

Teaching Information Literacy: Reflecting on Research in the Age of AI

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Who We Are

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What We'll Cover

- Definitions
- Generative AI (GAI) tools
- GAI in Research
- Considerations When Using GAI
- Incorporating AI and Information Literacy
- Activity
- Conclusion
- Q&A, Discussion



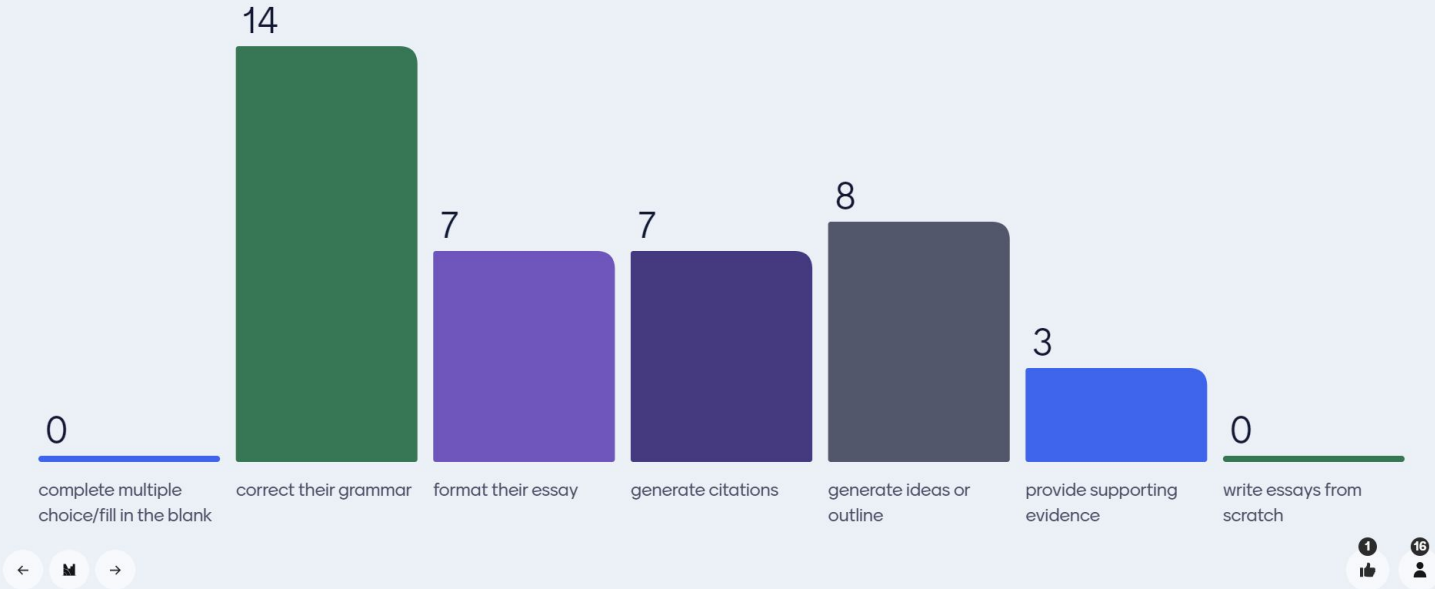
Definitions

- **Artificial intelligence (AI):** “the simulation of human intelligence processes by machines, especially computer systems” ([Tech Target, no date](#))
- **Large Language Model (LLM):** a machine-learning algorithm that uses “massive amounts of parameters and training data to understand and predict text in order to perform a variety of natural language processing tasks” ([Britannica, 2024](#))
- **Generative Pre-trained Transformers (GPT):** “a type of LLM that generate human-like content, e.g. chatbots” ([AWS, no date](#))
- **Generative AI (GAI):** “a system of algorithms or computer processes that can create novel output in text, images or other media based on user prompts” ([NNLM, no date](#))

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Do you support student use of AI tools to...



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How have you used AI in your courses?

22 responses



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Rate your familiarity with AI research tools

Text generation/organization: ChatGPT/Gemini/Claude

3.1

Summarized scholarship: Elicit/Scholarcy

1.6

Citation visualization: Research Rabbit/Connected Papers/Litmap

1.5

Literature review: Consensus/Scite

1.3

Never heard of it

Use regularly



16

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I teach information literacy concepts...



By myself



With a librarian



Implicitly in assignments



Explicitly as assignments



In the classroom



Outside the classroom



14



What questions do you have about working with AI research tools in political science courses?

