AI in Higher Education:
The Librarians’ Perspectives

MARCH 2023
Background

Artificial Intelligence (AI) technologies have been around for decades. The earliest “successful” AI program was written in 1951 and was able to complete an entire game of checkers on the University of Manchester’s Ferranti Mark I, the first commercially available computer used for multiple purposes.¹ ²

In the 1970s, AI entered the educational market with products like SCHOLAR, which answered and asked questions related to South American geography and MYCIN, an AI program developed at Stanford University that helped physicians recommend treatments for some infectious diseases.

The AI market continued to grow exponentially. From 2008 to 2017, venture capital firms around the globe invested more than $1 trillion into AI-based education.³

Today, the use of AI technologies in higher education is at the center of attention with the advent of chatbots like ChatGPT, which are capable of writing entire research papers that students are able to pass off as their own. Educators are challenged with navigating this new landscape and determining the ethics and long-term benefits and repercussions of students who use AI programs.

Should educators embrace AI technologies, which can save time completing mundane tasks and potentially expose new ideas to share and explore? Should they ban them completely for fear of promoting cheating and diminishing critical thinking skills and originality? Or, something in between?

To explore the new reality that AI brings to higher education, Helper Systems, a company that is developing software to improve how information is used and discovered, hosted a survey of more than 125 academic librarians in the United States. The survey was created using SurveyMonkey and was delivered to librarians via email.

¹ Alan Turing and the beginning of AI
² The Ferranti Mark I: World’s First Commercially Available General-Purpose Computer
³ Artificial intelligence innovation in education: A twenty-year data-driven historical analysis
“With ChatGPT I believe that AI came to the forefront of everyone’s mind. AI was something out “there” in the future, sci-fi future. So now AI has come screaming into the classroom and faculty are trying to figure it out,” explained one survey participant.

Once the genie is out of the bottle you can’t put it back in, so you just have to find a way to grapple with the new reality,” said another.

Participants (partial list)

Abilene Christian University
Biola University
Brevard College
Clark University
Eastern Washington University Libraries
El Paso Community College (EPCC)
Georgia Southwestern State University
Gonzaga University
Johnson & Wales University
Keiser University
Kennesaw State University
Kent State University Libraries
McKeel Library
Mid-Valley STEM-CTE Hub at
  • Linn-Benton Community College
New York Tech
Nova Southeastern University
River Campus Libraries,
  • University of Rochester
Rider University
Texas Tech University
The College of New Jersey
University of Alaska Anchorage
University of California
University of Michigan
University of New Mexico
University of North Florida
University of St. Thomas
Utica University
Western Kentucky University
Wichita State University
William Paterson University
Key Findings

• **37%** of participants are currently offering AI products to their researchers or considering it.

• **8%** believe students who use AI products are cheating. In comparison, **12%** said AI is unethical for professors to use for research and **14%** for professionals to use on the job.

• **50%** say students who use AI products are not cheating. In comparison, **42%** said AI is ethical for professors to use for research and **53%** for professionals to use on the job.

• Major concerns regarding AI in higher education include cheating, eliminating or reducing critical thinking and originality, and replacing human jobs.
**AI Acquisition and Budget Trends**

According to the survey, **13%** of academic libraries are currently offering AI products to their researchers and another **24%** are considering it. **63%** do not offer any AI products. None of the librarians who participated in the survey are allocating budget dollars to AI and just **9%** are considering earmarking funds.

**Does your library currently offer or promote any AI products to researchers?**

- **Yes** 13%
- **No, but we’re considering it** 24%
- **No** 63%

“There would have to be an extraordinarily compelling case for an AI for us to consider (allocating budget) when we are struggling to maintain even fundamental academic databases,” explained one participant.
When asked if they consider it cheating if students use AI products, only 8% of librarians stated a definitive “yes.”

Do you believe it is cheating if students use AI products for research?

![Bar chart showing the distribution of responses to the question: 8% Yes, 42% Somewhat, 49% No.]

“...I’ve heard some professors say they are fine with students using AI to compose a first draft, while others have said they consider any use cheating. I tend to err on the side of, if it’s not cheating, it is at least likely to impede their ability to think critically, especially in scenarios where AI is not an option,” explained one respondent.

