# Resources for Using AI in Teaching

This document provides links to a sampling of artificial intelligence tools and materials related to teaching and learning. It was compiled by Doug Ward of the **Center for Teaching Excellence** for a February 2023 online session on AI and teaching.

## CTE resources

* [Adapting your course to artificial intelligence](https://cte.ku.edu/adapting-classes-artificial-intelligence-era), CTE website.
* [The bots are here to stay. Do we deny or do we adapt?](https://cteblog.ku.edu/the-bots-are-here-to-stay-do-we-deny-or-do-we-adapt/), by Doug Ward, Bloom’s Sixth, CTE blog.
* [Exploring the reasoning and the potential of ChatGPT](https://cteblog.ku.edu/exploring-the-reasoning-and-the-potential-of-chatgpt/), by Doug Ward, Bloom’s Sixth, CTE blog.

## A selection of potentially useful AI tools

### Grading

* [**Gradescope**](https://www.gradescope.com/). *A tool that groups similar answers to problems and allows instructors to build rubrics as they grade. It works best with calculations, coding, and short answers, but its ability to work with longer works of text has been improving.* ***This is a KU-supported tool, with integration to Canvas.***

### Search and research

* [**Elicit**](https://elicit.org/). *Uses GPT-3 to guide searches for research articles. Elicit analyzes citations and bibliographies within materials a user flags and uses them for additional searches. The nonprofit organization behind Elicit says the tool is best used for conducting literature searches, answering initial questions, and defining directions for research. Elicit says it has access to 175 million papers.*
* [**Consensus**](https://consensus.app/search/). *Allows you to use natural language to search “hundreds of millions” of research papers. It then displays results along with what it considers relevant information from each selection. Free during beta testing.*
* [**ResearchGPT**](https://github.com/mukulpatnaik/researchgpt). *Upload a PDF or link to a research paper and ask natural language questions about the paper. This is a GitHub app that requires installation, although there is a link to a demo.*
* [**Pinpoint**](https://journaliststudio.google.com/pinpoint/about). *A Google tool that allows you to analyze and search large numbers of documents, audio files, and images. This is part of Google’s* [*Journalist Studio*](https://journaliststudio.google.com/)*, which includes tools for fact-checking, searching, and visualizing data.*
* [**Bing**](https://blogs.microsoft.com/blog/2023/02/07/reinventing-search-with-a-new-ai-powered-microsoft-bing-and-edge-your-copilot-for-the-web/). *Microsoft’s search engine, combined with the Edge browser, will soon run on OpenAI’s language model*, *providing a form of interactive web search*. **Google** *is expected to release its own version of AI-driven search soon.*
* [**Andi**](https://andisearch.com/). *AI-augmented search tool.*

### Writing and reading

* Tools based on the GPT-3 language generation model that have free options: [**ChatGPT**](https://openai.com/blog/chatgpt/), [**OpenAI Playground**](https://beta.openai.com/playground), [**Chatsonic**](https://writesonic.com/chat).
* **AI tools for writing**, some with free options: [**Wordtune Spices**](https://www.wordtune.com/spices) (*free while in beta*), [**Type**](https://type.ai/app.html) (*free while in beta*), [**DeepL Write**](https://www.deepl.com/write) (*suggestions for improving writing; free while in beta*), [**Quillbot**](https://quillbot.com/) (for paraphrasing), [**Analogenie**](https://analogenie.com/) (*for creating analogies; has companion tools for similes and metaphors*), [**Rephraser**](https://rephraser.vercel.app/) (*paste text into the site and get suggestions for rephrasing).*
* **Article summarizers:** [**Scholarcy**](https://www.scholarcy.com/), [**Skimit**](https://www.skimit.ai/), [**Summarize.tech**](https://www.summarize.tech/) *(for creating video summaries).*
* [**Brevity 500**](https://brevity500.com/). *A game that provides examples of poorly written business messages. A clock counts down as a player works at reducing the number of words in the examples while maintaining the original meaning. The site uses AI to analyze submissions. Each game provides a brief explanation at the end.*
* [**Emergent Mind**](https://www.emergentmind.com/). *A collection of prompts for ChatGPT.*
* [**Read Pilot**](https://readpilot.vercel.app/). *Analyzes articles and generates Q&A cards.*
* [**Konjer**](https://www.konjer.xyz/). *A site with “talking” books, meaning you can interact with them through AI.*
* [**Talk to Books**](https://books.google.com/talktobooks/). *A Google tool that provides passages from books based on natural language queries.*