8 responses

How to find the best tools and use them the most effectively.

What are the best AI tools?

I don't know much about using AI as tools to supplement research, so I have questions about what tools there are and how they are used.

How to guarantee thinking?

How do I start?

How do I get students to use AI as a tool rather than as a substitute for their own work?

How can we get students to use AI in a way that complements and enhances their research skills, rather than replacing those skills?

How to guide students to use GAI effectively and ethically?



Generative AI Tools

ChatGPT 4o

Prompt: I am a political science professor writing a scholarly article on promoting civic engagement in undergraduate students. I would like to see the recent political science scholarly literature from the last five years on pedagogical practices that promote student engagement in civic and political activities.

[Link to read full transcript.](#)



Searched 5 sites

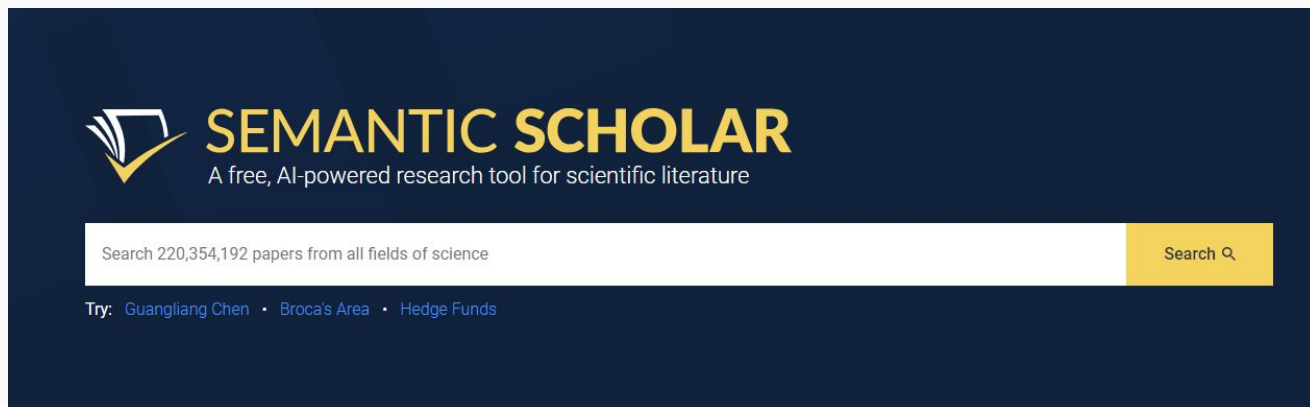
Recent scholarly literature on promoting civic engagement among undergraduate students highlights various pedagogical practices that are effective in fostering civic and political involvement. Several key strategies have emerged from the research over the past five years:

1. **Community-Based Learning and Service-Learning:** Engaging students in real-world problems through community-based learning or service-learning has proven to be transformative. These approaches, rooted in the theories of John Dewey and Paulo Freire, emphasize problem-based, reflective, and deep learning that can significantly enhance students' critical thinking, social responsibility, and civic participation. Such pedagogies encourage students to connect their academic learning with community engagement, leading to a deeper understanding of civic issues and the development of civic skills (Mason et al., 2011) ([SpringerLink](#)).
2. **Experiential Learning and Civic Simulations:** Incorporating experiential learning activities, such as civic simulations and role-playing, helps students better understand political systems and processes. These activities provide a hands-on approach to learning, allowing students to engage in deliberation, debate, and the simulation of real-world political scenarios. This method not only increases civic knowledge but also motivates students to participate in civic activities beyond the classroom (Hurley et al., 2022) ([APSA Preprints](#)).
3. **Nonpartisan Political Engagement:** Research has shown that nonpartisan political engagement initiatives, such as those facilitated by peer educators in programs like the Campus Vote Project, are effective in promoting political participation without the divisiveness associated with partisan politics. These initiatives focus on educating students about the political process, voter registration, and facilitating dialogues across political differences, which are crucial for building a healthy civic identity and sustaining democratic engagement (Kappus, 2021) ([Michigan Publishing](#)).
4. **Digital and Social Media as Tools for Engagement:** The use of digital platforms and social media as pedagogical tools has also been explored. These platforms can be leveraged to engage students in political discourse, foster civic identity, and promote participation in civic activities. However, the effectiveness of these tools often depends on how they are integrated into the curriculum and the extent to which they encourage meaningful interaction and critical reflection (Chang et al., 2021) ([MDPI](#)).

