opened up more possibilities than expected, and we plan to build on our work for the Fall 2025 course offerings. To address students' hesitancy regarding AI hallucinations and misinformation, we plan to devote an entire week's worth of laboratory time to developing effective AI prompt engineering, helping students become more intentional and critical in how they interact with these tools. We also intend to have students develop their own AI use statements, fostering ownership of their roles as consumers of information.

AI is not going anywhere. AI technology will continue to evolve as new tools emerge, old programs are updated or fully replaced, and ethical guidelines are updated to reflect these shifts (Denneny, 2025). Although our fellowship only covered our work for one semester, we will continue to develop our AI-related pedagogy, aided in part by student feedback. We plan to keep adapting, guided not only by emerging best practices, but by our students' questions, doubts, and insights. If nothing else, this reminded us that teaching is never static; it is about staying open to new tools and to change. We are confident that these efforts strengthen our course offerings and provide students with relevant research competence.

Note

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Correspondence regarding this essay should be addressed to Gina M. Fernandez, Psychology Department, Christopher Newport University, Forbes Hall 2022, 1 Avenue of the Arts, Newport News, VA 23606, United States. Email: gina.fernandez@cnu.edu

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