# Resources on Artificial Intelligence and Teaching

This is a working list of articles and resources related to artificial intelligence and education. It was compiled by Doug Ward of the **Center for Teaching Excellence**, with additions provided by participants in a January 2023 online session on AI and teaching.

## Overview

[Artificial intelligence trends in business, government, research, talent, creative fields and society](https://futuretodayinstitute.com/mu_uploads/2022/03/FTI_Tech_Trends_2022_Book01.pdf), Future Today Institute.

*Annual report from a consulting organization that analyzes trends in technology and society. It predicts that within a decade, “artificial intelligence will reshape the knowledge economy, automating some tasks currently performed by people and augmenting others.”*

[We Need to Talk about How Good A.I. Is Getting](https://www.nytimes.com/2022/08/24/technology/ai-technology-progress.html), by Kevin Roose, New York Times (24 August 2022).

*Looks at some of the broad implications of AI as its development accelerates.*

[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.*

[The New Chatbots Could Change the World. Can You Trust Them?](https://www.nytimes.com/2022/12/10/technology/ai-chat-bot-chatgpt.html), by Cade Metz, New York Times (10 December 2022).

[ChatGPT Is a Tipping Point for AI](https://hbr.org/2022/12/chatgpt-is-a-tipping-point-for-ai), by Ethan Mollick, Harvard Business Review (14 December 2022).

*Management professor calls ChatGPT “a new kind of collaboration that did not exist last month.” He argues, too, that AI has many flaws: “Bullshit is convincing-sounding nonsense, devoid of truth, and AI is very good at creating it.”*

[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.*

## AI and writing

[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).

[What are We Doing about AI Essays](https://www.facultyfocus.com/articles/teaching-with-technology-articles/what-are-we-doing-about-ai-essays/), by Miriam Bowers-Abbott, Faculty Focus (4 January 2023)

*Points out some weaknesses of OpenAI: Papers generated with similar prompts will eventually be flagged by plagiarism detectors; it does not have access to proprietary materials; it relies on text and cannot analyze video.*

[Students Are Using AI to Write Their Papers, Because of Course They Are](https://www.vice.com/en/article/m7g5yq/students-are-using-ai-to-write-their-papers-because-of-course-they-are), by Claire Woodcock, Vice (14 October 2022).

[The College Essay Is Dead](https://www.theatlantic.com/technology/archive/2022/12/chatgpt-ai-writing-college-student-essays/672371/), by Stephen Marche, The Atlantic (6 December 2022).

*Argues that natural language processing could bring humanists and technologists together but that it will take universities years to decide how to handle AI in teaching.*

[AI and the Future of Undergraduate Writing](https://www.chronicle.com/article/ai-and-the-future-of-undergraduate-writing), by Beth McMurtrie, Chronicle of Higher Education (13 December 2022).

[AI bot ChatGPT stuns academics with essay-writing skills and usability](https://www.theguardian.com/technology/2022/dec/04/ai-bot-chatgpt-stuns-academics-with-essay-writing-skills-and-usability), by Alex Hern, The Guardian (4 December 2022).

[A test of how AI performs in writing assignments](https://teaching.temple.edu/edvice-exchange/2022/10/%E2%80%9Cstudents-are-using-ai-write-their-papers-because-course-they-are%E2%80%9D), via Temple University Center for the Advancement of Teaching.

[So, AI Ruined Your Term Paper Assignment?](https://ciddl.org/so-ai-ruined-your-term-paper-assignment/), by James D. Basham, Angelica Fulchini Scruggs, and Eleazar Vasquez, via Center for Innovation, Design, and Digital Learning.

[AI Will Augment, Not Replace](https://www.insidehighered.com/blogs/just-visiting/guest-post-ai-will-augment-not-replace), by Marc Watkins, Inside Higher Ed (14 December 2022).

*Argues that we need to help students understand the limitations and flaws of AI, but also how to use them.*

[ChatGPT and Its Use in Essay Writing Instruction](http://sovorelpublishing.com/index.php/2022/12/10/chatgpt-and-its-use-in-essay-writing-instruction/), by Brent A. Anders, Sovorel (10 December 2022).

*Suggestions include: using ChatGPT to generate ideas and examples, provide feedback, and help students understand academic form and language.*

## Implications

[Conversation-Stopper: Will the development of AI tools make us less intelligent?](https://return.life/2022/07/26/conversation-stopper/), by John Symons, Return (26 July 2022).