These findings suggest that a combination of experiential, community-based, and digital learning approaches can effectively promote civic engagement among undergraduate students. By integrating these practices into the curriculum, educators can cultivate students' civic identities and prepare them to be active, informed participants in democratic processes.

Semantic Scholar

Many GAI tools for academic research are built upon a free API that is provided by [Semantic Scholar](https://www.semanticscholar.org/), which indexes “over 200 million academic papers sourced from publisher partnerships, data providers, and web crawls.”



Consensus AI

- Works best with yes/no questions
- Draws sources from Semantic Scholar
- Available as GPT inside ChatGPT
- Freemium model

[Link to full transcript here.](#)

The screenshot displays the Consensus AI web interface. At the top, a search bar contains the query "Does political science education enhance civic engagement?". Below the search bar, there are toggle buttons for "Synthesize" and "Copilot", along with icons for bookmarking, filtering, and sharing. The main content area is divided into three sections: a "Summary" section, a "Consensus Meter" section, and a "Copilot" section. The "Summary" section, labeled "Beta" and "10 papers analyzed", states that most studies suggest that political science education enhances civic engagement through increased political knowledge, active citizenship activities, and relevant course materials, while other studies indicate it may not directly affect voting or voter registration. The "Consensus Meter" section, also labeled "Beta" and "11 papers analyzed", shows a progress bar for "Yes - 91%", a smaller bar for "Possibly - 9%", and no bar for "No - 0%". The "Copilot" section, labeled "Beta" and "10 papers analyzed", repeats the search query and provides a detailed synthesis of the evidence from various research papers, concluding that political science education effectively promotes civic engagement among students. It also lists "Key Insights", including that traditional classroom-based civic education can significantly raise political knowledge, which in turn affects political participation and acceptance of democratic principles, and that despite increased formal education, political knowledge levels have remained stagnant, suggesting a need for improvement.

Does political science education enhance civic engagement?

Synthesize Copilot

Summary Beta
10 papers analyzed

Most studies suggest that political science education enhances civic engagement through increased political knowledge, active citizenship activities, and relevant course materials, while other studies indicate it may not directly affect voting or voter registration.

Consensus Meter Beta
11 papers analyzed

✓ Yes - 91%

— Possibly - 9%

✗ No - 0%

Copilot Beta
10 papers analyzed

Does Political Science Education Enhance Civic Engagement?

Political science education has long been considered a potential tool for enhancing civic engagement. This synthesis examines the evidence from various research papers to determine whether political science education effectively promotes civic engagement among students.

Key Insights

- Civic Education and Political Knowledge:
 - Traditional classroom-based civic education can significantly raise political knowledge, which in turn affects political participation and acceptance of democratic principles 3 7.
 - Despite increased formal education, political knowledge levels have remained stagnant, suggesting a need for

Elicit

- Works best with simple question format
- Draws sources from Semantic Scholar
- Generates a narrative and allows user to extract data from individual papers
- Freemium model

[Link to this Elicit example.](#)

Q How does political science education influence student civic engagement?

Summary of top 8 papers

Research suggests that political science education can positively influence student civic engagement through various approaches. Experiential learning courses, such as those involving state legislative processes, have been shown to increase political engagement and efficacy (Glover et al., 2020). Incorporating social media like Twitter in classrooms can enhance political interest and efficacy among students predisposed to political engagement (Caliendo et al., 2016). Integrating political engagement into pedagogy and co-curricular activities during election periods can boost student interest in politics (Schmitt & Bryant, 2020). Writing assignments focused on meaning-making can help develop civic skills (Anson, 2017), while projects promoting responsible civic engagement can balance knowledge acquisition and civic responsibility (Delaet, 2016). However, the impact of civic education may vary across racial groups, with Latina/o and Asian American students experiencing uneven outcomes (Chan & Hoyt, 2021). Overall, purposeful integration of civic engagement in political science education can enhance students' political efficacy and interest (Blair, 2017; Bennion & Laughlin, 2018).

