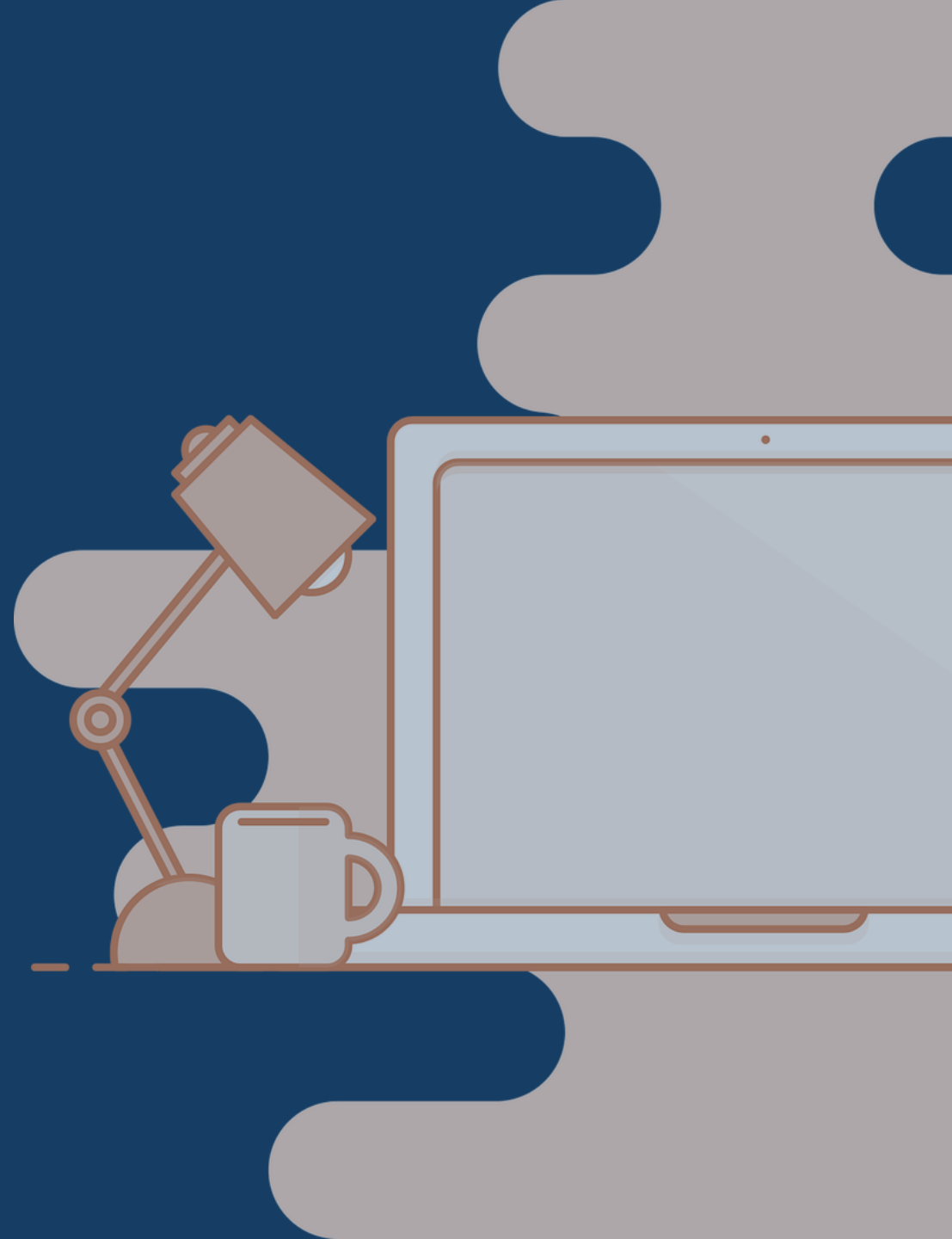


Using AI in your writing process

Zoe Speidel Douglas, M.A.

May 2024



Zoe Speidel Douglas, MA
Writing Specialist
Academic Success Center
(she/her/hers)



