Faculty Use of Generative AI at ECU (and Beyond): A Snapshot and Lessons Learned

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Agenda

1. Findings from Making Artificial Intelligence Generative for Higher Education faculty interviews
2. Next steps
3. Resources to learn more about GAI in teaching and research
4. Q&A / Discussion

Research Project Process

- ECU is part of a North American study to assess AI applications likely to impact teaching, learning and research and to explore the needs of instructors, scholars and institutions of higher education
- Research teams at 19 institutions conducted semi-structured interviews with faculty during the spring semester of 2024
- The ECU team (Ken Luterbach, John Southworth and Jan Lewis) conducted 17 interviews with faculty in 6 colleges or schools
- In all, 246 interviews were conducted across wide range of disciplines - humanities to social sciences to STEM. Including arts, law, business, medical schools.
- Ithaka S+R, the project manager, took a representative sample of 20% and coded them for analysis

Quick overview of familiarity & attitudes towards GAI

- Familiarity varies widely, though the pool leaned towards having medium to high levels of familiarity with GAI, with full range of disciplines represented

- Significant majority of interviewees had a balanced perspective: embracing GAI, some with excitement, while maintaining awareness of GAI's limitations and risks

- Interviewees are largely in exploratory stage: have experimented with GAI, but still figuring out how to best apply it to their work

Teaching and Learning

Big Picture Takeaways - Teaching and Learning

Widespread experimentation

- A majority of interviewees across disciplines have tried using GAI for teaching and learning in some form.

- GAI use was usually in an experimental and/or limited fashion, with improving student GAI literacy as the main goal.

Long-term integration unclear

- Many instructors have not yet established ways of integrating GAI into teaching and learning workflows for the longer term.

> *72% of instructors have used GAI for instructional purposes*
>
> *–S+R National Instructor Survey Report, June 2024*

Transformation of Student Learning

- Student academic integrity remains a concern. Devising ways to police cheaters, however, has fallen to the wayside.

- Instead, instructors are grappling with how student learning will be inevitably transformed in the age of GAI, and whether anything valuable is being lost or changed.

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Quotes: Student Learning & Academic Integrity

"So one of the things that it's made me really do is take a closer look at my learning objectives... For my class this past year, I gave a very permissible AI policy... And I would say the average quality of work was higher than it's been in prior semesters. That is really great. Now there's a downside, which is that these students didn't learn some of the things they tended to learn before. So there's this trade-off here. **And I think it's really important to then analyze what are the things that I care about [the students learning]?**" - *Assistant Professor, Engineering*