### Coding

* [**Copilot**](https://github.com/features/copilot). *A GitHub tool that suggests code as you program*.

### Quizzes and games

* [**Booom**](https://joinplayroom.com/games/booom/). *A free tool for creating quizzes and games from prompts you provide.*

### Visual tools

Photo appssuch as Photoshop, Luminar, and Lightroom use AI to perform such functions as background removal, sky replacement, subject selection, photo organization, neural filters, and detail and color enhancement. Other tools:

* [**DALL-E**](https://openai.com/dall-e-2/). *OpenAI’s text-to-visualization tool, which uses the most recent version of the organization’s framework. A free account allows you to create 15 images a month. (Each image comes with two variations, so you actually get 45 images.)*
* [**PlaygroundAI**](https://playgroundai.com/). *A free tool for creating visuals from text descriptions. There is no limit on the number of images you can create, but you must use older (and less refined) versions of OpenAI’s framework.*
* [**Autodraw**](https://www.autodraw.com/). *A free tool from Google Creative Lab that allows you to turn rough sketches into more-finished images. Also allows you to combine images and text for posters, cards, and similar documents. Another Google tool,* [Scroobly](https://www.scroobly.com/), *allows you to turn doodles into animations.*
* [**Craiyon**](https://www.craiyon.com/). *The free version requires a wait of a minute or two.*
* [**Tome**](https://beta.tome.app/tomeforedu/). *A visual storytelling tool. Educator account comes with free credits.*
* Other tools have free trials or have AI incorporated into other plans, including [**Photosonic**](https://photosonic.writesonic.com/) (up to 20 images free), and [**Canva**](https://www.canva.com/apps/text-to-image).

### Other tools

* [**Google Creative Lab**](https://experiments.withgoogle.com/collection/ai). This division of Google has made many free AI-powered tools available and created [prototypes of how AI-powered activities could be included with videos](https://experiments.withgoogle.com/interplay-mode).
	+ [Teachable Machine](https://teachablemachine.withgoogle.com/). *Allows you to create programs that recognize images, sounds, and poses. Doesn’t require coding.*
* [**Delphi**](https://delphiai.substack.com/p/introducing-delphi). A new “digital cloning platform” that promises to allow you to interact with famous people from history but also to “create a clone of yourself, a family member, or an employee.”

## Where to find other AI tools

* [**Futurepedia**](https://www.futurepedia.io/). A website with an extensive list of AI tools, along with information about cost.
* [**PromptBase**](https://promptbase.com/). *A marketplace for buying and selling prompts for the AI tools DALL-E, GPT-3, and Midjourney*.
* [**OpenAI Cookbook**](https://github.com/openai/openai-cookbook). *A repository of code and prompts for interacting with OpenAI.*