Of the 42% of respondents who indicated students’ use of AI products is “somewhat” cheating, many explained that “it depends.”

“It depends on what the AI does - if it is like ChatGPT or DALL-E, then it may be a problem, especially if a student or researcher tries to pass the work off as their own. If, however, a student or researcher is *using* the AI to research AI, or using AI to generate results that they will then study or remix, then that is not an issue,” wrote one respondent.

“Context is essential. AI can have a role in brainstorming and iterating, as well as critique and to a lesser extent research. But a whole paper written via AI would be unacceptable, especially if unlabeled as such,” said another.
“Research methodologies and purposes vary widely depending on discipline. What may be appropriate and even productive in biological research may not be in the social sciences, for example,” said a participant.

Half of the survey participants said it is not cheating if higher education students use AI products and services.

“Some of us are old enough to remember that spellchecker was going to replace editors and Google was going to replace libraries. AI is now going to save time for researchers who are already using spellchecker and Google technology for their work,” explained one participant.

“Using AI to search for or analyze big or unstructured data has nothing to do with cheating,” added another.

Interestingly, while 8% of surveyed librarians believe it is “cheating” if students use AI products, 12% said it is unethical for professors to use them for research and 14% indicated it is unethical for professionals to use them on the job.

**Do you believe it is ethical for professors to use AI products for research?**

- **Yes**: 43%
- **Somewhat**: 43%
- **No**: 12%
“If the faculty rely solely or mostly on AI - that they did not develop - what is their value-add to the academy or to their institution?” asked one respondent.

“As long as a researcher is transparent about using AI at a particular stage of a research process and there is no harm to research subjects or bias, it is ethical,” said another.

“...AI is a tool like any other that can be used for work purposes. However, I do think it will encourage some professionals to engage in lazy work that relies on the machine to do their thinking for them,” added another participant.

When asked if it should be mandatory for students to use AI, 5% said “yes,” 14% said “maybe” and 81% said “no.”

Do you think it should be mandatory for students and professors to use AI products?

- Yes 5%
- Maybe 14%
- No 81%

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“If AI is going to be as prominent in the world as Wikipedia and Spell Check, it would be useful for students—and by extension, faculty—to learn to use the technology in these early days. Mandatory? That might be overstating it at the moment,” explained one participant.

“I think that students and professors need to learn to use AI products appropriately and ethically, but mandating tool use could be an infringement on intellectual freedom and simply not appropriate for a lot of courses,” added another.

“I think it is a growing field and it would behoove us all to learn about it and how to detect its use,” said another.

When asked how their researchers are using AI products and services, the responses varied significantly. Here are just a few:

“I think AI features are used when we follow suggested terms and searches down a rabbit hole and make seemingly serendipitous discoveries.”

“Some instructors have discussed having the students use the AI to provide the first draft and then editing (revising, correcting, confirming, proofing, etc.) the output. Others have used AI to assess various resources for biases. (E.g., the AI was asked to review the Myers Briggs test.)”

“(AI products are) mainly being used in the classroom so students can see and discuss the issues surrounding them. Additionally there is consideration for using them in writing assignments to help improve students’ writing - by picking apart the AI responses and figuring out ways to do it more creatively.”

“(Our researchers use AI) for tedious tasks, which allows more time for detailed research.”

“We collect, analyze, extract, and synthesize data (big or unstructured data, secondary data) and experiment with AI tools that summarize the text or assist in writing.”
Similarly, the responses varied when participants were asked what excites them most about AI products in higher education. Below are a few examples.

“(AI products) are a potential game-changer in the way that the introduction of Google changed the research process. Too many libraries missed the boat in using Google, opposing it rather than endorsing and utilizing it. I do not get the impression that is occurring with the new AI resources.”

“AI is definitely the future, so I think we need to teach students in higher ed how to use these tools. I’m excited because AI can perform some of the more mundane tasks of research, and leave the parts requiring in-depth planning and strategizing to the humans.”

“People who work in higher education institutions have a relatively balanced approach to any new technology. Collaborative work between AI creators, technologists, and social or humanities scientists should produce AI beneficial for human society.”