- ✓ Learning Support
- ✓ Writing Support
- ✓ Tutoring Program

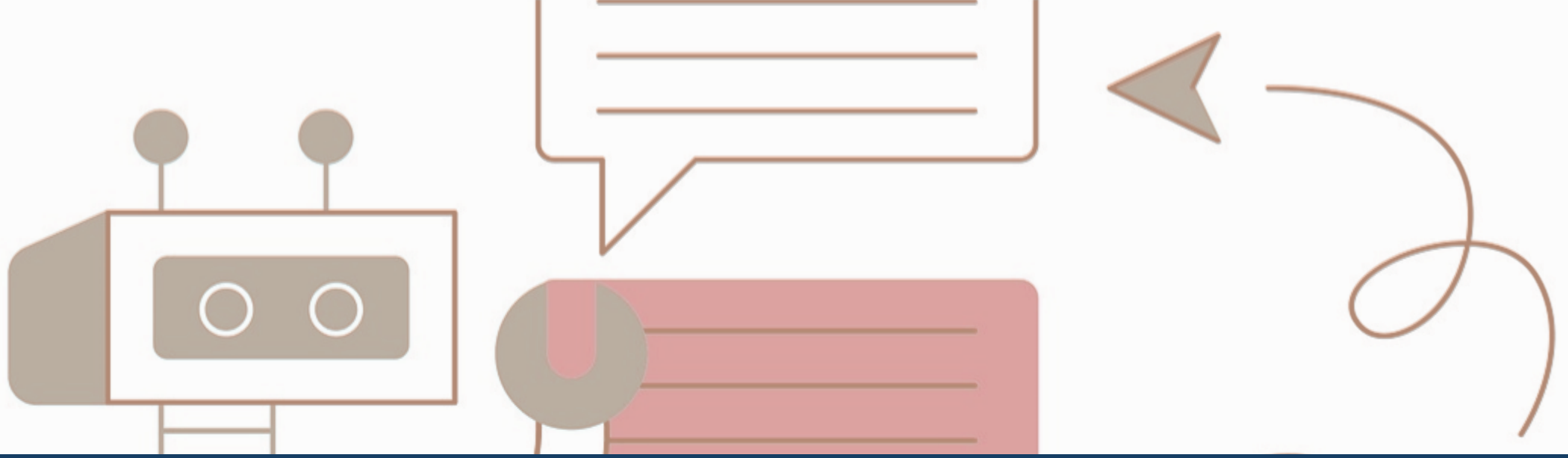


The plan

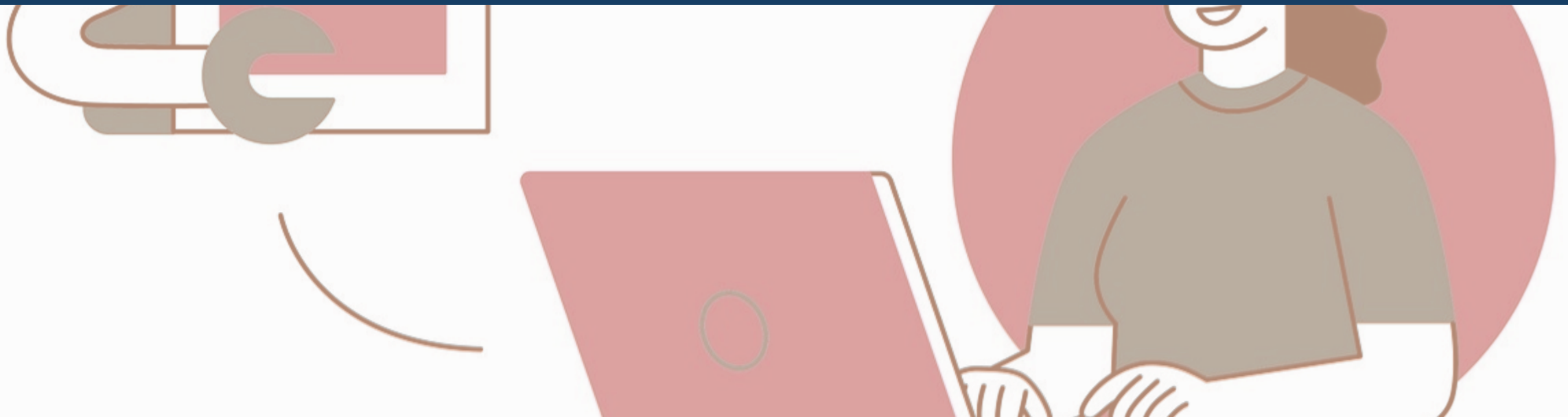
- Define generative AI
- AI tools
- Prompts
- Writing process
- Attribution & citation
- Publishing
- Limitations

Learning objectives

- Write effective prompts for generative AI tools
- Use generative AI ethically and effectively during the writing process
- Determine appropriate disclosure and/or citation for generative AI use
- Consider the ethics and practicalities of using generative AI



Define generative AI



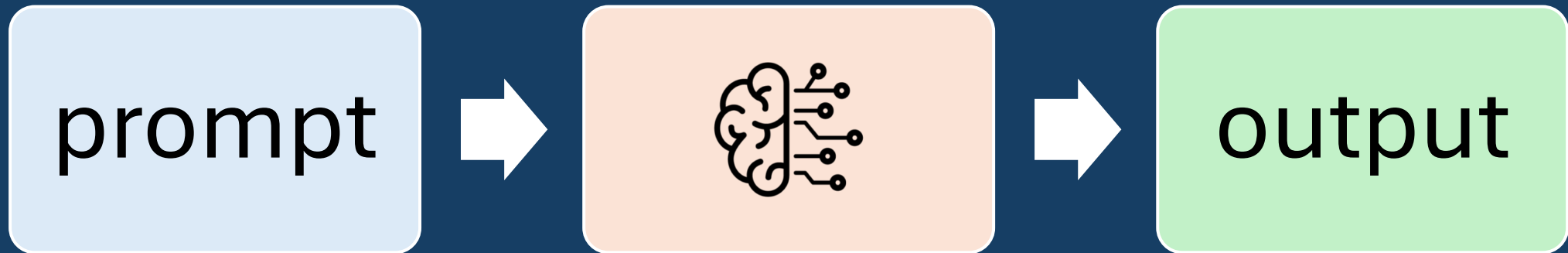
Generative AI

“computer systems that can produce, or generate, various forms of traditionally human expression, in the form of digital content including language, images, video, and music”

