How I Reheated My Pedagogical Nachos: Incorporating Generative Artificial Intelligence into a Behavioral Science Research Methods Class

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Never did I think I would write anything about the use of artificial intelligence, yet here I am! So, to start, I've taught our major's research methods for the past 3 years at a military service academy. This is not seen as a course with the "sexy" types of topics that draw people into our major. The struggle with the research methods course is that typically, for the first time, students are engaging with academic literature as they develop research proposals, which is the final project for the course. They also find learning about the ins-and-outs of the research process "dry" and/or "boring." I was asked to revamp this course because I am known as someone who designs engaging and interesting courses for students. However, my pedagogical skills (nachos) were getting a bit stale, especially without incorporating this new technology. *Reheating nachos* refers to when someone revisits something from earlier in their career, reviving or revisiting something that was 'fresh' or 'creative' (Mather, 2025). So, in an effort to reheat my pedagogical nachos, I decided to take some risks in course design and jump face first into incorporating generative artificial intelligence tools (GAI-T) into this course.

Obviously, we all know on some level about student GAI-T and its current use in our classrooms. It honestly reminds me of when I was in high school during the proliferation of programmable calculators. The use of a programmable calculator was considered the height of mathematical cheating in my early 1990's high school calculus course. Yet today, upper-level math is almost exclusively taught with computers that increases efficiency, having students focus less on *doing it by hand* and more on *interpreting* the results. It seems the use of technology to increase efficiency has finally come for the language arts. Students are already using GAI-T in the classroom (Campbell & Cox, 2024) and forbidding and/or detecting unapproved GAI-T use may be futile (Sullivan et al., 2023). It seems what may be left is to embrace the change and focus on the ethical and practical use of GAI-T to aid in comprehension and writing (Campbell & Cox, 2024; Johnston et al., 2025).

First, I wanted students to tackle consuming academic literature effectively and efficiently in this course. I have found that students today read, but they don't understand how to read academically. With a shift to digital media products, reading stamina and comprehension has declined (Chang et al., 2023; Twenge et al., 2019). Some postulate it may be due to shorter, cognitively easier ways to consume information digitally (Chang et al., 2023). It may be due to only 17% of 3rd to 8th grade teachers assigning whole texts instead of excerpts from texts (Coleman, 2024), or even that teenagers' lives today are overscheduled with activities that there is little time left for reading (Still-

waggon, 2024). Whatever the reason, I wanted to find a way to engage them with academic literature in a way that seemed non-threatening and would help with their comprehension of sometimes difficult readings.

That is when I stumbled upon NotebookLM, a Google GAI-T. I had fears about the hallucinations that GAI-T is known to have (e.g. ChatGPT says I've written a book, but I never have). I was determined to find something that would not hallucinate and would enable students to interact with the material and technology. NotebookLM was perfect for two main reasons. One is that you upload the information into the user interface, and that is the only information NotebookLM will use when you ask it questions. If the answers to the questions posed to it are not in the information, it will tell you the information provided does not have the answer. Secondly, and something that I think is even more important, NotebookLM CITES where it pulls the information. As it answers your prompts, it places numbers after responses, and those numbers correspond to information in the sources provided from where it pulled the answer. This confirmation of where the answers come from is huge, as it also reinforces the behavior for students to always cite information that you did not generate yourself!

My incorporation of NotebookLM altered my course in the following ways. Originally, students in the methods class picked topics in groups of 3 or 4, and each student was required to find 5 articles related to the agreed upon topic. To help guide their comprehension of the articles as well as to help provide notes to their peers in the group, a worksheet was provided with 8 questions that had prompts like "What specific measures or procedures were used in this particular study? Were there any limitations to these measures?" and "Articulate the central message of this article. The best answers will be compelling, precisely stated, and focus on all elements in the article." These article summary worksheets were shared among the group members, and each student was required to use their 5 articles and identify 5 additional ones that their group members found that they would use. The design was to lower the burden of finding all research on their own and not making the reading so daunting. Feedback from students before GAI-T implementation on this process was positive, as they appreciated learning how to engage better with academic literature.

However, with NotebookLM, the assignment changed quite drastically. I first altered the worksheet to include prompts for NotebookLM like, "What are the main points of the introduction?" and "What is the main take away from this article? What did the authors want the reader to 'walk away with'?" as well as prompts for them to reflect on without AI use like, "What impact does this article have on your understanding of your topic? What information is key for you to consider and include in your paper for your research topic?" These altered prompts led to students providing more precise, direct information as well as better reflections on how the article impacted their research projects. Furthermore, each student individually was responsible for finding 12 articles that they would use for their own topic; there was no more sharing of sources. As my students might say, I reheated my so-called pedagogical nachos by taking an assignment that was working well enough, but by pushing my boundaries and trying something new, I added new spice and the result was extra tasty!

To assess students' understanding of their research topics and concepts and help shape how

to write scientifically, students then create outlines for their research proposals. First, the students complete an outline without the use of GAI-T. Following the incorporation of GAI-T for background research effort, the student outlines showed greater depth, understanding, and organization than I have seen in previous semesters.

I have been quite surprised at the impact that the incorporation of GAI-T has had on my students' learning. Students have always told me they read assigned literature; it wasn't until this experience I was able to understand that while it may have appeared they hadn't read, they actually had. It only appeared as if they hadn't read because they lacked the skills to comprehend or retain what they read from an academic perspective (Chang et al., 2023). It wasn't the lack of effort; it was the lack of previous instruction and know-how (Coleman, 2024). This tool has been seen as incredibly useful by the students; so much so that they have used this tool and the method I taught them for understanding academic readings in other courses. I am definitely going to continue to incorporate the use of GAI-T into my teaching (and my own writing!). Consider my pedagogical nachos fully reheated.

Keep in mind when trying something new in a class, it helps to be vulnerable with your students. I let my students know the incorporation of GAI-T was a new process, and that I was open to the fact that I and they may make some mistakes. In the beginning, we talked about intent. I let students know that as long as their intent was to follow my direction regarding when to use GAI-T and when not to, I would not penalize them. However, this trust went both ways, and that meant they had to fully listen, engage, and follow the course GAI-T policy explicitly. Disclosure of GAI-T use was mandatory as part of ethical use (Campbell & Cox, 2024; Johnston et al., 2025), as well as providing prompts and outputs. I also incorporated several demonstrations (including having students compare blinded excerpts of a research article that I authored, and one that GAI-T authored) to engage them in conversations about why we might use GAI-T. The rule of thumb is we can use GAI-T to improve, augment, refine, or polish what we have created, but we cannot use it to generate our work. Interestingly, this approach fits with what students from other institutions also report. For example, a recent conference presentation affirmed that students do not want to use GAI-T to the point that they lose their self-efficacy in their learning (Ayala et al., 2025). As a result of this journey that I was willing to take, I learned that we need to lean into this new technology. I encourage us all to find the creativity and energy we had when we first started as professors and instructors and use GAI-T to reheat our own pedagogical nachos!

Author's Note

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