AI for libraries: Research, reading and revelry

By Anne Weaver

Snapshot

Anne Weaver generously shares her insights into the ever-widening world of of AI, exploring its applications in the context of the library's roles in research and reading, as well some more exciting applications which make this brave new world a little fun for us all.

Author Note

This article is meant as an introduction to Artificial Intelligence (AI) in the library context. AI is a huge field, so the aim has been to restrict the number of AI tools included to those likely to endure, limited for those starting out, that are useful now, and to provide a glimpse of the range of tools that will be useful in the library context. This information was prepared for a presentation at a SLAV HILO event: AI and the School Library, held on March 14 2024, to which QSLA members were also invited https://slav.org.au/event-5557006 The actual presentation was slightly shorter due to time limitations. The first speaker defined AI and Large Language Models so that has not been covered here. AI is changing extremely quickly, so any of this information may have changed since presenting.

My understanding of AI has been assisted by the AI Curriculum Leader at our school, Vince Wall, mainly for the parts on Copilot, Search Coach, prompting and the CENTAUR concept. All other images were created using Copilot or Canva AI – the latter with the assistance of Melanie Pickering. Where images were not created by Canva AI, sources are included with the images. All other information on AI has been curated by my own research. Sources for the text are at the end, generally in chronological order of when mentioned, and a numbered footnote system has been used. There are also links included to more people to follow and free AI training.

Every day more and more of our lives are impacted by AI

At the moment, the change is fast and furious. News just this week (March 14) includes Copilot launching an app for iphones, and Japan and the EU announcing AI Guidelines. 5 On a more local level, Krystal Geigan-Spriggs from CSU posted a video on LinkedIn showing how the Wordpress

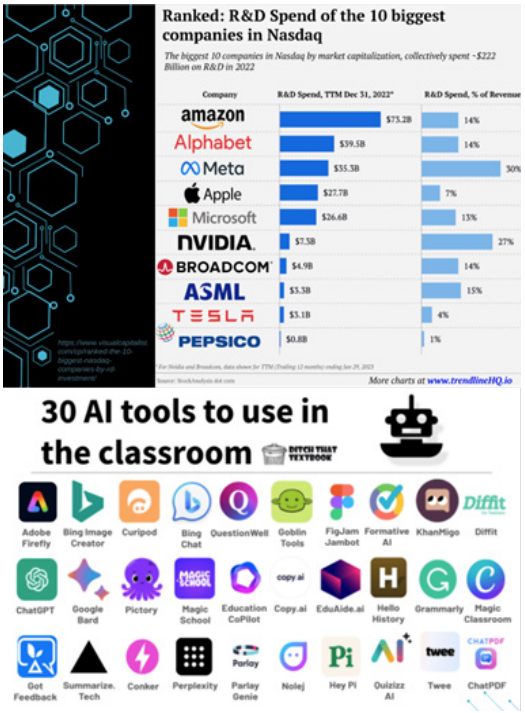
AI Assistant helps write blog posts. Also, many are finding that AI tools are circumventing various internet paywalls. In other news, AI tools can write a presentation and produce a video of a person narrating a script with life-like facial expressions and gestures, so I may not even need to be present for my next presentation; AI can do it for me. How likely is this?

Link to Vidnoz video

Text as follows:

> 'I do not believe that AI can replace the genuine creativity of humans but hopefully it can make us more creative by removing tedious aspects of work. It is important to be critical about what AI can and cannot do well. I tried to get AI to write this presentation – it did a bad job. This is because AI is new in libraries and there is not much that information AI can access yet. But if I share this presentation online and others do the same, then next time, AI will do a better job. My goal is that you will feel keen to get started with AI to help you do your Library Research, Reading and Revelry work faster and more futuristically, and more importantly so you have time for more fun.' Link here.

The talking photo was created using an AI tool called Vidnoz. It took a few seconds to make and cost nothing. A new tool, Sora AI, can create such videos in minutes that are totally realistic. Key principles to consider are that; "The AI you use today is the worst you'll ever use," and "Even if AI change had stopped in late November 2022 (when ChatGPT was released) then it would still have fundamentally changed the world." And AI has not stopped. Most students are using AI already. As information professionals, it is our responsibility to become acquainted with AI to support our library communities.



AI is the biggest disruptor since the World Wide Web was released to the public domain in 1993. It is already impacting significantly on employment. There are huge platform wars occurring in the world of technology with massive amounts of money at stake – Apple, Amazon, Google, Microsoft, as well as the start-up sector, some of whom are then being purchased by these large tech platforms. And we can't forget Nvidia that just this month was valued at $2 trillion.

There are 2 main categories of AI in education

Firstly, there are AI tools where the user has much more input. Prime examples are ChatGPT, Google Gemini and Microsoft Copilot. This landscape is even more confusing as these products keep changing names. Google Bard is now Gemini, Bing Ai is Copilot. These first products are then used to make the second type of AI category called AI Wrappers, where much of the prompting has been done for you. Wrappers provide AI tools for Quizzes, Feedback, Grading and other Specific Tasks. Examples are Magic AI and EduGpt.

Schools need to make decisions about staff and student use of AI

For example, Copilot is essentially OpenAI's ChatGPT 4 along with Dall E, with inbuilt safety and privacy features. ChatGPT's Terms of service state: "Minimum Age. You must be at least 13 years old or the minimum age required in your country to consent to use the Services. If you are under 18 you must have your parent or legal guardian's permission to use the Services."

Microsoft says that schools need to make local decisions about age in accordance with their own school policies and about other issues including teachers using AI for grading and feedback. Library staff can assist with policy development and play a key role in assisting teaching students skills for using AI appropriately, effectively and safely. Australia has a framework for use for AI in education (see here and here.)