(Byrd et al, 2023)

Large Language Models (LLMs)

“subset of generative AI used to deliver text-based formats like prose, poetry, or even programming code” (Byrd et al, 2023)





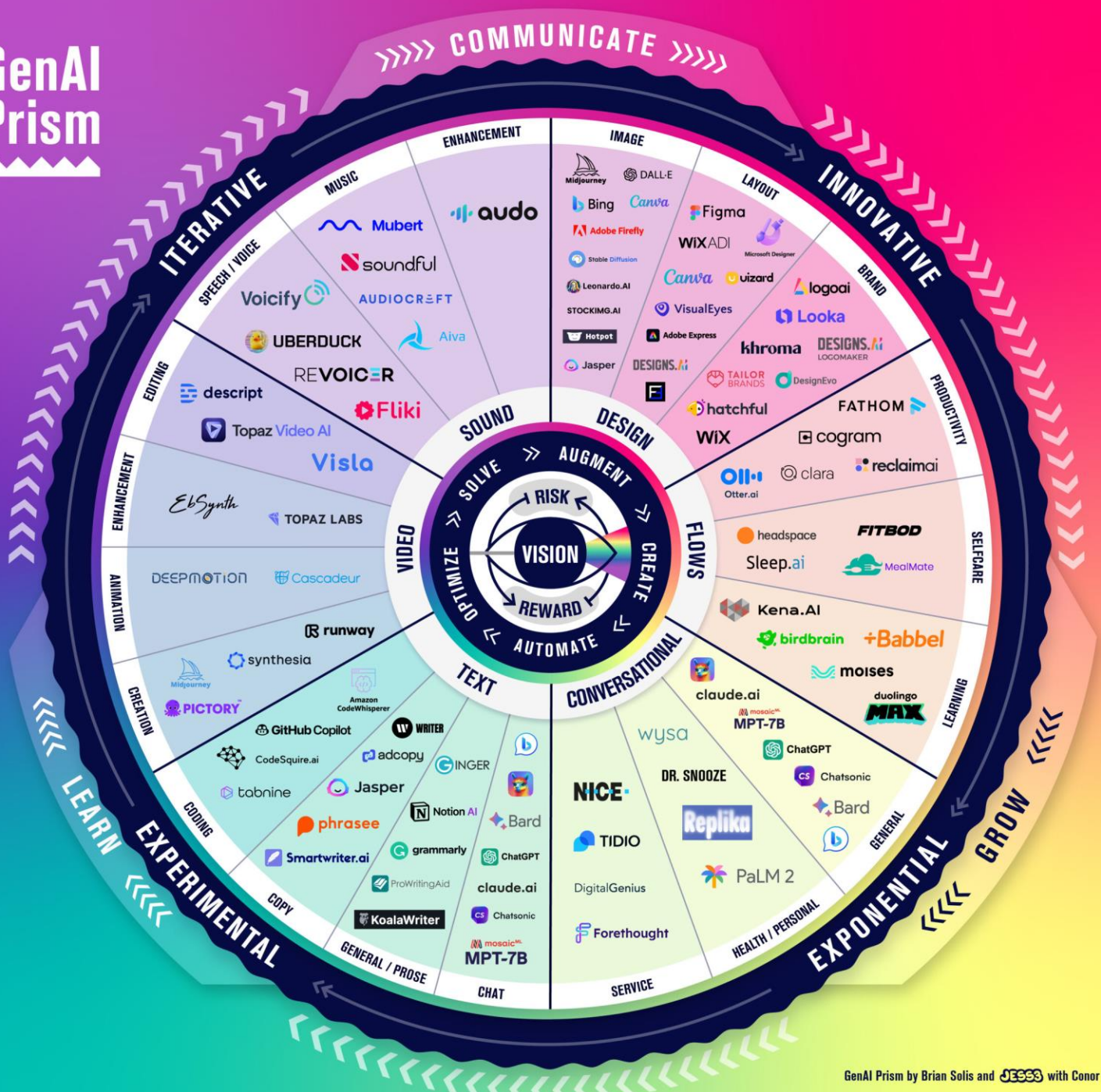
AI tools



What to consider

- Purpose
- Deliverable
- Work flow
- Open source
- Accuracy and precision
- Cost

GenAI Prism



The image features a stylized illustration of a man in a suit and tie, holding a smartphone. The man is rendered in shades of brown and tan. Behind him is a large, bright white sun. A dark blue horizontal band is positioned across the middle of the image, containing the word "Prompts" in white text.