Quotes: Student Learning & Academic Integrity

[On navigating students' use of GAI]: "I think -- my gut says...just face to face conversation and letting them know that I don't know, **being very honest about that we are all figuring this out together**. And that by talking about this stuff or having these conversations, that's how we build a language to be able to feel comfortable talking about it. I don't believe in the tools that, you know, check papers against AI checkers and stuff like that. Because **that's a cat and mouse game and it sets up an adversarial relationship between people**." – *Non-tenure track instructor, Cinema and Media Studies*
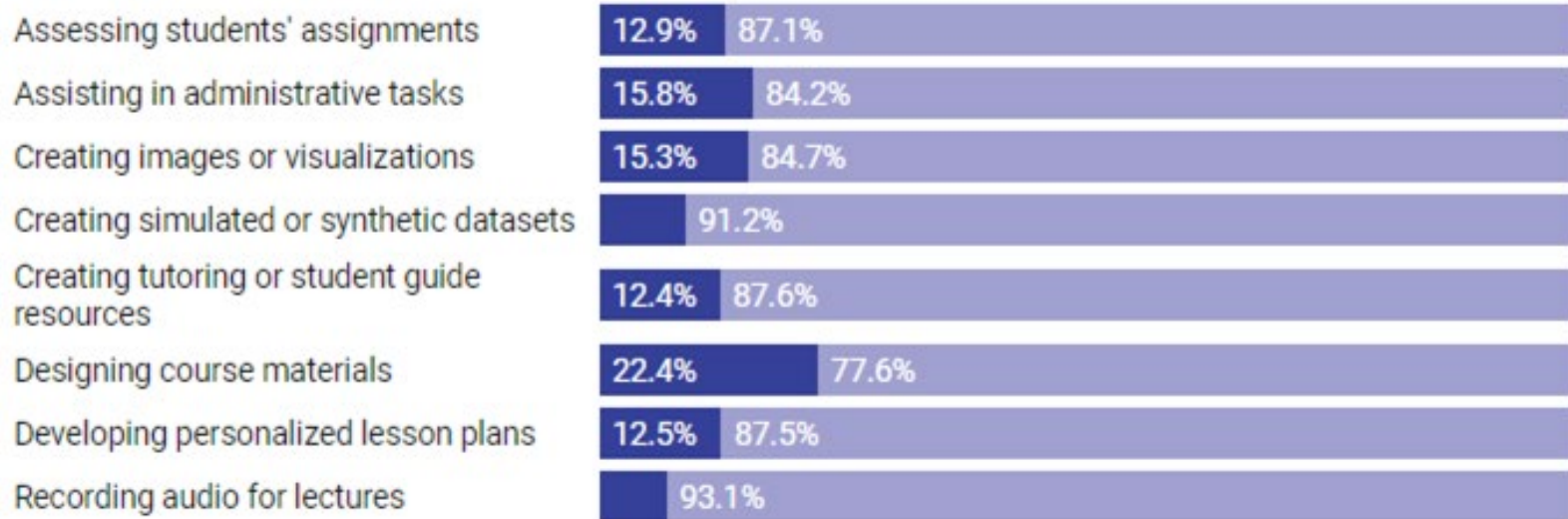
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Common Instructor Uses

- Generating course materials (activities, problem sets, rubrics)
- Synthesizing and formatting informal instructor notes into more structured and formal student feedback
- Brainstorming teaching ideas such as icebreakers, local examples, personalized lessons, and discussion questions.

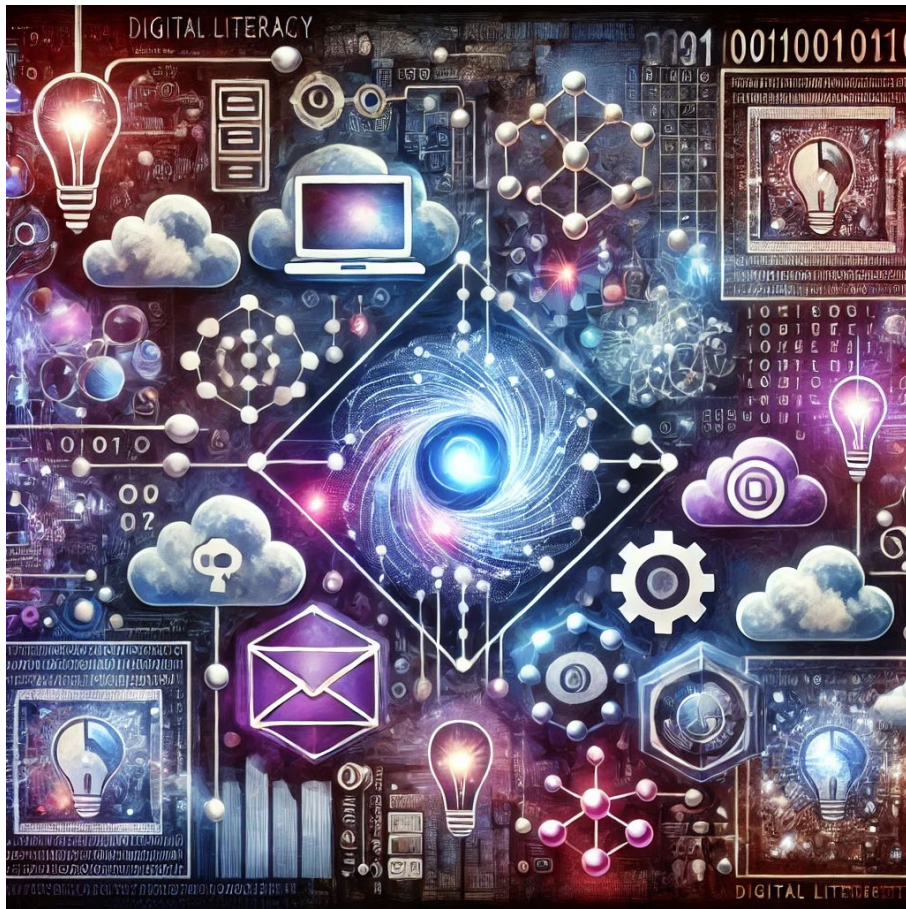An "abstract representation of the brainstorming process", created using GPT 4o