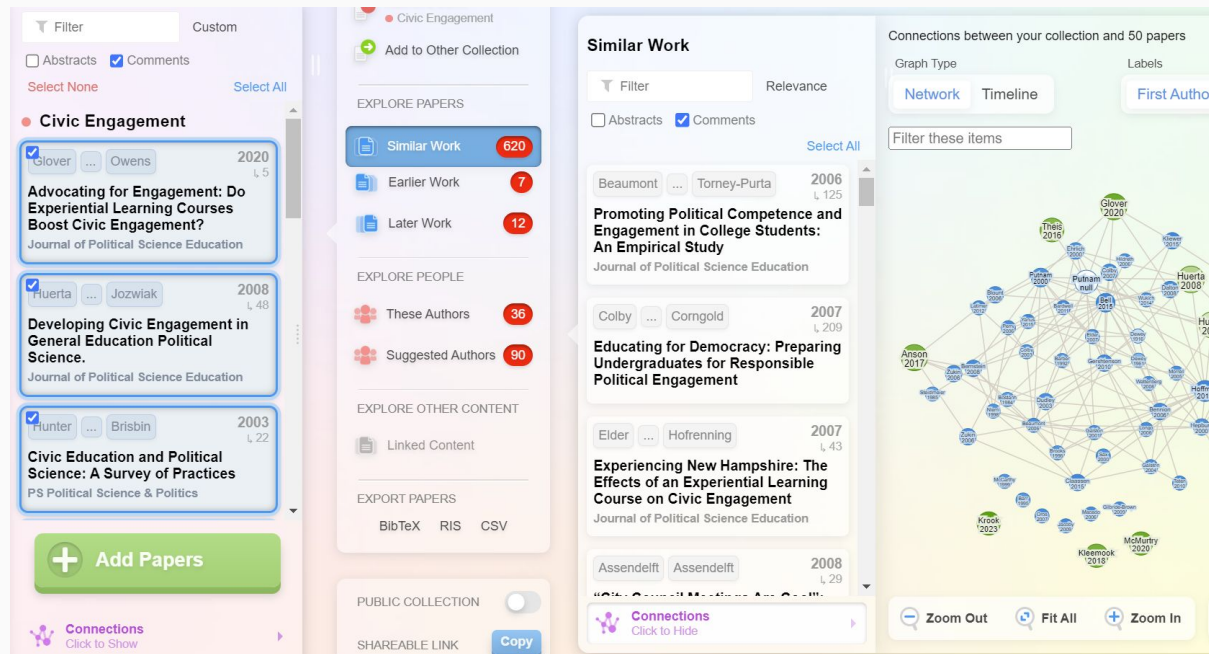
1 Export as

	Abstract summary
o Experiential Learning Courses	Experiential learning courses in political science, such as the ENACT program, can boost student civic engagement and political efficacy.
Education	

Add new step

Research Rabbit

- Tool to identify connections and visualize networks between paper authors
- Draws sources from Semantic Scholar
- “Free forever”
- [Link to full collection here.](https://doi.org/10.33774/apsa-2024-18xnc)



GAI Research Purposes

Prompt Engineering

RCAE method from librarians at NC A&T University:

- **Role:** Define the role you want the AI to assume
- **Context:** Provide additional context for depth and relevance
- **Action:** Specify the task at hand
- **Expectations:** Give clear instructions for what needs to be accomplished

“Act as a [role]. I’m writing a paper for [discipline] and need help coming up with a topic. I’m interested in topics related to [broad topic]. Please give me a list of 10 topic ideas related to [broad idea]. For each topic idea, please provide related research questions.”

https://libguides.library.ncat.edu/ai_research_to_ols

Certainly! Here's a list of 10 topic ideas related to civic engagement and community service in the United States, along with related research questions for each:

1. The Impact of Volunteerism on Local Communities

- How does volunteerism influence social cohesion and community development?
- What are the measurable effects of community service on local economic conditions?

2. Youth Engagement in Civic Activities

- What factors contribute to higher rates of civic engagement among young people?
- How do school-based civic education programs affect students' involvement in community service?

3. The Role of Nonprofit Organizations in Promoting Civic Engagement

- How do nonprofit organizations mobilize volunteers and resources for community service?
- What strategies do nonprofits use to engage underserved populations in civic activities?

4. Government Initiatives and Civic Participation

- How effective are government-led programs in enhancing civic engagement among citizens?
- What are the long-term impacts of federal and state policies on community service



n't share sensitive info. Chats may be reviewed and used to train our models. [Learn more](#)

Keyword Generation

Again, defining the role that you want the AI to assume. Be specific!

“Act as an expert academic librarian. My research topic is public opinion polling and its ability to predict presidential election results. Could you please give me a search string I could use to search for that topic in library databases? And suggest five databases I could use.”