Prompts

Create specific prompts

Be precise & clear

Provide quality input (data to analyze)

Describe context (role, situation, audience)

Specify tasks, process, output/deliverable

Refine responses (if needed)

Context (role, situation)

Context (how to behave)

You are an easygoing graduate professor in a Rhetoric and Composition program. Provide general feedback on the introduction of this article I've written:

Instructions

“Inventing the University,” published in the *Journal of Basic Writing* in 1986, was the focus of composition studies on writing process during the 1970s and 1980s. In this article, Bartholomae advocates for the examination of the product of student writing, both in terms of theory and research method. Though it does not seem that it was Bartholomae’s intention, this article gave rise to a debate about academic writing, with Bartholomae, a self-proclaimed cognitivist, on one side and Peter Elbow, an iconic figure in the process movement, on the other. The other articles examined in this trace—“Writing with teachers: A conversation with Peter Elbow” (Bartholomae, 1995), “Being a writer vs. being an academic: A conflict in goals” (Elbow, 1995), “Interchanges” (Bartholomae et al, 1995), and “‘Inventing the university’ at 25: An interview with David Bartholomae” (Bartholomae & Schilb, 2011)—span the 25 years following the publication of “Inventing.” These pieces, however, do not only reveal the differences in Bartholomae and Elbow’s conceptions of what academic writing is and how it should be taught, but also the similarities in their ultimate goals for students.

Input (data to analyze)

Your introduction sets a clear and engaging foundation for your discussion of Bartholomae's "Inventing the University" and its broader implications in composition studies. Here are a few points of feedback to refine and strengthen it:

- Clarify Context and Purpose: It would be helpful to briefly explain what "composition studies" and the "process movement" entail, especially for readers who might not be familiar with these terms.
- Smooth Transitions: Some of your sentences could flow more smoothly into each other. Consider using transitional phrases to guide the reader through your argument more seamlessly.

...

Provide feedback on the same introduction, but now be really nitpicky about how it needs to be improved.

Refinement!

Rules & ethics





Writing process



Using AI in the writing process: Early stages

- Refine research questions
- Identify additional search terms
- Claims/thesis statements/central arguments
- Outline from zero draft
- Body paragraph structure
- Topic sentence options
- Summaries, paraphrases of sources
- Generate models of writing (w/ caution)

Any of these
could be
disallowed

Any of these
might require
some kind of
attribution

Using AI in the writing process: Later stages

- Receive feedback on a draft
- Evaluate for audience appropriateness
- Summarize for abstract
- Identify keywords/search terms
- Data analysis & visualization
- Review data for errors and bias
- Translation
- Bullet points for lecture, presentation

Any of these
could be
disallowed

Any of these
might require
some kind of
attribution

Receive feedback on a draft

Context (how to behave)

Context (role, situation)

You are an **easygoing** graduate professor in a Rhetoric and Composition program. Provide **general feedback** on the **introduction** of this article I've written:

Instructions

“Inventing the University,” published in the Journal of Basic Writing in 1986, was the focus of composition studies on writing process during the 1970s and 1980s. In this article, Bartholomae advocates for the examination of the product of student writing, both in terms of theory and research method. Though it does not seem that it was Bartholomae’s intention, this article gave rise to a debate about academic writing, with Bartholomae, a self-proclaimed cognitivist, on one side and Peter Elbow, an iconic figure in the process movement, on the other. The other articles examined in this trace—“Writing with teachers: A conversation with Peter Elbow” (Bartholomae, 1995), “Being a writer vs. being an academic: A conflict in goals” (Elbow, 1995), “Interchanges” (Bartholomae et al, 1995), and “‘Inventing the university’ at 25: An interview with David Bartholomae” (Bartholomae & Schilb, 2011)—span the 25 years following the publication of “Inventing.” These pieces, however, do not only reveal the differences in Bartholomae and Elbow’s conceptions of what academic writing is and how it should be taught, but also the similarities in their ultimate goals for students.