Thinking back to that Vidnoz video shown earlier, people need to be aware that any of their videos or photos can easily be manipulated using AI. In February 2024, fake and graphic photos of Taylor Swift swept social media. People need to consider locking down social media accounts so only the people they want can access their videos and photos. Schools will have greater restrictions and responsibilities around using student and staff images. Schools will increasingly use tools such as School Bench for storing photos because such tools can manage the range of permissions from parents about use of student and staff photos. There are many tools for blurring faces. Libraries need to consider carefully use of people's photos when doing marketing (see here.)

One danger of using AI tools is that user data may become part of AI neural pathways. Users need to be aware that data input into AI; such as full names, images, writing and prompts may not be secure, private or safe. There is an AI search tool called Epsilon that recently had a data breach and user data was released. In addition, some big companies are selling user data to AI – Wordpress Tumbler, and Reddit have done this.

AI has brought to the fore issues about copyright

Currently there are many legal battles occurring involving AI. One of the main issues is that AI may be using content it has not paid for. Different countries are approaching copyrighted material in different ways. Japan has recently decided AI can use copyrighted material for training whereas other countries such as the US and UK have much stricter rules. Some AI companies are now paying licence fees to database companies, so it can hard to identify what information has been stolen or has been legitimately paid for. One of the main cases that may make it to court soon is where the New York Times is suing Open AI and Microsoft AI.

An AI copyright argument being used is that AI does not store information but uses neural pathways. The significance of this is that some AI companies are suggesting that an AI tool may produce output nearly the same as an existing work, but it has not been copied. We can make an analogy to this of a student whose assignment has been found to have been 95 percent copied from an existing text and the student claiming they did not plagiarise, but their brain accidentally came up with nearly identical wording in their assignment. At the moment, original expression is protected under copyright in many countries, so it is the student's responsibility to make sure their work does not substantively copy an existing work. However, these legal cases will question whether current approaches to copyright apply to AI. The outcome of decisions around AI and use of copyrighted material have huge implications for publishers and creators.

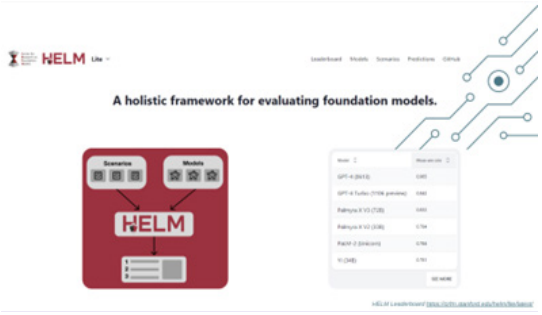
Cheating and plagiarism

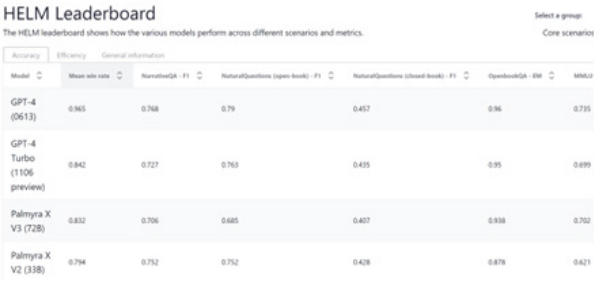
This area in education was already a contentious issue in Education before AI; AI has just brought this to the fore. There is no plagiarism checker that can detect AI, just as we have never been able to check if a tutor or parent has written an assignment for a student. There is a significant danger that these AI plagiarism checkers will state that an original work is plagiarised, also known as "false positives." It is now even more important to ensure that assignment topics manage the use of AI to complete them.

One foundational approach is for students to be required to undertake training courses in Academic Integrity. These courses have been around for decades. For example, Year 11 students at our school are required to do the QCAA course in Academic Integrity. From this semester, all our Year 8 students will also be required complete an Academic Integrity course from QCAA. Library professionals know that a scope and sequence of Information Literacy skills is essential to develop information literate citizens (see here.)

How accurate is AI?

The HELM Leaderboard provides a detailed and live ranking of the credibility of various AI models, based on Accuracy, Efficiency and General Information. In March 2024, GPT4 – also used in Copilot – was measured as 96.5% accurate.