How instructors are using generative AI
S+R's National Instructor Survey

■ Yes   ■ No

	Yes	No
Assessing students' assignments	12.9%	87.1%
Assisting in administrative tasks	15.8%	84.2%
Creating images or visualizations	15.3%	84.7%
Creating simulated or synthetic datasets		91.2%
Creating tutoring or student guide resources	12.4%	87.6%
Designing course materials	22.4%	77.6%
Developing personalized lesson plans	12.5%	87.5%
Recording audio for lectures		93.1%

Ithaka S+R Report: Generative AI and Postsecondary Instructional Practices
https://sr.ithaka.org/publications/generative-ai-and-postsecondary-instructional-practices/

An "abstract representation of digital literacy", created using GPT 4o

GAI in Student Learning

- Widespread prevalence of **AI literacy activities**: the instructor has students use GAI for an activity to help them to understand how GAI tools work and see their capabilities and limitations

- Usually one-off, experimental activities. For consideration & discussion: Once this experimentation phase is over and there is an overall increase in student GAI literacy, how will instructors integrate and foster regular GAI use in their courses?

Student-related Challenges

Student AI Literacy

- Widespread sentiment that student GAI literacy needs to be more widely integrated into curricula

- But no consensus on how, or whose responsibility this is to coordinate (individual departments, other units, university-wide initiatives…)

Access and Risks

- Instructors feel their students do not understand data privacy risks of using GAI

- Instructors feel that neither students or themselves can pay for access to best GAI tools

Course Policy Variation

- Students are confused about courses' widely different GAI policies

- Simultaneously, instructors feel acceptable GAI uses need to be determined by the discipline or the task

- Can (and should) a baseline consensus be formed for student GAI policy across disciplines to help reduce confusion while respecting the autonomy of instructors?

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Non-adopters

Instructors who have not (yet) adopted GAI:

- Even if they have tried GAI, they have not yet familiarized themselves enough with GAI to know how to properly use it for instruction, indicating a need for support
- Argue that GAI does not suit the content or learning objectives of the course
- Are wary about the risks and ethics associated with GAI (e.g., inaccuracies, data privacy)

14 % of instructors are confident in their ability to use AI for teaching activities

-S+R National Instructor Survey Report, June 2024

Research

Big Picture Takeaways - Research

Experimentation

- Many interviewees have tried out GAI for research, in varied, experimental, and often limited forms.

- Researchers often do not feel they have yet found the best ways for incorporating GAI into their workflow, but are interested in doing so.

Discipline-dependent uses

- The degree of GAI applicability and how it is applied depends on the discipline–and even on the subject within a discipline or the methodology used.

Limitations recognized

- Widespread recognition among researchers of GAI's limitations, particularly for identifying and verifying sources.
- Researchers are careful to check outputs for accuracy, which can be a time-consuming process.

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An "abstract representation of writing in the digital age", created using GPT 4o

Common Research Uses

- **Brainstorming, ideating**
- **Revising writing, especially for non-native speakers**
- Data processing and analysis
- Coding assistance
- Summarizing sources
- Initial search and discovery
- Generating titles and images
- Generating presentations
- Communicating research to general audiences and via social media

Controversial Research Use Cases

Writing

- Most common area in which researchers hesitate to use GAI, especially for generating first drafts

- Fears of jeopardizing writing quality or breaching journal policies

- Ethically opposed to outsourcing this core part of their work

Summarization, Literature Reviews

- Vastly contrasting views on GAI use for summarizing sources and writing or assisting with literature reviews

- Core of the debate: whether summarizing others' work and writing literature reviews is a creative and/or intellectual aspect of the writing process

- Dissatisfaction with quality of summaries/abstracts

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Quotes: Summarization & Writing