## Articles related to AI and teaching

* [AI in Writing Class: Editor, Co-Author, Ghostwriter, or Muse?](https://medium.com/%40glenn_kleiman/ai-in-writing-class-editor-co-author-ghostwriter-or-muse-348532d896a6), by Glenn M. Kleiman, Medium (12 August 2022). *Advice from a senior advisor to the Stanford Graduate School of Education’s Accelerator for Learning. Also see Kleiman’s article* [Educators need to understand and embrace artificial intelligence writing tools](https://edsource.org/2023/educators-need-to-understand-and-embrace-artificial-intelligence-writing-tools/685299), in EdSource (6 February 2023).
* [In the Coming Weeks, How to Respond to Generative AI](https://www.insidehighered.com/digital-learning/blogs/online-trending-now/coming-weeks-how-respond-generative-ai), by Ray Schroeder, Inside Higher Ed (15 February 2023).
* [ChatGPT Is a Blurry JPEG of the Web](https://www.newyorker.com/tech/annals-of-technology/chatgpt-is-a-blurry-jpeg-of-the-web), by Ted Chiang, The New Yorker (9 February 2023).
* [Quick Poll: Did ChatGPT Write This Report?](https://er.educause.edu/articles/2023/2/educause-quickpoll-results-did-chatgpt-write-this-report), by Nicole Muscanell and Jenay Robert, Educause (14 February 2023).
* [How to cheat on your final paper: Assigning AI for student writing](https://link.springer.com/epdf/10.1007/s00146-022-01397-z?sharing_token=YwKL6HmHeNSxEj6Go63ks_e4RwlQNchNByi7wbcMAY5jYiMNym3xBTAzN52Pp_FuF7Qv_P-Qnug5Ax7FJNWShl1DpAHIbV1fvh8gzqODl_v-dUgF0TEFyk8rlBIfksPNkX2csUNmE3KmnQCA9GDBy9sa4Q9nkg7MfuW4bbwdNNo=), by Paul Fyfe. AI & Society (accepted 4 September 2022). *A professor writes about an AI experiment he undertook before ChatGPT roiled education.*
* [How AI will make university teachers’ lives easier](https://www.timeshighereducation.com/campus/how-ai-will-make-university-teachers-lives-easier), by Jack Wang, Times Higher Education (1 February 2023).
* [How do we prevent learning loss due to text generators](https://docs.google.com/document/d/1m4e2VAlWBzXoteYSGvCO1eTf6GQlOsrjltoJvod0h6g/edit), by Anna Mills. *A Google doc with bulleted lists of ideas. She has also created documents on* [*sources to stimulate discussion among teachers*](https://docs.google.com/document/d/1V1drRG1XlWTBrEwgGqd-cCySUB12JrcoamB5i16-Ezw/edit) *and* [*examples of essays written with AI*](https://docs.google.com/spreadsheets/d/1KbQIDPP2JIWu7JqXm7r7-zIcQ0PKzSEbDacT3Jaktog/edit#gid=0)*.*
* [ChatGPT Isn’t the Only Way to Use AI in Education](https://www.wired.com/story/chatgpt-artificial-intelligence-education-networks/), by Nabeel Gillani, Wired (26 January 2023). *Argues that we need to look beyond content mastery and consider how AI might help children create broader networks that will help them throughout their lives.*
* [ChatGPT Is Coming for Classrooms. Don’t Panic](https://www.wired.com/story/chatgpt-is-coming-for-classrooms-dont-panic/),” by Pia Ceres, Wired (26 January 2023). *“Educators who reject the notion of an educational apocalypse suggest that ChatGPT might not be breaking education at all, but bringing attention to how the system is already broken.”*
* [ChatGPT Might Reinvent Education: Students Love It, Teachers Are Unsure](https://www.linkedin.com/pulse/chatgpt-might-reinvent-education-students-love-teachers-tarry-singh/), by Tarry Singh, LinkedIn (30 January 2023). *Says education has fallen behind in engaging students, integrating technology into learning, and personalizing learning. ChatGPT can help with a need to augment education with technology, he says.*