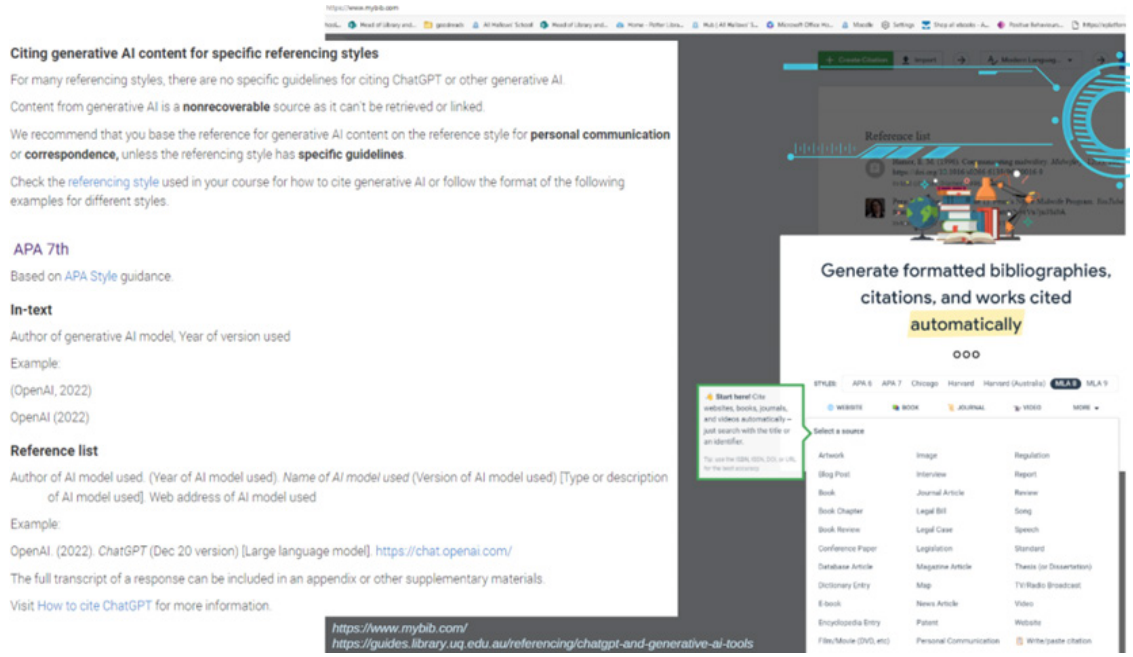




AI is not human, not sentient; it is just repeating and connecting patterns of information. AI information can be biased because this reflects much of the information in its databases. We live in a very biased world. In addition, Lauren Leffer points out that: “Humans Absorb Bias from AI – and Keep It after Using the Algorithm.” (see here.)

How is referencing treated for AI?

This is currently a controversial issue. Some believe AI should be treated via acknowledging assistance, as is done such as from a tutor. This is likely to be eventually determined at school or educational jurisdictional level. At the moment, in our school, we have followed the recommendation of 2 of our respected state universities, and we suggest that our students treat AI as a Personal Communication. We use the free tool mybib.com if only because when you finish your bibliography the screen explodes with pretty digital confetti. On mybib: we tell students to click More, then Personal Communication to reference AI.

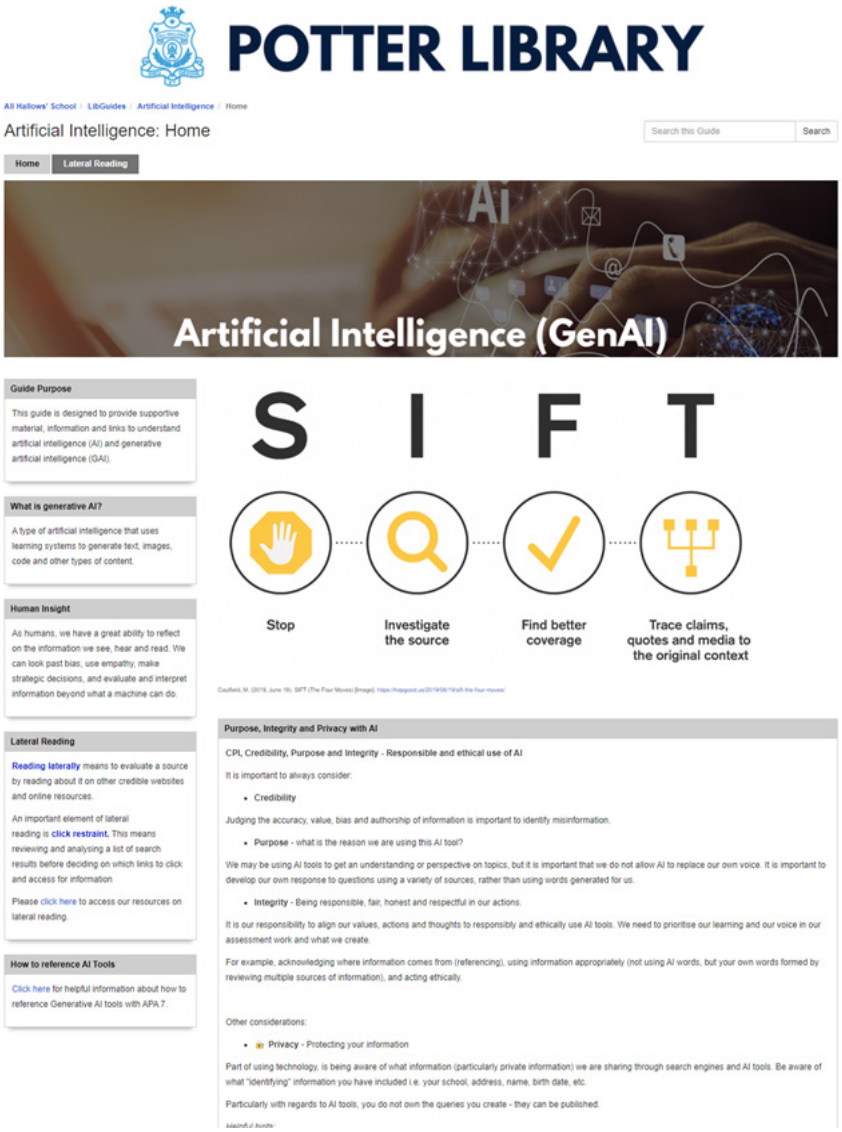


Students and staff will be using AI for research purposes

For this reason it is important for Library staff to learn to use AI, as information literacy is “bread and butter” work. Libraries use a variety of methods to evaluate the credibility of research information. The CRAAP model has been superseded by the lateral reading approach and the SIFT method (see here and here.) AI makes it even more difficult to evaluate information. Traditional techniques such as considering the domain of source sites like .gov or .org , still apply with AI. One surprising and valuable technique is to use Wikipedia as a fact checker. Wikipedia has a Talk tab that shows the edits and is useful for revealing different views on an issue.

Research guides

In our School Library, we have started updating our Research Guides for teaching research to include AI. We are currently discussing with many stakeholders the need for schoolwide agreed scaffolds and resources around use of AI for research. An early version is shown at our [Library Libguides site](#).