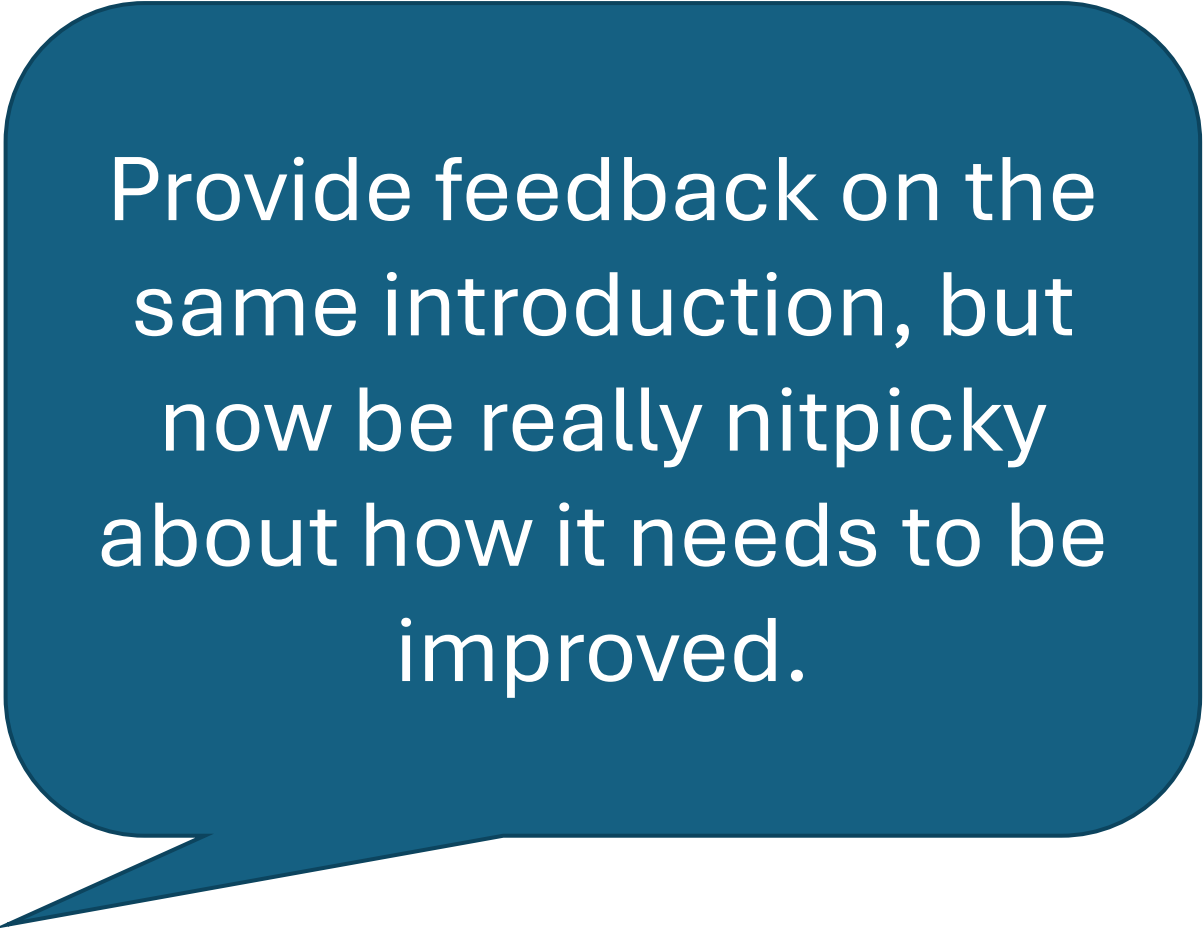
Input (data to analyze)

Your introduction sets a clear and engaging foundation for your discussion of Bartholomae's "Inventing the University" and its broader implications in composition studies. Here are a few points of feedback to refine and strengthen it:

- **Clarify Context and Purpose:** It would be helpful to briefly explain what "composition studies" and the "process movement" entail, especially for readers who might not be familiar with these terms.
- **Smooth Transitions:** Some of your sentences could flow more smoothly into each other. Consider using transitional phrases to guide the reader through your argument more seamlessly.
- ...

Results of request for “general feedback”

- Provided a rewritten version using its feedback, even though I didn't ask for that
- Identified 5 areas for improvement
- Provided general guidance on content and structure
- Did not provide many examples



Provide feedback on the same introduction, but now be really nitpicky about how it needs to be improved.

Your introduction is well-written and provides a clear overview of the topic. However, there are several areas where you can make improvements to enhance clarity, flow, and depth. Here are some nitpicky suggestions:

- **Title Formatting:** Ensure consistency in how you format titles. For instance, "Inventing the University" is in quotes while journal titles like the *Journal of Basic Writing* should be italicized.
- **Clarity and Specificity:**
 - "Reaction to the focus of composition studies on writing process during the 1970s and 1980s" is somewhat vague. Specify what aspects of the writing process were focused on and why this was significant.
 - Instead of "examination of the product of student writing," clarify what you mean by "product" and how this contrasts with the writing process.
- **Grammar and Punctuation:**
 - Use a comma before "published in the *Journal of Basic Writing* in 1986," to avoid a run-on sentence.
 - ...

Results of request for “nitpicky” feedback

- Provided a rewritten version using its feedback, even though I didn't ask for that
- Identified 9 areas for improvement
- Mostly addressed sentence-level mechanics
- Provided multiple examples to show me how to change

Make a presentation outline from a paper

Create an **outline** for a **30-minute presentation on this paper**. This is for a job talk, so the **audience** will be colleagues at a university who I do not know and who are deciding whether or not they want to hire me. This means they will likely be familiar with these scholars but perhaps not with the specifics of their ideas or work. I also need to make sure it's clear how what I'm discussing is relevant to the scholarship I'll be expected to perform as a tenure-track faculty member (if they hire me).

David Bartholomae's "Inventing the university," published in the Journal of Basic Writing in 1986, was a reaction to the process movement in composition studies during the 1970s and 1980s...

