Title: Creating an AI Toolkit for Faculty

Abstract

Generative AI has brought many opportunities and challenges to Higher Education. Faculty across disciplines have shown a keen interest in learning more about generative AI. A team of instructional designers at a regional university collaborated to develop Generative AI resources to support faculty members in expanding their knowledge. These efforts resulted in an AI Toolkit specifically targeted to help faculty grow their knowledge and experience with generative AI. The toolkit contains resources for faculty related to policy and guidelines, academic integrity, and ways to integrate generative AI into their courses (see Figure 1). This article recalls the process that led to the creation of the AI toolkit, provides a research-based rationale for its creation, and includes information on accessing and using the publicly available toolkit.

1. Context

Three instructional designers at a regional university jointly composed this article. The designers work on a team called the Educational Technology Unit (ETU). One of the ETU's duties is to help faculty and staff integrate technology into their teaching and learning. Each semester, the unit works with over one hundred faculty to provide instructional technology support for in-person, hybrid, and fully online course formats.

2. Problem Statement

The field of higher education is full of technological tools used in the pursuit of teaching and learning. In the last decade, no technology tool has captured as much enthusiasm, fear, and conversation as generative AI. "Generative AI systems are promising technologies that have the potential to transform not only education in new and exciting ways but our lives in a plethora of

ways" (Shryock et al., 2024, p.8). Tools like ChatGPT can produce essays, solve math problems, and write lesson plans in seconds (Gifford, 2023). However, the technology has also prompted concerns about differentiating human versus AI authorship within academic communities (Stokel-Walker, 2022). These concerns raised the question: should teachers ban Generative AI or embrace it (Yeralan & Laura, 2023)? While faculty have the intellectual freedom to allow students to use these tools in their courses, the debate is more complex. There is a need to expose students to and properly educate them on using Generative AI because AI has already impacted many jobs. Also, there are indications that it will impact even more in the future. However, instructors must be able to ensure that students have met the goals and objectives of their courses. If an AI chatbot produces most of the students' work, this definitely raises ethical questions about plagiarism and cheating.

Even with the attention generative AI is receiving, the technology is relatively new to many faculty in higher education. A recent 2023 survey reported that 30% of students were regular users of generative AI, while only 9% of faculty reported the same usage level. The same study also indicated that faculty and students using and experimenting with generative AI tools were optimistic about the tools' potential impact on teaching and learning (Time for Class, 2023).

Beginning with survey data collected in 2023, the faculty at our university reported a strong interest in learning more about generative AI. Indeed, this interest has grown as our last faculty survey revealed that over 60% wanted to learn more about AI in some fashion. We also noticed a definite increase in interest through ad hoc discussions, emails regarding AI, and specific requests from departments for more professional development around AI in higher education.

With so many questions regarding the use of generative AI tools and a strong desire for faculty to learn more, it became apparent that our faculty wanted more resources and learning aides to help navigate the use of AI. This article recalls the process that led to the creation of the AI toolkit, provides a research-based rationale for its creation, and includes information on accessing and using the created AI Tool kit.

3. Literature Review

Activity around AI has drastically increased in the last two years. Open AI developed an artificial intelligence platform called ChatGPT, released on November 30, 2022 (Marr, 2023). Behind these technologies are Large Language Models (LLMs) that produce human-like responses to requests. An LLM uses algorithms and deep neural networks to calculate and predict novel content based on massive amounts of programmed data sets (Kerner, 2023; Toloka Team, 2023). Where search engines return search results related to your question, interacting with ChatGPT is like having a conversation (Guinness, 2023).

When a user enters a prompt into ChatGPT, the system uses its preprogrammed data (from books, articles, websites, etc.) to generate responses to the user's questions. ChatGPT does this by "tokenizing" the text input into smaller chunks to make meaning between the words in the prompt (OpenAI, 2024). In addition, the platform can "remember" conversations from previous topics if the user is still in the same conversation thread, meaning in the same thread where the original prompt started. For example, if the user begins by asking for pasta recipes but then asks about dessert recipes in the same conversation, they can revert to asking a question about one of the pasta recipes without starting all over. However, ChatGPT cannot reference user's previous conversations in the current one (Luansing, 2023).

In addition, users can provide feedback to OpenAI at the end of each prompt by giving a thumbs up to indicate a "good response" or a thumbs down for a "bad response" (OpenAI, 2024). However, this feedback does not provide ChatGPT with real-time training data. OpenAI analyzes inputs and feedback before they are incorporated into the system to ensure that harmful or dangerous content is not part of its data (Luansing, 2023).