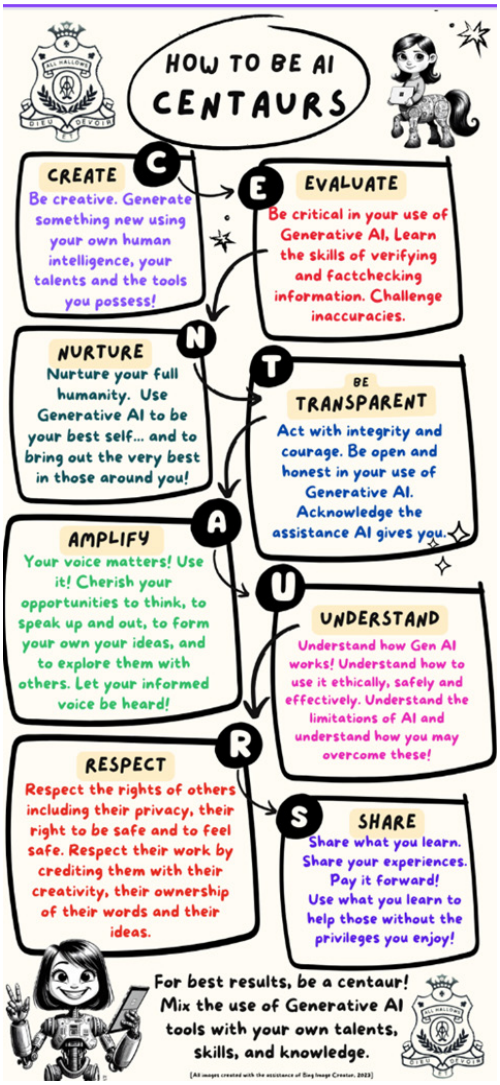
Research Lessons

Conducting Research Lessons that include AI Year 10 Food and Nutrition students had an assignment evaluating fake food claims on social media. We found that engaging students in discussions was effective for exploring the ethics of AI, rather than simply instructing them about what they should do. I We found that pair or group-sharing of ideas by students before class-sharing produced better responses. There was some nervousness from students about admitting to AI usage and some students wondered if they could get in trouble for using AI. Using a discussion-based approach helped address student misconceptions about AI. Below is a very brief summary of student responses from one class.

- What is artificial intelligence? (*robots*)
- Who has used it? (*20 out of 23 students put their hand up that they had used AI*)
- Which AI tools? (*all 20 said they used CHAT GPT*)
- What was the experience? (*students expressed being nervous when they got only one answer when they were used to large numbers of results from search engines*)
- Should you trust AI? (*Student feeling was "No" as it is generated by robots*)

As you would expect, this led to much further discussion. The following additional discussion points may be useful:

- What does Integrity mean when you do an assignment? For example, is it OK to copy an answer from ChatGPT and submit it as your assignment?
- How should students use AI for learning?
- When is it OK to use AI and when is it not OK?
- What does cheating look like?
- Discuss binary responses i.e. only 2 outcomes – for example – "Sugar is bad for you." Help students to be aware that most problems are complex and have more than 2 sides. For example: How much sugar is bad for you? Are all people affected the same by sugar? Are there different types of sugar and do they have different effects?

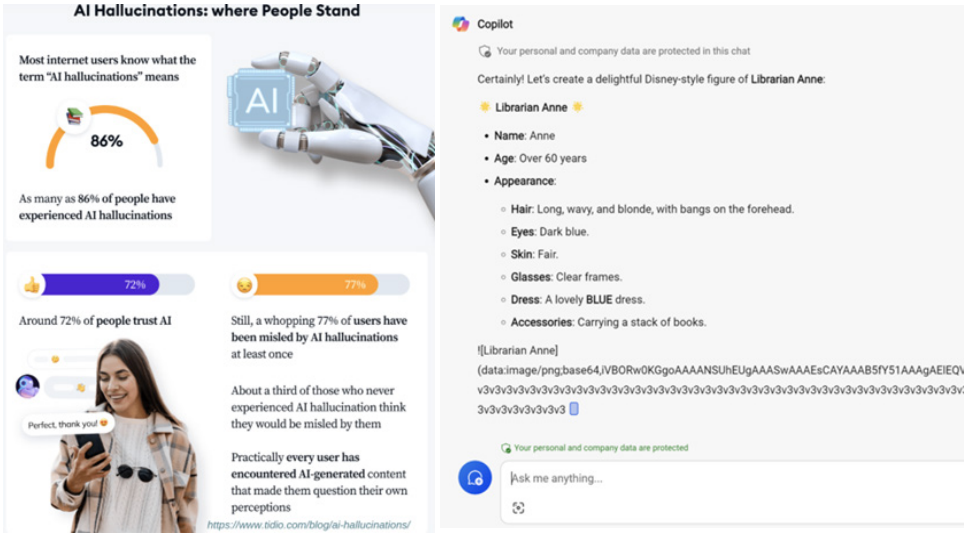


Vince Wall designed the following model using AI and class discussion. The CENTAUR acronym is apt for AI.