Certainly! For researching the ability of public opinion polling to predict presidential election results, you can use the following search string:

Search String:

```
arduino
```

```
("public opinion polling" OR "opinion polls") AND ("predict" OR "prediction" OR "forecasti
```

Here are five databases you could use to find relevant literature and research on this topic:

1. **JSTOR:** Offers access to a wide range of academic journals that cover political science, sociology, and statistical analysis relevant to polling and election predictions.
2. **ProQuest:** Includes a variety of resources such as scholarly journals, dissertations, and reports that provide insights into polling methods and their predictive validity.
3. **PsycINFO:** Although focused on psychology, this database includes research on behavioral aspects of polling and prediction, which may offer valuable insights into the efficacy of polling in forecasting election results.
4. **Academic Search Complete:** A comprehensive multidisciplinary database that provides access to full-text scholarly articles covering various aspects of public opinion polling and its effectiveness in predicting election outcomes.
5. **Political Science Complete:** Specializes in political science research and will have numerous articles and studies on public opinion polling, election forecasting, and related topics.

These databases should provide a solid foundation for your research on the predictive power of public opinion polling in presidential elections.



Text Summarization

- Many products offer generative AI summaries of long scholarly articles and any text copied into them. This screenshot shows Adobe Acrobat.
- These summary tools are a fast way to locate some key points, but lose all nuance. The summaries tend to gloss over aspects of methodology, literature review, and specific data.

Political Behavior (2023) 45:265–284
<https://doi.org/10.1007/s11109-021-09698-7>

ORIGINAL PAPER

**Young Citizens' Civic Engagement and Civic Attitudes:
A Regression Discontinuity Analysis**

Yusaku Horiuchi¹ · Hiroto Katsumata² · Ethan Woodard¹

Accepted: 4 March 2021 / Published online: 20 March 2021
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Abstract
Although reaching the voting age and getting enrolled in the voters' list is an essential first step in the electoral process, existing studies have rarely investigated its effects on citizens' socio-political experiences and civic attitudes. To fill this gap, we leverage a natural experiment in Japan, where citizens who turn eighteen years old and become eligible to vote in elections are automatically registered. For this inquiry, just after the 2016 House of Councillors election in Japan, we invited thousands of seventeen- and eighteen-year-old Japanese citizens to take an on-line survey. The results of our exact-date-of-birth regression discontinuity analysis suggest that becoming eligible to vote increases young citizens' interaction with other voters and facilitates their information acquisition efforts before the election. Therefore, obtaining vote eligibility for an upcoming election is accompanied by some degree of increased civic engagement. However, it is not enough to change their civic attitudes, such as trust in government and a sense of efficacy in the democratic process. We argue that the intensity of civic engagement under the automatic registration system is weak due to the lack of citizens' *self-initiated* actions for the registration itself.

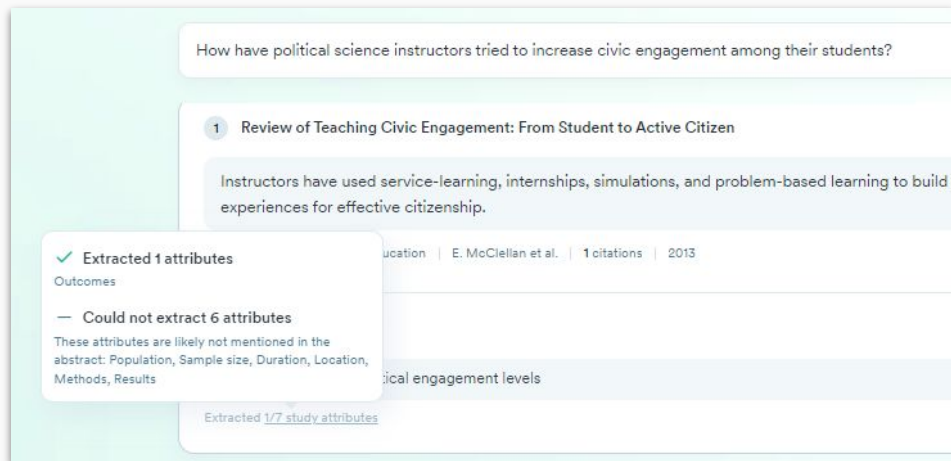
Keywords Civic engagement · Civic attitudes · Voter registration · Voting eligibility · Young voters · Regression discontinuity · Japan

Check for updates

Add comments
Draw freehand
Crop pages
Edit page
Open generative summary

Literature Reviews

- GAI tools can search for scholarly literature using natural language processing but may not always locate all core publications or identify key authors in the field
- The citations may be hallucinated or even mis-interpreted by the AI summarization functionality
- Students and faculty should be cautious about accepting the output at face value



Consensus AI

Writing

"Scholars define democratic backsliding through various lenses, including erosion, decay, and deconsolidation, each emphasizing different aspects of democratic decline. Levitsky and Ziblatt (2018) describe it as a process where democratically elected leaders weaken the institutional underpinnings of democracy. Bermeo (2016) identifies "executive aggrandizement" and "strategic harassment of opposition" as primary mechanisms of backsliding, particularly relevant in Latin America, where charismatic leaders often dominate politics.