“A chat AI that can take many or most reference questions is really interesting, or at least suggest keywords effectively. An AI that summarizes complicated content in search results and then links to items in our catalog is already really appealing and would get more students to engage with academic research.”

“(AI has) the ability to replace manual, librarian-led literature searching and systematic reviews. I see AI as a faster, more efficient solution to what is now a very hands-on, time-consuming process. I see real promise here.”

“(There is a possibility to use AI products) as a teaching tool, a stepping stone to go deeper into critical thinking or deeper immersion into topics. I hope that they can be tools to enhance learning and transformation in ways that help us figure out what learning outcomes really matter.”
“(AI products can make) research feel less intimidating and more accessible for everyone regardless of background.”

When asked what concerns them most about AI products in higher education, several themes emerged: Cheating, reducing or eliminating critical thinking and originality, and replacing human jobs. Responses include the following:

“I’m a librarian, so not a damn thing (excites me about AI). In fact, it’s one step closer to the end of this occupation as we know it.”

“Actually I dread (AI), critical thinking will just take a nosedive. And that ancient adage “Garbage in Garbage out” will never be more relevant. I look at AI products now and just have to laugh.”

“...Students learn how to punch a calculator for math. Now they learn how to run ChatGPT to write a paper. They use Refworks to create citations. We are educating intelligent youngsters towards dummies.”

“People are lazy, so if tools are developed that allow them to produce mediocre or passable results without thinking, they will stop even trying to think.”
What do you think is the future of AI products in higher education?

When asked about the future of AI products in higher education, here’s how one respondent believes it will evolve:

“Personalized learning: AI-based systems can provide individualized learning experiences for students based on their abilities, learning preferences, and progress. This can help ensure that students are engaged and motivated to learn, while also providing teachers with valuable insights into how their students are progressing.

Adaptive testing: AI-based systems can also be used to create adaptive tests that can assess students’ knowledge in real-time and adjust the difficulty of the questions based on their responses. This can help provide a more accurate assessment of students’ abilities and help identify areas where they may need additional support.

Student support: AI-based systems can be used to provide personalized support to students, such as chatbots that can answer questions or provide feedback on assignments. This can help students get the support they need when they need it, without having to wait for a teacher or advisor to be available.

Research and analysis: AI-based systems can help researchers analyze large amounts of data more quickly and accurately than traditional methods. This can help researchers identify patterns and insights that may not be immediately apparent, leading to new discoveries and innovations. Streamlining arduous processes. Allowing researchers to ask research questions bigger than their technical skill sets.”

Many responses indicated AI in Higher Education is here to stay.

“AI will gradually become ubiquitous — it’s too powerful a tool to ignore,” said one respondent.

“I think it’s the next paradigm shift,” wrote another.

“As the calculator was to mathematics, or, as Google was to search: (AI is) a positive disruption,” added a respondent.
Conclusions

AI in higher education is here to stay. All parties including librarians, professors, vendors, publishers and others need to work together to ensure students glean the benefits of AI without succumbing to the desire to use it for cheating or reducing critical thinking and originality.

AI is driving innovation in many fields, and students and researchers who use AI may be more likely to develop innovative ideas and solutions and will be better prepared for the future.

At the same time, researchers need to realize the upside and downside of AI products and services and use them responsibly and ethically. It is crucial to ensure that AI systems used in education are fair and unbiased and that they do not discriminate. That these systems are transparent and explainable, so students and teachers can understand how they work and how they make decisions. And, the data that is collected, stored, and used in these systems protects users’ privacy and security.

Helper Systems once again thanks all of the librarians who participated in this survey.

About Helper Systems
helpersystems.com

Awarded “Most Impactful New Company” at the renowned 2022 Charleston Conference, Helper Systems develops software that makes information easier to discover and organize and a lot more fun to use. Helper System's first product, kOS (pronounced “chaos”) 1.0 enables macOS users to easily discover information hidden within their PDFs. Now available in the App Store, kOS 1.0 is free to anyone and runs on a user’s desktop, protecting their privacy. Helper Systems is based in Helper, Utah, with employees in California, Ukraine and Serbia. For more information visit helpersystems.com.