## Guides and advice

* [Sentient Syllabus Project](http://sentientsyllabus.org/), *a collaborative resource created by professors in Canada, the United States, and Japan to help instructors use artificial intelligence resources meaningfully. The site can be challenging to navigate, but it contains many thoughtful materials related to syllabus language, objectives, and activities.*
* [The Art of ChatGPT Prompting: A Guide to Crafting Clear and Effective Prompts](https://app.gumroad.com/d/898c1f146a3e1affcb000af8015324f4), by Fatih Kadir Akin, e-book (n.d.). Also see [the author’s GitHub repository of ChatGPT prompts](https://github.com/f/awesome-chatgpt-prompts).
* [Co-Writing With AI: A Guide for Curious Authors](https://bigkidlab.gumroad.com/l/co-writing-with-AI), by Annabel Blake, e-book (n.d.). *Amid considerable fluff, this guide provides a few tidbits about tools and approaches to working with AI.*
* [Classroom Policies for AI Generative Tools](https://docs.google.com/document/d/1RMVwzjc1o0Mi8Blw_-JUTcXv02b2WRH86vw7mi16W3U/mobilebasic). *A Google doc with examples from several colleges and universities.*

## Detecting AI

The writing of ChatGPT and other artificial intelligence models is generally fluent but bland. They create what amounts to summaries of summaries of summaries, or what [a New Yorker writer compared](https://www.newyorker.com/tech/annals-of-technology/chatgpt-is-a-blurry-jpeg-of-the-web) to a fuzzy digital photo or a document that had been copied many times. That type of writing is often (but not always) easy to spot. Several AI detectors have emerged since ChatGPT was released late last year, but all have weaknesses and none are connected to Canvas. Turnitin, the plagiarism detection tool that KU subscribes to, says it [expects to have an AI detector available this spring](https://thejournal.com/articles/2023/02/13/turnitin-ai-writing-detector-to-be-available-as-soon-as-april.aspx).

* [AI Text Classifier](https://platform.openai.com/ai-text-classifier). *Created by OpenAI,* [*which is upfront about the tool’s weaknesses*](https://openai.com/blog/new-ai-classifier-for-indicating-ai-written-text/)*:* *It can misidentify material and can be fooled with some editing; it requires at least 150 to 250 words; and it doesn’t work well in languages other than English or with text written by children*. *Related tools:*
* [AI Content Detector](https://copyleaks.com/features/ai-content-detector), *a free beta tool created by Copyleaks, a company that sells plagiarism detection software*.
* [AI Content Detector](https://writer.com/ai-content-detector/), *a free tool from Writer, a company that sells AI-driven writing software*.
* [Hive Moderation](https://hivemoderation.com/dashboard). *Has a free option.*
* [GPTZero](https://gptzero.me/). *Free for now, and you can use it with paragraphs of up to 250 words. There’s a wait list for the full version.*

## Further discussions

* [Textgeneratorsandteachingwriting](https://lists.colostate.edu/cgi-bin/mailman/listinfo/textgeneratorsandteachingwriting) *(listserv hosted by Colorado State).*
* [AI resource guide](https://docs.google.com/document/d/1V1drRG1XlWTBrEwgGqd-cCySUB12JrcoamB5i16-Ezw/edit) compiled by Anna Mills, College of Marin (*a list of resources created by a writing teacher).*
* [AI and the future of work](https://theconversation.com/ai-and-the-future-of-work-5-experts-on-what-chatgpt-dall-e-and-other-ai-tools-mean-for-artists-and-knowledge-workers-196783), The Conversation (11 January 2023) (*brief essays from five professors).*
* [Elements of AI](https://www.elementsofai.com/) and [Ethics of AI](https://ethics-of-ai.mooc.fi/), two free online courses created by the University of Helsinki. [A course called Practical Data Ethics](https://ethics.fast.ai/), created by Rachel Thomas, a professor of practice at Queensland University of Technology, also explores the ethics of AI.
* [Ben’s Bites](https://www.bensbites.co/). *A daily newsletter for those who really want to nerd out on all things artificial intelligence. It includes lists of tools, overviews of research, and news about AI.*
* [A.I. for Anyone](https://www.aiforanyone.org/), nonprofit site that aims to help students and workers better understand artificial intelligence.

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