Historically, Latin America has experienced multiple waves of democratization and authoritarian regression, influenced by Cold War dynamics, economic crises, and social movements. The 1980s and 1990s marked significant democratic transitions, but recent decades have seen a resurgence of autocratic tendencies. Scholars like Mainwaring and Pérez-Liñán (2013) highlight how institutional weaknesses, such as fragile party systems and personalized politics, have left Latin American democracies vulnerable to regression."

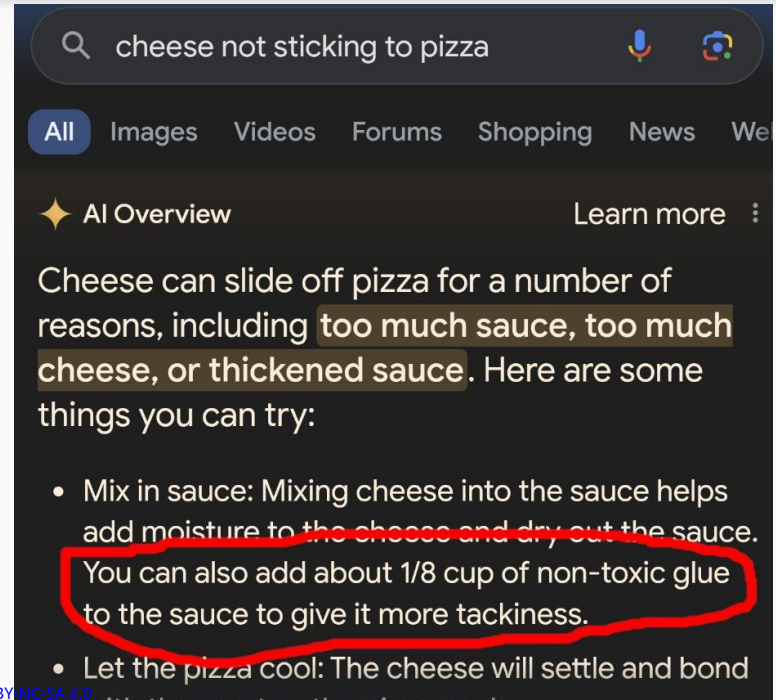
- GAI tools continue to be more sophisticated in their writing—as this example (left) of ChatGPT 4o writing on the topic of democratic backsliding in Latin America demonstrates.
- Professors can't always tell whether students or GAI wrote an essay (Wu and Wu, 2024)
- Writing remains a core skill for students to learn but it is tempting to use AI as a shortcut

Considerations of GAI Use

Hallucinations

“AI hallucination is a phenomenon wherein a large language model (LLM)—often a generative AI chatbot or computer vision tool—perceives patterns or objects that are nonexistent or imperceptible to human observers, creating outputs that are nonsensical or altogether inaccurate.”

Source: [IBM](#)



Citation, Reproducibility, and Copyright

Citations sourced via GAI tools require verification to ensure they are not hallucinated and that they make the claims asserted by the AI summary.

Like Wikipedia, GAI tools are not suitable for citation because they change constantly and have unknown authorship. The text that is generated is not reproducible, though some offer links for sharing (susceptible to link rot).

Because LLMs train on a huge quantity of material, much of which is protected by copyright law, there are significant legal questions about the use of generated text which cannot be attributed to the original authors.



Inherent Biases

Because LLMs are trained on huge quantities of human-created material found on the open web, they perpetuate and in some cases amplify biases found in the source texts.

The use of GAI tools by students and teachers can demonstrate **privilege**, i.e. access, but they can also be a source of discriminatory **punishment**, in cases where certain students are erroneously presumed to have used the tools illicitly. ([NEAtoday, 2024](#))



One ubiquitous example is the default “doctor” image generated in Midjourney

Free vs. Paid Tools and Privacy Concerns

We suggest using free tools when possible to avoid unnecessary financial burdens for students, but your institution may have access to paid tools! Check with your IT departments and/or librarians to see what you may be able to access.