Presentation Outline: Overlooked Similarities and Incompatible Differences in the Bartholomae/Elbow Debate

- Introduction (5 minutes)
- The Bartholomae/Elbow Debate: Overview (5 minutes)
- Unsung Similarities (8 minutes)
- Irreconcilable Differences (8 minutes)
- Relevance to My Scholarship and Teaching (4 minutes)
- Conclusion (5 minutes)
- Q&A Session (3 minutes)

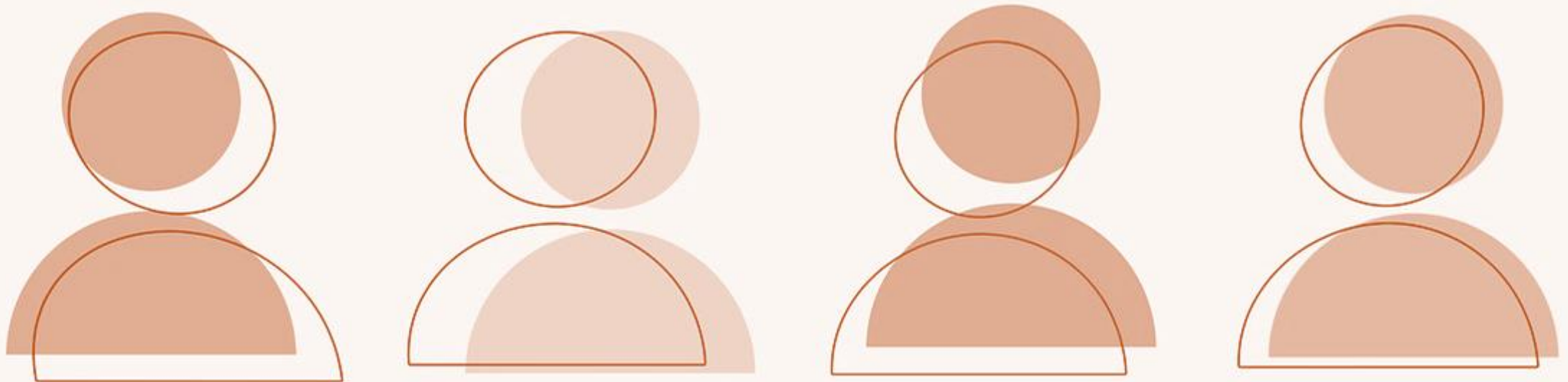
Ok, but this is
38 minutes...







Attribution & citation



How different styles cite GenAI

AMA

Format: *Software Name*. Version no. Publisher; Year. Accessed Date. URL

Example: *ChatGPT*. Version Mar 14. OpenAI; 2023. Accessed March 28, 2023. <https://openai.com/>

APA

Format: Author. (Date). *Name of tool* (Version of tool) [Large language model]. URL

Example: OpenAI. (2023). *ChatGPT* (Mar 14 version) [Large language model]. <https://chat.openai.com/chat>

CMS

Format: Author, Title, Publisher, Date, url for the tool.

Example: Text generated by ChatGPT, OpenAI, March 7, 2023, <https://chat.openai.com/chat>.

OR ChatGPT, response to "Explain how to make pizza dough from common household ingredients," OpenAI, March 7, 2023, <https://chat.openai.com/chat>.

Citation vs. disclosure

Citation

- Discloses when something isn't the author's original idea
- Gives credit to whoever's idea it *actually* was
- Allows the reader to follow a scholarly thread
- Situates our own ideas in a larger conversation

Disclosure

- Describes AI's role in the creation of the text
- Provides prompts, complete chat logs
- No way for reader to follow the thread
- Might occur in methods, acknowledgments, appendices

Cover your bases

- Follow attribution/citation/disclosure policies
- Thoroughly track and document GenAI use
- Read sources cited by AI yourself