While ChatGPT is one of the best-known AI platforms, there are several other platforms users can choose from. Some are writing assistants that correct your spelling and grammar and give suggestions for improving your writing. Some programs can analyze trends in your composing, like how much time you spent writing and how focused you were (The ultimate productivity tool for writers, n.d.). AI platforms can even translate or convert languages (Bishop, 2023; Chan & Tsi, 2023). For these reasons, the arrival of such sophisticated AI platforms has educators very worried about academic integrity.

For example, if a student was asked to write an essay on Sigmund Freud and wanted to cheat, they could search the internet for papers that others have written to piece together an essay or pay an online service for a paper on the topic. However, with ChatGPT (and similar AI platforms), students can ask the platform to write a completely novel paper on Sigmund Freud and even include citations in APA format. Now, ChatGPT doesn't always get it right. For example, it may make up a list of references that do not exist, yet it is highly accurate in providing information on a topic.

Even though chatbots have existed for decades, the release of ChatGPT caused large-scale fascination, captivating even the most casual internet users. The platform's ability to engage in conversations and provide human-like advice are some of the main reasons for its popularity (Eadicicco, 2023). However, with ChatGPT's (and other platforms that use modern LLMs) ability

to seamlessly write essays and poems or to solve even the most complex math problems, it is no wonder that educators are on edge regarding academic integrity. Some programs (such as Turnitin or GPTZero) have AI detection but are not 100% accurate (Drozdowski, 2023).

As higher education institutions evolve to include AI statements in their academic integrity policies, it may be incumbent upon the individual instructor to create an AI-usage policy for their courses. The development of instructional technology can move much faster than academic policies and institutional strategies. In addition, students may be much more comfortable with these new AI tools than their instructors. Thus, instructors are encouraged to produce policies that make it clear to their students what the expectations are for using AI on assignments.

Additionally, instructors should teach students how to acknowledge using AI properly, students should understand why plagiarizing AI platforms is wrong, and finally, instructors should inform students of the consequences for violating any stated AI academic integrity policy (Cotton et al., 2023). Even if an instructor should choose to disallow the use of AI on assignments, this should be made abundantly clear to their students. Furthermore, administrations should regularly review academic integrity policies and modify them to keep up with AI trends (Eke, 2023).

The rapid rate at which users adopted ChatGPT, combined with academic integrity concerns and the lack of university policies, cemented the need for our team to learn as much as possible about AI in education. As Eke (2023) states, "…many people in academia, researchers, teachers and students still do not know how to optimally use the system, not to mention using it responsibly. There is a great need for education" (p.2). With this research basis, we determined

that we needed to combine our current and future AI resources for faculty into an easily accessible format.

4. Solution – An AI Toolkit for Faculty

At the beginning of 2023, we created workshops, a list of articles, and resource pages on AI for our faculty. The ETU constantly read, experimented, and shared new AI tools and strategies. We noticed that the tools for generative AI change rapidly. For example, the content of a workshop could change the day before we planned to share it. We also recognized that it could be difficult for a faculty member to locate resources from past emails and workshops. There was a need for a central location to store all the resources we were creating on AI. We began with a spreadsheet with linked resources, which soon reached capacity (see Figure 2).

The ETU team placed all current and future resources in one location. We called this the AI Toolkit for faculty and designed the toolkit to resemble a Canvas course. A Canvas course would allow faculty to gain access to all the materials and resources our team had created to help them understand AI or learn about useful ways to increase their productivity. Faculty are familiar with accessing and using the Canvas course format and can easily bookmark the course for quick access.

Canvas also maintains "Canvas Commons," a repository of resources shared by Canvas instructors from across the globe. Canvas Commons was an easy-to-use solution that made our AI Toolkit accessible and freely available to others.

The toolkit has five main categories, which include:

1. What is Generative AI – This section contains short videos explaining how generative AI works and how it is being used.

2. Course Policies and Guidelines – Contains sample syllabus statements regarding AI. It also contains policy statements from the North Carolina Department of Public Instruction and the university.
3. Academic Integrity – Resources here focus on the challenges of generative AI in higher education, such as AI detection and creating assignments with AI.
4. Integrating AI into Faculty Workload – Resources related to how to use AI in research.
5. Resources - The AI Toolkit contains several reviewed resources, such as a curated page of resources categorized by topic. Each topic has links to multiple AI-themed resources. Categories include: Productivity, Video, Photo, Design, Marketing, Chatbot, Writing, AI Detection, K-12 Resources, and Other.