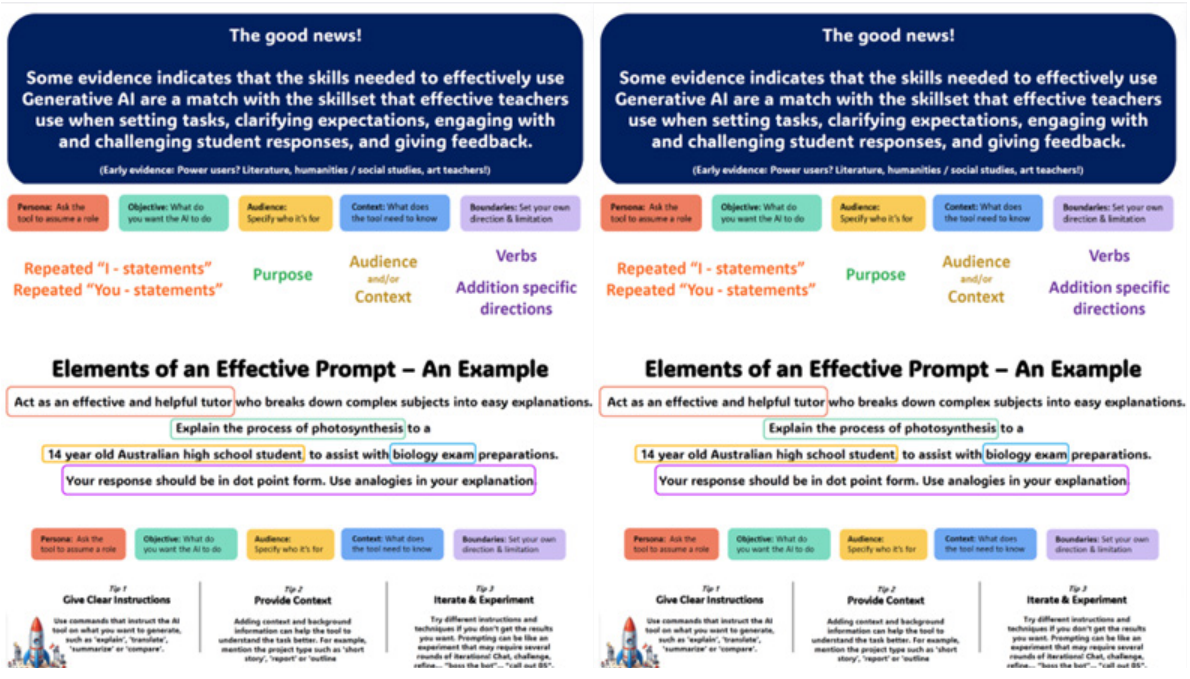
What AI tools are good for student and staff research?

The focus as always should be learning intentions, rather than what tools to use, and the best tool may not be AI. AI is just another tool, so research lessons should still include traditional sources such as databases, websites, books etc.

When considering AI tools for research, it is necessary to consider how to use prompts. Prompts differ from key word searching used in search engines. The statistics say that 70-80% of people give up after inputting one AI prompt. Users need to be prepared to modify prompts to get the desired result. This is called “multi-turn conversations.” AI can build on a series of prompts until it tires out. Users need to be aware that sometimes after multiple modifications of prompts, the AI tool may develop hallucinations. The user just needs to start again with a new “starter” prompt. AI can also make up responses which are called fabrications. Basically, the key message is that users need to check and evaluate any information, especially from AI (see here.)



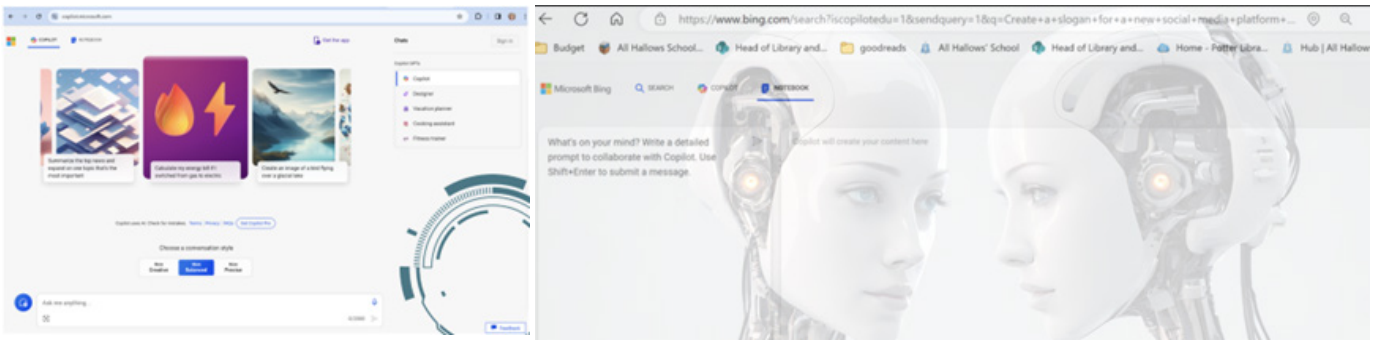
Prompt writing is a skill and differs with various AI tools. For this reason, it is advisable to become more proficient with one or two AI tools, rather than trying to master many. A good approach with prompting is to include intent + context + instruction. Another strategy is to ask AI to suggest an effective prompt. These prompt resources were created by Vince Wall.