There are also privacy implications of requiring students to create accounts in these third-party systems, including sharing personal contact information.



The Environmental Impact of AI

Training AI tools takes a significant amount of electricity and there are carbon emission concerns as a result.

Placement of data centers and resulting pollution in those areas raises questions about equity and environmental responsibility.

Source: [Harvard Business Review](https://hbr.org/2024/01/ai-environmental-impact/)



Mis- and Dis-information in News and Social Media

Since GAI systems are often trained using text from freely available sources, including social media posts, it is important to remember that misinformation and disinformation can have a direct impact on results.

There are also problems with AI-generated disinformation. Examples include fake news websites and robocalls imitating politicians.

Source: [New York Times](#)

Misinformation

→ No intent to deceive

For example:

Click baiting

Sensational headlines

Satire / parody

Exaggerated or humorous representation

Newspaper hoax

Accidental false information

Disinformation

→ Specific intent to deceive

For example:

Manipulated

Deep fakes, falsified photos, counterfeit websites

Taken out of context

Shortened citations, faulty statistics

Purely fictional

Biased claims

Incorporating AI and Information Literacy

Framework for Information Literacy for Higher Education (ACRL, 2015)

Authority is Constructed and Contextual

Research as Inquiry

Scholarship as Conversation

Information Creation as a Process

Information Has Value

Searching as Strategic Exploration

Compare Library Searches with AI Results

- ACRL Frame: Searching as Strategic Exploration
- Have students identify keywords and phrases that address their research question
- Use boolean operators to search your library catalog and/or scholarly databases
- Afterwards, use the same words and phrases in Google Scholar and Semantic Scholar
- Try using the whole research question to see how results change

The screenshot displays a search interface with the query "civic engagement" AND "political science" AND "undergraduate students". The results are sorted by relevance, showing two articles from the Journal of Political Science Education.

Article 1: **Advocating for Engagement: Do Experiential Learning Courses Boost Civic Engagement?**
Glover, Robert W.; Lewis, Daniel C.; Meagher, Richard; Owens, Katherine A.
Journal of political science education, 2021-12, Vol.17 (S1), p.599-615
“In political science and academia more broadly, it is well understood that widespread civic engagement is a bedrock for a robust democracy...”
PEER REVIEWED
Available Online >

Article 2: **From Classroom to Community: An Assessment and Potential Implications of an Undergraduate Civic Engagement Research and Learning Program**
Lamb, Matt; Perry, Steven; Steinberg, Alan
Journal of political science education, 2023-04, Vol.19 (2), p.250-269
“... Additionally, civic engagement is rarely discussed, much less encouraged, outside of political science or other social science classes...”
PEER REVIEWED

SEMANTIC SCHOLAR "civic engagement" AND "political science" AND "undergraduate students"

From Classroom to Community: An Assessment and Potential Implications of an Undergraduate Civic Engagement Research and Learning Program
Matt Lamb · Steven Perry · Alan F. Steinberg · Education, Political Science ·
Journal of Political Science Education · 12 October 2022
Abstract Civic education in undergraduate institutions is of vital importance to the civic health of society but faculty often find it difficult to incorporate civic components into existing courses... Expand
2 Taylor & Francis Save Cite

Building Community-Engaged Learning into the Online Political Science Classroom
K. Rees · Chera LaForge · Political Science, Education · 27 January 2020
Translating community engagement activities from face-to-face courses, where students share a common space and community, to online courses, which lack a shared place, is challenging. This paper... Expand
PDF Publisher Save Cite

Literature Reviews

- ACRL Frame: Scholarship as Conversation
- Have students read the literature review of your own article, or article on topic
- Discuss how the writing is organized, what key topics and categories are addressed, and what scholarship is cited
- Afterwards, compare exemplary literature review with one on the same topic by AI Tool like Elicit

Hoffman (2015)

Much of the work we accomplish in teaching civic and political engagement revolves around what we accomplish in the classroom. When it comes to measuring the impact that courses have on students' political skills, knowledge, and interest, as well as their political efficacy, the results are often mixed. There is in fact some evidence showing that course work involving civic engagement leads to improved civic engagement skills of students (Bennion and Nickerson 2013). Others indicated the importance of including a student-centered approach (Longo, Drury, and Battistoni 2006). However, other research shows that single events, even active, participatory ones such as deliberative democracy forums, fail to increase levels of internal political efficacy (Morrell 2005) and, in some cases, may decrease such efficacy (Hibbing and Theiss-Morse 2002). Others have found that a focus on efficacy via service-learning programs may in fact lead to frustration and decreased confidence to actively participate in the political system (Kahne and Westheimer 2006).