Users can access the AI Toolkit by going to: AI Toolkit for Faculty on Canvas Commons

Direct Link:*https://lor.instructure.com/resources/fe7b796229d040fcbc82efb46032d475?shared*

5. Conclusion

As noted above, the AI Toolkit contains resources for faculty on how to use AI in research, academic integrity issues, example course policies, and brief descriptions of how Generative AI works. Faculty members' time is extremely valuable, and they do not always have the time to research good sources of information regarding AI and instruction. Having all these resources together in one easy-to-access location can help increase the likelihood of faculty accessing these resources. The resources available in the AI Toolkit are curated and intentionally limited in number. Wishing to align with faculty needs directly, the authors dedicated time to selecting, curating, and, in some cases, creating many of these resources. By selecting only the best resources directly aligned with faculty needs, the authors have removed the overwhelming

nature of large resource sets. The AI Toolkits' "one-stop shop" approach for faculty will make it useful and valuable to many.

The authors encourage other universities and colleges to consider taking and adapting these resources to their institutions' needs. The challenges that these resources address are not unique to our institution. Indeed, AI is on track to impact almost any university or job field in the future. As such, it will impact teaching and learning in nearly every field of higher education. By creating this initial AI Toolkit and making it freely available, the authors hope that others will take the basic set of tools and add more specific ones for their discipline.

References

Bishop, L. (2023). A computer wrote this paper: What ChatGPT means for education, research, and writing. *Social Science Research Network*. http://dx.doi.org/10.2139/ssrn.4338981

Chan, C. K. Y., & Tsi, L. H. Y. (2023). The AI revolution in education: Will AI replace or assist teachers in higher education? *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2305.01185

Cotton, D., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 1–12. https://doi.org/10.1080/14703297.2023.2190148

Drozdowski, M. J. (2023). *Testing Turnitin's new AI detector: How accurate is it?*BestColleges.com. https://www.bestcolleges.com/news/analysis/testing-turnitin-new-ai-detector/

Eadicicco, L. (2023, January 14). *You'll be seeing ChatGPT's influence everywhere this year.* CNET. https://www.cnet.com/tech/services-and-software/chatgpt-is-going-to-be-everywhere-in-2023/

Eke, D. O. (2023). ChatGPT and the rise of generative AI: Threat to academic integrity? *Journal of Responsible Technology*, *13*, 100060. https://doi.org/10.1016/j.jrt.2023.100060

Gifford, A. (2023, September 03). Generative AI hits education, Ushering in a sea change for schools. Government Technology, https://www.proquest.com/magazines/generative-ai-hits-education-ushering-sea-change/docview/2860004320/se-2

Guinness, H. (2023). *How does ChatGPT work?* Zapier. https://zapier.com/blog/how-does-chatgpt-work/

Kerner, S. M. (2023, September 13). *large language models (LLMs)*. WhatIs. https://www.techtarget.com/whatis/definition/large-language-model-LLM

Luansing, J., Jr. (2023, May 3). *Does ChatGPT learn from user conversations?* MUO. https://www.makeuseof.com/does-chatgpt-learn-from-user-conversations/

Marr, B. (2023, May 19). *A short history of ChatGPT: How we got to where we are today.* Forbes. https://www.forbes.com/sites/bernardmarr/2023/05/19/a-short-history-of-chatgpt-how-we-got-to-where-we-are-today/?sh=2a106ebd674f

OpenAI. (2024). *ChatGPT* (Mar 14 version) [Large language model]. https://chat.openai.com/chat

Shryock, K., Watson, K., White, L., & Balart, T. (2024). Developing a model to assist faculty with taming the next disruptive boogeyman. *Social Science Research Network.* http://dx.doi.org/10.2139/ssrn.4699941

Stokel-Walker, C. (2022). AI bot ChatGPT writes smart essays — should professors worry? *Nature.* https://doi.org/10.1038/d41586-022-04397-7

The ultimate productivity tool for writers. (n.d.) Writing Analytics. Retrieved March, 2024). From https://www.writinganalytics.co/

Time for Class 2023 Study finds students are earlier adopters of generative AI tools than faculty, and majority (69%) of learners prefer hybrid, blended or online course formats. (2023, June 22). *Plus Company Updates*, NA. https://link-gale-com.liblink.uncw.edu/apps/doc/A755597923/GBIB?u=wilm99594&sid=summon&xid=6cd605cc