Copilot from Microsoft

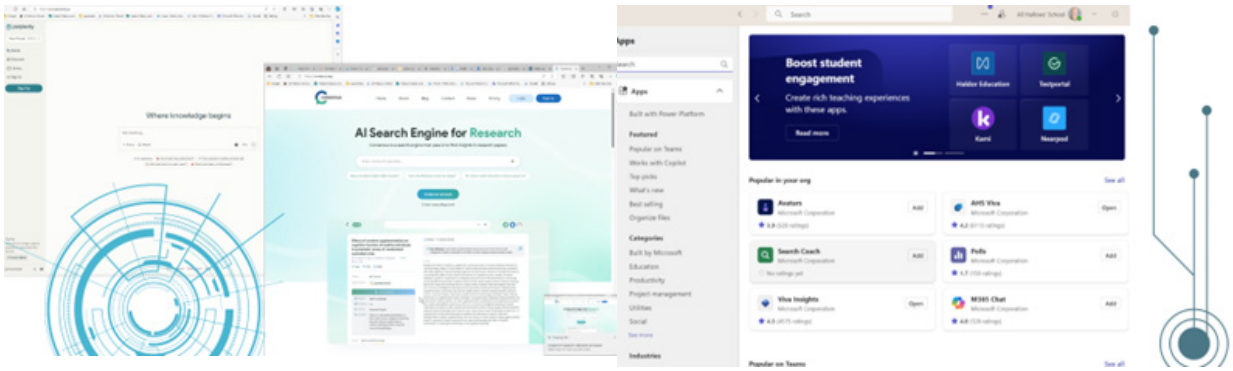
The first AI Research Tool selected is Copilot from Microsoft. This access is currently free for all. Copilot can be accessed many ways, but the least problematic is to go to https://www.bing.com/ and wait a few seconds for the Copilot button to appear. Click the Copilot button. Why use Copilot? Microsoft is providing safety guardrails around data, especially as it is aiming at its key education market. ChatGpt 4 at one point was costing $20 per month, but as at March 3, it was included free in Copilot. Copilot has a download button making it easy to further edit and save responses.

Another recent advance in Copilot is the Notebook tab where you can develop a collection of prompts to save time, and to add notes. Microsoft provides lots of free training resources for Copilot, including PD Certificates and micro credentials.



Another AI Research option is Perplexity AI

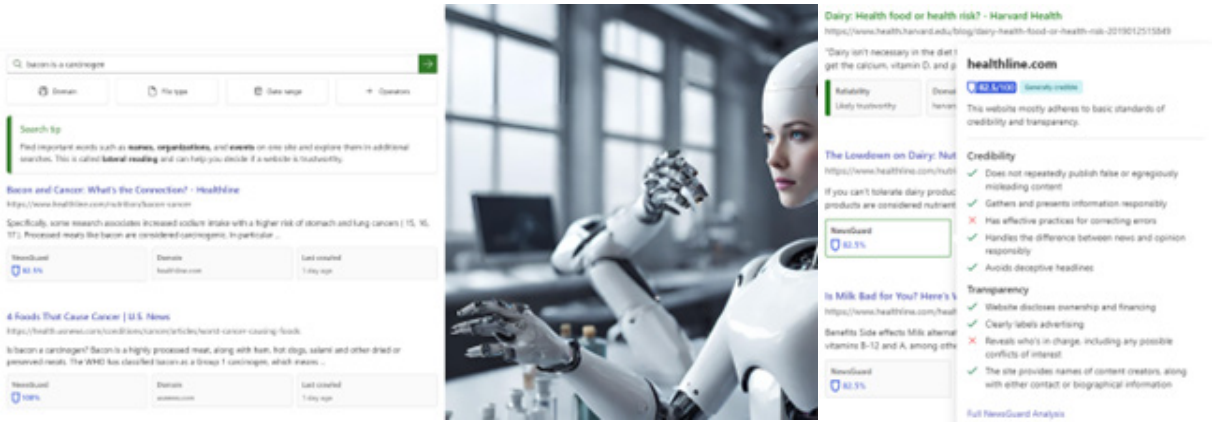
Perplexity is seen by many as the biggest threat to Google's dominance as a search tool. Perplexity says it aims to be "Your Conversational Search Companion" and is powered by AI models like GPT-4 and Claude 2. Perplexity says that it uses sources like academic papers, news, and forums. Perplexity says that unlike tools such as GPT-4, Perplexity provides users with the sources from which the answers are derived. Copilot also provides sources. However, users still need to check these sources are valid.



Search Coach

Another great research tool to explore is Search Coach, also from Microsoft. While some here do not use Microsoft Class Teams, this tool is worth mentioning as often other competing products copy each other. Teachers can add Search Coach to Class Teams by clicking Apps on the left menu and selecting Search Coach. A Search Coach tab will also be added to the Team.

“Search Coach helps develop information literacy skills by giving an evaluation rating of responses, as in the previous image. This analysis is provided by Newsguard. Newsguard is one of many fact checking sites.

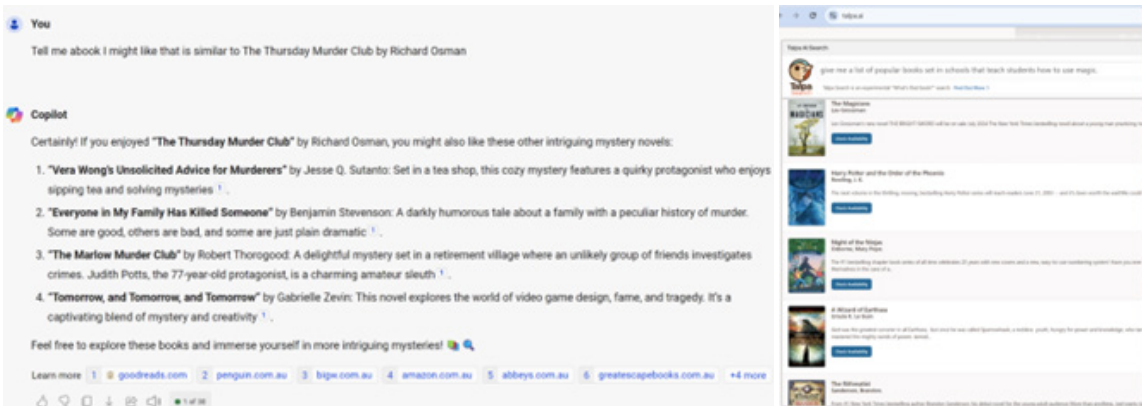


The class I took a few weeks ago were shocked by a site that said that bacon and processed meats are carcinogens. The site was rated 100% accurate by Newsguard. It was from the World Health Organisation. We then drilled down into the veracity of this information – it is true - as well as looking at other sites rated 85% and reasons for these ratings, such as that they rely too much on opinion rather than facts. Search Coach is a great tool for teaching information literacy.