[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)*,*

## Detecting AI

[How to Detect OpenAI’s ChatGPT Output](https://medium.com/geekculture/how-to-detect-if-an-essay-was-generated-by-openais-chatgpt-58bb8adc8461), by Sung Kim, Medium (11 December 2022).

[Did a Fourth-Grader Write This? Or the New Chatbot?](https://www.nytimes.com/interactive/2022/12/26/upshot/chatgpt-child-essays.html), by Claire Miller et al., New York Times (26 December 2022).

[Can Anti-Plagiarism Tools Detect When AI Chatbots Write Student Essays?](https://www.edsurge.com/news/2022-12-21-can-anti-plagiarism-tools-detect-when-ai-chatbots-write-student-essays), by Daniel Mollenkamp, EdSurge (21 December 2022).

[A College Student Created an App to Detect If Essays Were Written by ChatGPT](https://gizmodo.com/chatgpt-ai-essay-detector-college-princeton-edward-tian-1849946535), by Lucas Ropek, Gizmodo (4 January 2023).

[OpenAI’s attempt to watermark AI hits limits](https://techcrunch.com/2022/12/10/openais-attempts-to-watermark-ai-text-hit-limits/), by Kyle Wiggers, Tech Crunch (10 December 2022).

[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.

## Use of AI in teaching

[The Mechanical Professor](https://oneusefulthing.substack.com/p/the-mechanical-professor), by Ethan Mollick, One Useful Thing (6 December 2022).

*A business professor demonstrates how ChatGPT can create a syllabus, a rubric, a lecture and whiteboard examples for a lecture.*

[How to … Use AI to Generate Ideas](https://oneusefulthing.substack.com/p/how-to-use-ai-to-generate-ideas), by Ethan Mollick via One Useful Thing (3 December 2022).

[What Will ChatGPT Mean for Teaching?](https://www.edsurge.com/news/2023-01-03-what-will-chatgpt-mean-for-teaching), EdSurge Podcast (3 January 2023).

[OK computer: to prevent students cheating with AI text-generators, we should bring them into the classroom](OK%20computer:%20to%20prevent%20students%20cheating%20with%20AI%20text-generators,%20we%20should%20bring%20them%20into%20the%20classroom), by Grant Jun Otsuki, The Conversation (23 January 2020).

[Freaking Out About Chat GPT – Part 1](https://www.insidehighered.com/blogs/just-visiting/freaking-out-about-chatgpt%E2%80%94part-i), by John Warner, Inside Higher Ed (5 December 2022).

*A writing teacher says we need to take a hard look at how we teach and what assignments we give our students. He suggests that we move beyond a rote, surface-level approach to assessment and help students embrace the messy process of learning.*

## Where to find 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.

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).

[OpenAI Cookbook](https://github.com/openai/openai-cookbook). A repository of code and prompts for interacting with OpenAI.

## Further discussions

[Textgeneratorsandteachingwriting](https://lists.colostate.edu/cgi-bin/mailman/listinfo/textgeneratorsandteachingwriting). *Listserv hosted by Colorado State.*

## Some basic AI terminology

**Artificial intelligence**. “The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings,” [according to Britannica](https://www.britannica.com/technology/artificial-intelligence).

[**Large language models**](https://chatbotslife.com/what-are-large-language-models-7b3c4c15e567). A system that uses machine learning to create the most likely probabilities of word sequencing. Large language models form the basis of artificial intelligence tools. “Large” refers to billions of words drawn from books and other digital texts.

[**OpenAI**](https://openai.com/). A company that creates digital models and databases that other organizations use for creating chatbots and other types of digital tools. Its work is at the heart of many such tools, including ChatGPT and DALL-E, and it has created a series of GPT models.

[**ChatGPT**](https://openai.com/blog/chatgpt/). An artificial intelligence platform that writes, generates code, solves problems, and answers questions based on natural-language prompts and questions. It has attracted widespread interest and concern since it was made freely available in the fall of 2022 because of its vast knowledge base and ability to perform tasks quickly and easily.

[**GTP**](https://en.wikipedia.org/wiki/GPT-3). A digital model that allows computer software to create natural-language text, generate computer code, and interact in a human-like way. *GTP* refers to *generative pre-trained transformer*, a means of extrapolating new results from previous training. The most recent version, GTP-3, [draws on nearly all text available on the internet](https://towardsdatascience.com/gpt-3-a-complete-overview-190232eb25fd).

[**GitHub**](https://github.com/). A repository that allows users to download, modify, and deploy code and digital materials that others have created. *Git* refers to a form of version control that allows users to keep track of changes in digital files.

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