"I felt a little old school, but in thinking that if I'm going to really write this full literature review and synthesize literature, **I need to really read these articles and understand** more than just what [AI thinks] are the topic sentences for all these paragraphs." - *Associate Professor, Education*

Quotes: Summarization & Writing

"By far my least favorite part of writing is summarizing what other people have said. I just find it completely void of any creativity. You gotta know it. So I like learning it. But then, having to type it out for somebody else I'm like, come on, this is not fun. **So, I could really see using a tool to kind of get me over that first step to summarize things** and then go in and edit and add and delete and reframe, and emphasize different things because **it's just a lot of grunt work for me**." - *Associate Professor, History*

Quotes: Writing & Editing

"I received an article [to review], and the math looked correct, but the writing was terrible... The next day, the paper came back to me in flawless English. He'd run it through GPT-4, and it had solved everything. And **some of the very most brilliant minds in my field do not speak English as a first language, and that has been a career handicap to so many people**. And I am delighted that GPT-4 is now removing or reducing that obstacle to so many of my colleagues. - *Professor of the Practice, Math/Statistics*

Support Needs

Support Resources Used

Peer-to-peer learning

- Learning from peers is most popular way to improve understanding of GAI applications in teaching and research

- Informal conversations or learning from colleagues' presentations. Campus and conferences important sites for this

Self education

- Many rely on the research they do independently to learn more about GAI, namely through internet searches for best practices and examples of GAI applications

Not Using University Resources

- Many not taking advantage of support resources offered by university, even if know they exist

- Those who have suggest it was minimal usage (e.g., attended a workshop or two)

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Support Resources Desired

- **Discipline-specific** training and resources

- Opportunities to learn from **peers**
  - Extended learning opportunities with group of peers, such as in professional learning communities
  - Hands-on experimentation and sharing experiences

- Willingness to take what a peer did successfully and use it in their own course.

- An **iterative**, centralized web page with best practices and updates
  - Hard to keep up with constantly changing field
  - Data privacy concerns

- Location of resources? Anywhere, or everywhere.
  - Varying formats (online/in-person, synchronous/asynchronous) to increase accessibility

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AI Product Use

- Interviewees want **secure access** to GAI tools
  - Concerns about data privacy
  - Paywalls limiting student and faculty access for experimentation

- Interviewees mentioned limited range of tools, mainly ChatGPT, Copilot, etc.

- This indicates **a need to train teachers and students about the product landscape and how to find the best products for their needs** (e.g., tools grounded in a trusted scholarly database for discovery)

Next Steps

MAIGHE Research Team's Next Steps

- Peer to peer learning - OFE Workshops
  - Nov. 21: faculty sharing how they use GAI in teaching
  - Jan. 21: faculty sharing how they use GAI in research
  - Jan. 28: CoE faculty sharing experiences using free AI tools focused on academic research
  - Jan. 29: faculty, staff & students share their favorite AI apps
  - Feb. 12: specialists share AI apps for social sciences and business disciplines
  - Feb. 19: specialists share AI apps for STEM disciplines
- Compiling and sharing use cases – coming Spring 2025!
- Fostering discussions about coordination of AI work on campus
- Listening to you: what support resources do you want? We will work with others on campus to help provide them.

Resources

Resources

- ECU:
  - [ECU Guidelines for Using Artificial Intelligence](#)
  - [A Guide to Artificial Intelligence for Students](#)
  - [Generative AI in the Classroom & Research](#)
  - [Making Artificial Intelligence Generative for Higher Education](#)
  - [OFE Teaching and Research in the Age of AI Workshop Series](#)
- Other:
  - AI Literacy in the Age of ChatGPT for [instructors](#) and for [students](#) - University of Arizona
  - [Artificial Intelligence Now: ChatGPT + AI Literacy Toolbox](#) - Florida International Univ.
  - [Promoting students' AI literacy](#) and [Bloom's Taxonomy Revisited](#) -Oregon State Univ.
  - [Student Guide to Artificial Intelligence](#) from Elon University & AAC&U
  - [5 Benefits of Using Microsoft 365 Copilot](#)

Q&A / Discussion

Thank you!

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