How publishers are using AI

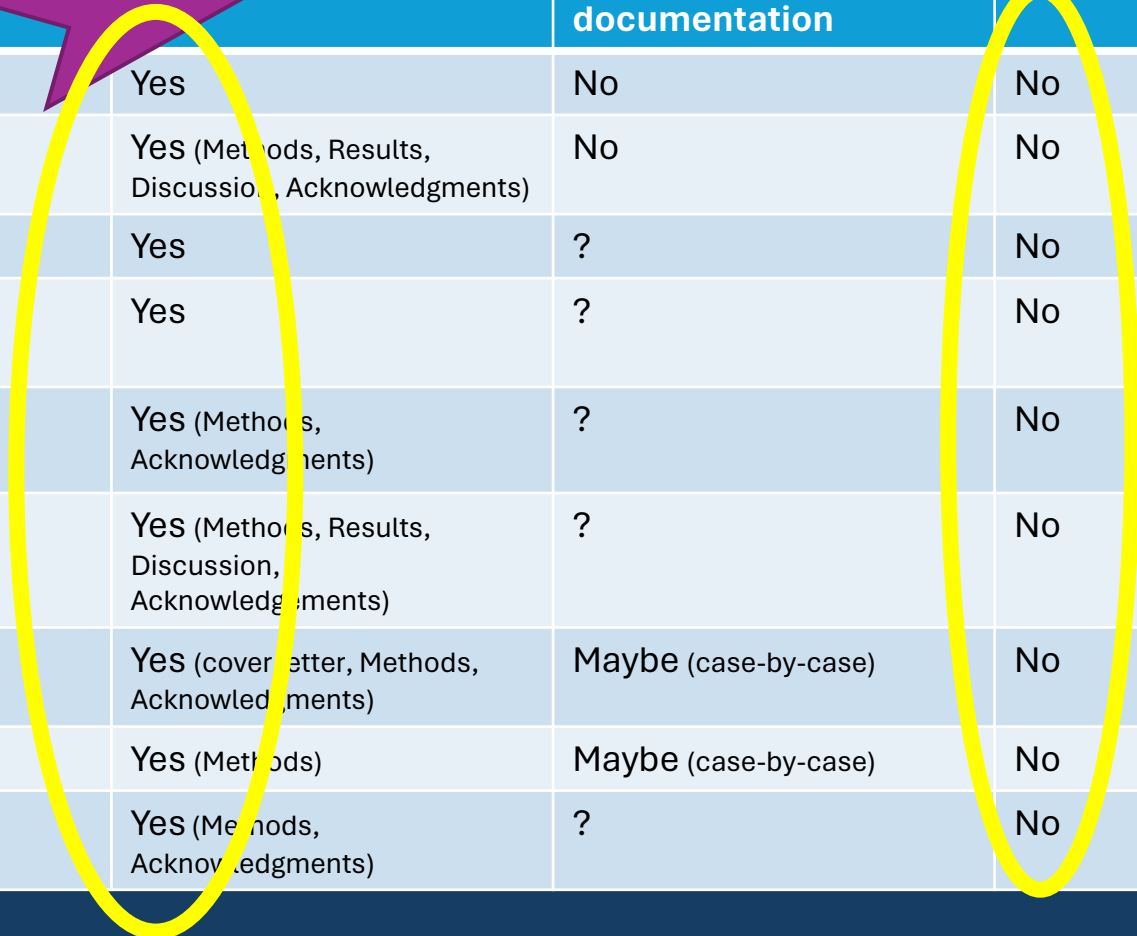
- Not sole decision maker (myth of “automatic rejections”)
- Suitability scores for selecting a journal (if they oversee many)
- Copyediting scores
- Identifying plagiarism, paper-mills
- Conflicts of interest
- Proposal Classifier (NSF)
- Resubmit Checker (NSF)
- Vocabulary Explorer (NSF)
- Suggest Reviewer Dashboard (NSF)

Some publisher GenAI policies

Publisher	Allows generated text documentation	Allows generated images w/ documentation	Grants GenAI	Allows reviewers to use during peer review process
Elsevier	Yes	No	No	No
JAMA	Yes (Methods, Results, Discussion, Acknowledgments)	No	No	No
NIH	Yes	?	No	No
NSF	Yes	?	No	allows approved AI tools for reviewers
PLOS	Yes (Methods, Acknowledgments)	?	No	No (except for improving reviewer's report)
Sage	Yes (Methods, Results, Discussion, Acknowledgments)	?	No	No
Science	Yes (cover letter, Methods, Acknowledgments)	Maybe (case-by-case)	No	No
Springer Nature	Yes (Methods)	Maybe (case-by-case)	No	No
Wiley	Yes (Methods, Acknowledgments)	?	No	No (except for improving reviewer's report)

Author is responsible; mostly excludes spell, grammar check

Confidentiality concerns



HONOR SYSTEM

As of right now, there is no AI detection software with a high accuracy rate



A stylized illustration of a megaphone in shades of brown and tan, positioned centrally on the page. The megaphone is oriented horizontally, pointing to the right. It features a wide, flared horn and a handle extending downwards. To the left of the horn, there are four short, parallel lines radiating outwards, suggesting sound or projection. The background is a light, warm beige color. A dark blue horizontal band runs across the middle of the image, containing the word "Limitations" in white text.

Limitations



Joanna Maciejewska

@AuthorJMac@indiepocalyps...

You know what the biggest problem with pushing all-things-AI is? Wrong direction.

I want AI to do my laundry and dishes so that I can do art and writing, not for AI to do my art and writing so that I can do my laundry and dishes.

Limitations

- Purposely opaque
- Undiscerning
- “Hallucinates” facts, sources
- Risk of accidental plagiarism
- Knowledge cutoff
 - ChatGPT 4, 4o = Dec. 2023, May 2023
- Highly biased
- Timesaving?
- Writing improves critical thinking
- Security, personal data concerns
- Labor, environment concerns



QUICK LINKS

HOME

USER'S GUIDE

TRAINING

RESEARCH
CONNECTION

RESOURCE HUB

Using Generative AI for Scientific Research

A Quick User's Guide

(Last updated: 1/8/2024)

This is a guide on how Generative AI can be used in multiple aspects of your research, based on published guidelines by journals, funding agencies and professional societies, as well as our own assessment of Generative AI's benefits and risks. Generative AI is a rapidly evolving technology, and as a society we are all learning to cope with it. We will update this guide as new information becomes available.