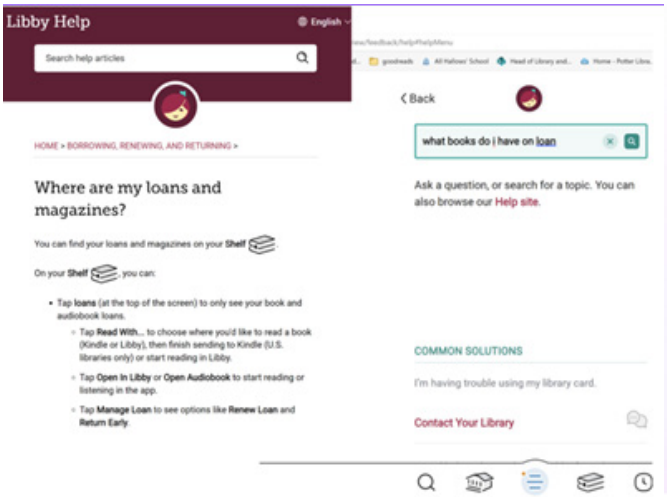
AI tools for Reading

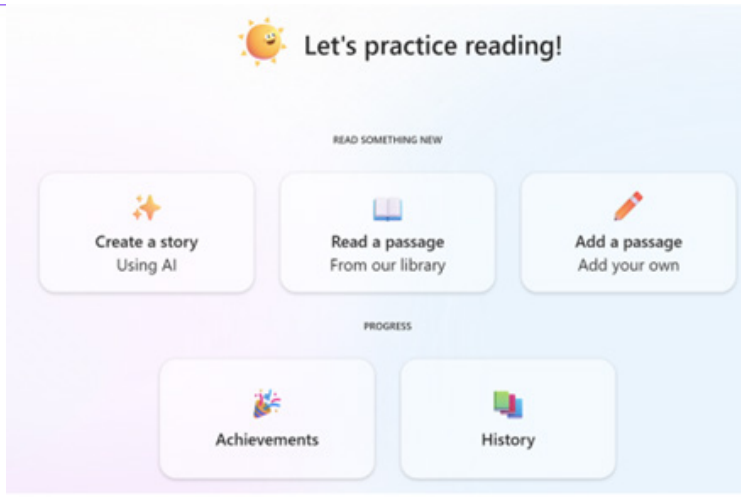
Copilot and similar AI tools are great for creating reading recommendation lists.

Talpa AI combines language models from Anthropic and OpenAI with book data from Bowker, Syndetics Unbound, and LibraryThing to help users find books and other media using natural language queries. While it has a free version, the paid option can prioritize items in your library’s collection. It can answer “What’s that book” type questions from plot or character clues, or even the book cover.

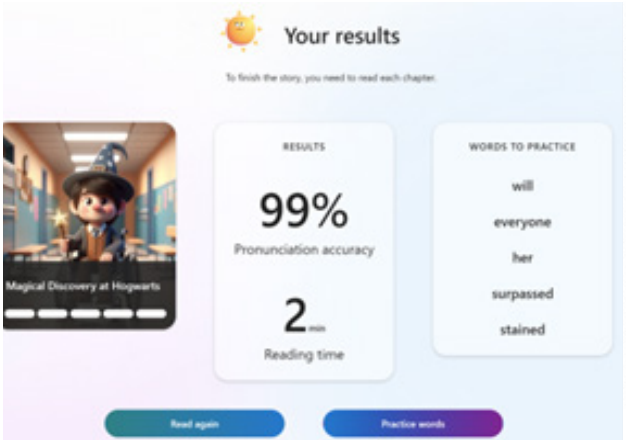


If you use Libby from Overdrive via your Council Library, you already have access to an AI Chatbot. The Libby AI chatbot provides user support. Overdrive says they currently have no plans for making such a Chatbot for Sora, the school version of Libby.

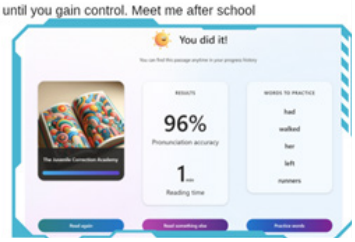




Another AI tool worthy of mention is Microsoft Reading Coach. This one will interest primary teachers, but also can be used with secondary students. This tool recently became freely available on the internet. (However, Reading Coach may now be inaccessible as it is in Preview mode unless deployed by school IT management). Search for Reading Coach online, then select from Characters and Level options and it produces a story to read aloud. You can choose options such as Read a passage or Write a passage. Users read the writing aloud and their Reading Fluency is scored. Students can practice and improve their skills. Try it yourself. I will return to this story I wrote later.



Students can write something as I did below and then read it aloud and gain a fluency score. I will return to this story later.
Bit of a story by Anne Weaver:
Ash sat alone watching other students playing soccer in the centre of the oval while runners circled them on the red track, running around and around and around. She felt nauseous remembering the last time she had run flat out. No way. It couldn't have happened. It must have been the sun making her dizzy. No way could she have left the ground. She had been stunned, and then fallen. The grazes were still in evidence on her knees. No, she was just clumsy - she had just fallen, nothing new, nothing out of the ordinary. She had been fast though, she had been so far ahead. That was not ordinary. She was always ordinary - she should have been named Audrey. Ordinary Audrey the Orphan - top marks there for some English exercise. Except things had not been so ordinary since yesterday when she woke up and her 2 foster parents had gone missing. Of course they will return, she thought. Just some emergency - though why no note?
She grabbed a stick and drew rings in the ground.
"You need to use words. Ground, slow, skip, land," a voice said. "At least until you gain control. Meet me after school over there near the creek. you need to practice."
A shadow covered her. It was just past midday, so the shadow was small, but it was cold and dark.
"Go away," she said, trying to sound tough and bored.
"Your guardians are gone. You have no protection. Just uncontrolled power. if you ran away from me now you might take off into the sky and fall to your death.
"No," she said. "I can look after myself. I don't need them. and I don't need you." She grabbed her backpack and walked briskly - but not too fast towards the school buildings. This really had been a bad start to the week.