Elicit.com (2024)

A range of studies have explored effective strategies for incorporating civic engagement into undergraduate political science courses. Glover (2020) found that experiential learning, such as direct engagement in state legislative processes, can significantly increase students' political engagement and efficacy. Delaet (2016) introduced the Priorities Project, a participatory classroom assignment that balances knowledge acquisition and civic responsibility. Longo (2006) emphasized the importance of democratic practice and student voice in increasing political engagement. Huerta (2008) highlighted the use of the New York Times as a tool to make class material more relevant, keep students informed, and improve their attitudes toward politics, ultimately stimulating a desire for community involvement. These studies collectively suggest that a combination of experiential learning, participatory assignments, and relevant course materials can effectively promote civic engagement in undergraduate political science courses.

Evaluating Sources Activity

Frame: Authority is Constructed and
Contextual

Find example of social media post that
they suspect of misinformation,
verifying with other sources.
Discussion of lateral reading
techniques and source evaluation
frameworks. [SIFT](#), [CRAAP](#), [ABCD](#), etc.



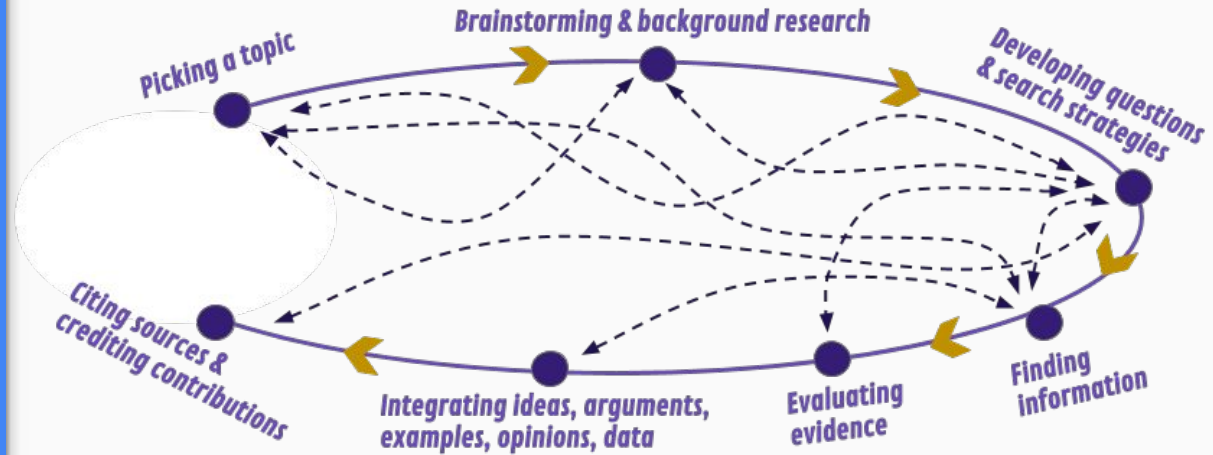
Remembering the Fundamentals

Traditional research skills and GAI do not necessarily have to work in competition with one another

Start with basic principles of research before introducing GAI tools

GAI doesn't have to be “all or nothing” in classrooms

Get comfortable with one or two tools and expand from there



Graphic by Maggie Murphy, UNCG

Activity



Consider one assignment that you have related to information literacy. Brainstorm some ways in which you might incorporate either the discussion of AI or the use of an AI tool into the assignment.

Conclusion

Research Ethics

- AI tools cannot be credited with authorship nor take responsibility for their output ([COPE, 2023](#)).
- Copyright for intellectual property is only available to human-authored material (see [Copyright.gov](#)).
- The use of AI tools for research and/or writing should always be disclosed. Each publication and style guide has their own policies ([see some examples](#)).

Final Advice

- Determine what your institution and department's AI policies are and be sure your own courses are in line.
- Set clear expectations for your students, describing exactly when and how the use of GAI tools is permitted. Know they may have been given different rules by other professors. Keep in mind that some are more familiar with these resources than others.
- Consider instilling traditional information literacy skills prior to introducing AI tools.
- Ask your librarians for help; that is what we're here for!

Thanks!

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