If you have thoughts about what to add to this guide or how to improve it, please email midas-research@umich.edu. We look forward to collaborating with our research community to develop this guide for the community.

WRITING

PRODUCTIVITY

DATA GENERATION AND
ANALYSIS

REPORTING

CONSIDERATIONS IN MODEL
CHOICES

Using Generative AI for Writing

Can I use Generative AI to write research papers?

Can I use Generative AI to write grants?



Excellent
resource

Resources

- Bhatti, B.M. (2023, April 2). *The art and science of crafting effective prompts for LLMs*. Medium. <https://thebabar.medium.com/the-art-and-science-of-crafting-effective-prompts-for-llms-e04447e8f96a>
- Brown University Library. *Citation and attribution with AI tools*. Brown University. <https://libguides.brown.edu/c.php?g=1338928&p=9868287>
- Byrd, A., Flores, L., Green, D., Hassel, H., Johnson, S.Z., Kirschenbaum, M., Lockett, A., Mathews Losh, E., & Mills, A. (2023 July). *MLA-CCCC Joint Task Force on Writing and AI working paper: Overview of the issues, statement of principles, and recommendations*. Modern Language Association and Conference on College Composition and Communication. <https://cccc.ncte.org/mla-cccc-joint-task-force-on-writing-and-ai>
- ChatGPT. *What is the actual cutoff date for GPT-4?* <https://community.openai.com/t/what-is-the-actual-cutoff-date-for-gpt-4/394750/12>
- Chrisinger, B. (2023, February 22). *It's not just our students—ChatGPT is coming for faculty writing*. Chronicle of Higher Ed. <https://www.chronicle.com/article/its-not-just-our-students-ai-is-coming-for-faculty-writing>
- Elsevier. (n.d.). *Publishing ethics*. <https://www.elsevier.com/about/policies-and-standards/publishing-ethics#0-publishing-ethics>
- Michigan Institute for Data Science. (2024, January 8). *Using generative AI for scientific research*. University of Michigan. <https://midas.umich.edu/generative-ai-user-guide/>
- National Institutes for Health. (n.d.). *Frequently asked questions: Use of generative AI in peer review*. <https://grants.nih.gov/faqs#/use-of-generative-ai-in-peer-review.htm?anchor=56922>
- National Science Foundation. (2023, December 14). *Notice to research community: Use of generative artificial intelligence technology in the NSF merit review process*. https://new.nsf.gov/news/notice-to-the-research-community-on-ai?utm_medium=email&utm_source=govdelivery
- Online Writing Lab (OWL) at Purdue. (n.d.). *Publisher policies and requirements*. <https://guides.lib.purdue.edu/c.php?g=1371380&p=10135076>
- Open AI. (n.d.). *Instructing chat models*. Accessed 22 Feb. 2024. <https://platform.openai.com/docs/guides/chat/instructing-chat-models>
- PLOS One. (n.d.). *Ethical publishing practice*. <https://journals.plos.org/plosone/s/ethical-publishing-practice#loc-artificial-intelligence-tools-and-technologies>
- Sage. (n.d.). *ChatGPT and generative AI*. <https://uk.sagepub.com/en-gb/eur/chatgpt-and-generative-ai>
- Science Journals: Editorial Policies. (n.d.). <https://www.science.org/content/page/science-journals-editorial-policies#image-and-text-integrity>
- Smith, C. (May 17, 2024). *GPT-4o is the best ChatGPT model, but it has one weakness*. BGR. <https://bgr.com/tech/gpt-4o-knowledge-cutoff-is-worse-than-chatgpts-gpt-4/>
- Solis, B. (n.d.). *GenAI prism*. Jess3. [Infographic]. <https://jess3.com/client/brian-solis/>
- Swaak, T. (2023, September 27). *“We’re all using it”: Publishing decisions are increasingly aided by AI. That’s not always obvious*. Chronicle of Higher Ed. <https://www.chronicle.com/article/were-all-using-it-publishing-decisions-are-increasingly-aided-by-ai-thats-not-always-obvious>
- Terry, O.K. (2023, May 12). *I’m a student. You have no idea how much we’re using ChatGPT*. Chronicle of Higher Ed. <https://www.chronicle.com/article/im-a-student-you-have-no-idea-how-much-were-using-chatgpt>
- Thompson, E. (2023, September 14). *A brief understanding of prompt engineering*. Medium. <https://medium.com/@SymeCloud/a-brief-understanding-of-prompt-engineering-b176ba9fb2ba>
- U.S. National Science Foundation. (Dec. 2023). *Artificial intelligence (AI) use case inventory*. https://www.nsf.gov/data/AI_Inventory/#proposal_classifier
- Wiley Author Services. (n.d.). *Best practice guidelines on research integrity and publishing ethics*. <https://authorservices.wiley.com/ethics-guidelines/index.html#1>
- Wisconsin School of Business. (n.d.). *Generative AI as a writing tool: Tips and cautions*. University of Wisconsin-Madison. <https://researchguides.library.wisc.edu/c.php?g=1294285&p=9553440>