Toloka Team. (2023, June 26). *The history, timeline, and future of LLMs*. Toloka. https://toloka.ai/blog/history-of-llms/

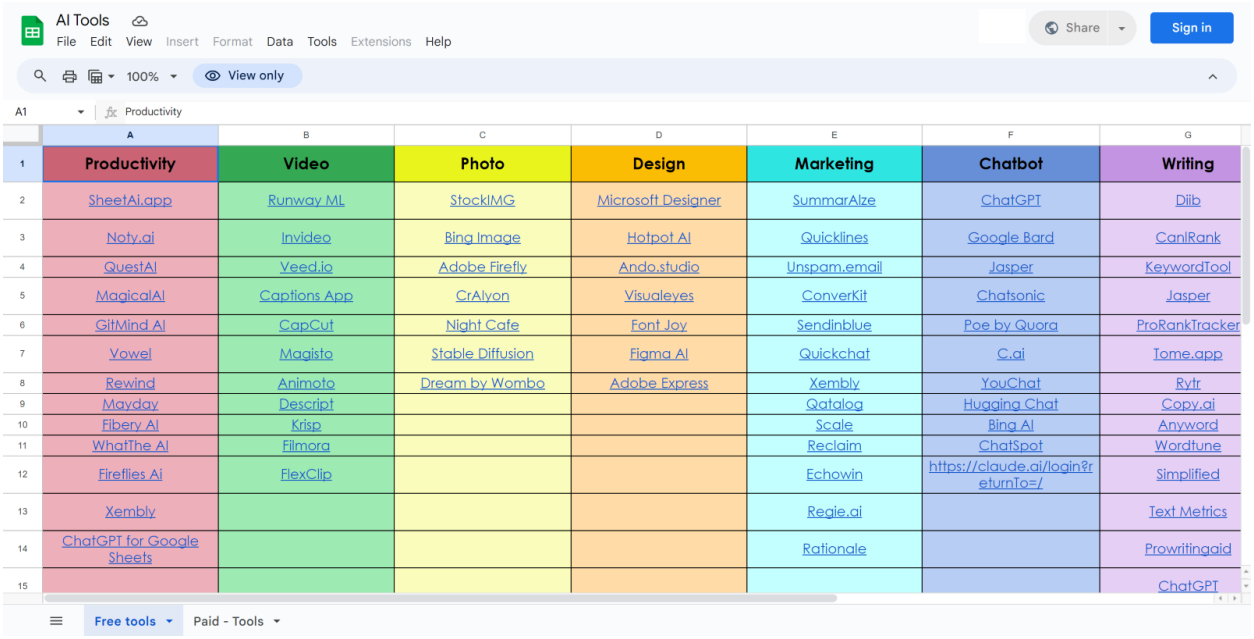
Yeralan, S., & Laura, A. L. (2023). Generative AI: Challenges to higher education. *Sustainable Engineering and Innovation, 5*(2), 107-116. https://doi.org/10.37868/sei.v5i2.id196

Figure 1

AI Toolkit Topics in Canvas Screen Capture

Figure 2

Screen Capture of AI Tools List



	A	B	C	D	E	F	G
1	Productivity	Video	Photo	Design	Marketing	Chatbot	Writing
2	SheetAi.app	Runway ML	StockIMG	Microsoft Designer	SummarAIze	ChatGPT	Diib
3	Noty.ai	Invideo	Bing Image	Hotpot AI	Quicklines	Google Bard	CanIRank
4	QuestAI	Veed.io	Adobe Firefly	Ando.studio	Unspam.email	Jasper	KeywordTool
5	MagicalAI	Captions App	CrAIyon	Visualeyes	ConverKit	Chatsonic	Jasper
6	GitMind AI	CapCut	Night Cafe	Font Joy	Sendinblue	Poe by Quora	ProRankTracker
7	Vowel	Magisto	Stable Diffusion	Figma AI	Quickchat	C.ai	Tome.app
8	Rewind	Animoto	Dream by Wombo	Adobe Express	Xembly	YouChat	Rytr
9	Mayday	Descript			Qatalog	Hugging Chat	Copy.ai
10	Fibery AI	Krisp			Scale	Bing AI	Anyword
11	WhatThe AI	Filmora			Reclaim	ChatSpot	Wordtune
12	Fireflies.Ai	FlexClip			Echowin	https://claude.ai/login?returnTo=/	Simplified
13	Xembly				Regie.ai		Text Metrics
14	ChatGPT for Google Sheets				Rationale		Prowritingaid
15							ChatGPT

Free tools | Paid - Tools