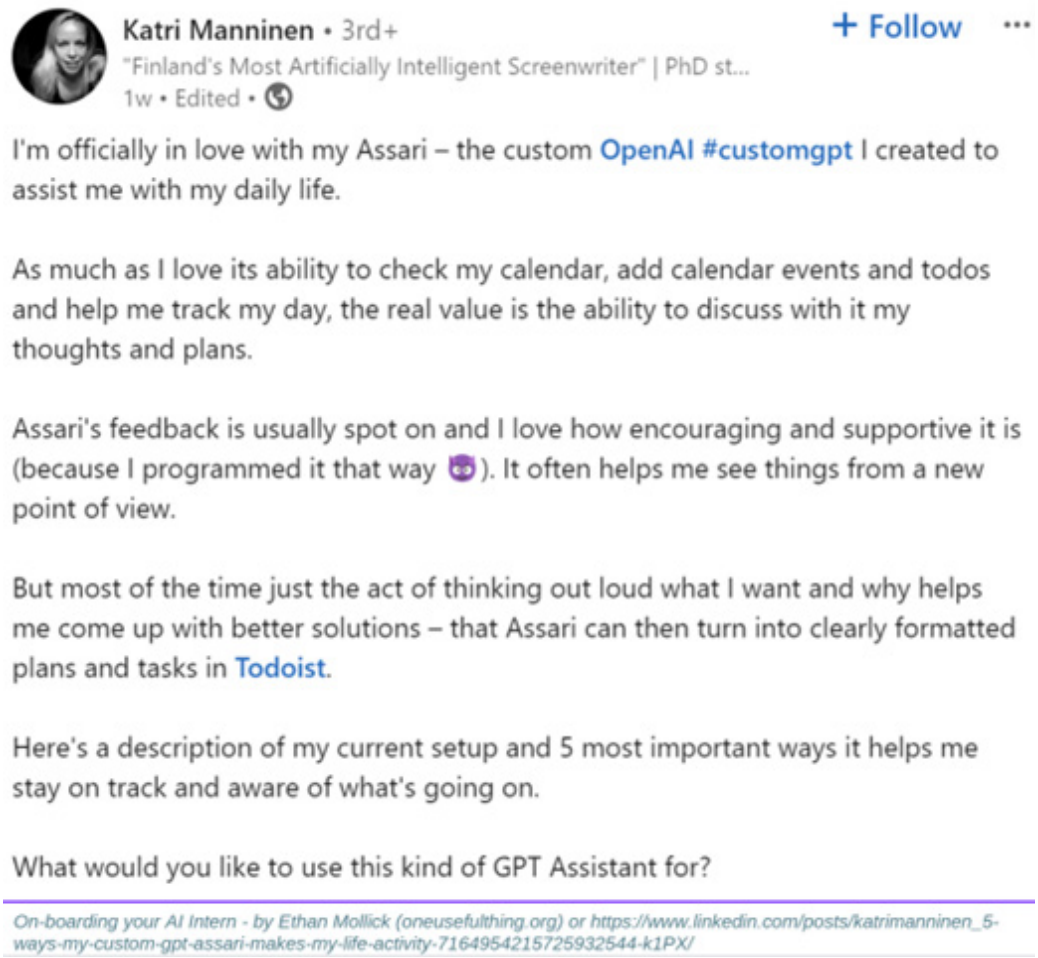


How can AI be used for revelry?

Revelry here has been chosen as it starts with an R like Reading and Research and it is used to refer to everything not Research and Reading in Libraries and includes some fun AI uses.

AI can be used to reduce Library Administration workload. For example, prompts can be created to produce drafts for Letters for overdues, content for school or library newsletters and blogs, and many other time-consuming administration tasks. Canva's Magic Studio makes designing and scheduling social media posts faster. The latest AI tools like AudioPen operate using voice, so no need to type.

One AI tool that may increase productivity for everyone is Open AI Agents (see here, here, and here.) Open AI Agents are like a personal assistant. Open Agents can manage calendars, time use and priorities. They can monitor a person's energy and food in order to advise when to take breaks to increase productivity. Open AI Agents can send texts and emails. They can assist with moods and provide encouragement and feedback. People have already reported using Open AI agents to book airfares and even to organise a Valentines Day party. AI will take tools like Siri and Alexa to the next level, where they do not just answer queries, but they can action requests. Google started working on this in 2018 but stopped due to concerns about public backlash; they have since restarted. Some of us may not want a nosy Open AI agent, but these are on their way.



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I'm officially in love with my Assari – the custom OpenAI #customgpt I created to assist me with my daily life.

As much as I love its ability to check my calendar, add calendar events and todos and help me track my day, the real value is the ability to discuss with it my thoughts and plans.

Assari's feedback is usually spot on and I love how encouraging and supportive it is (because I programmed it that way 😈). It often helps me see things from a new point of view.

But most of the time just the act of thinking out loud what I want and why helps me come up with better solutions – that Assari can then turn into clearly formatted plans and tasks in Todoist.

Here's a description of my current setup and 5 most important ways it helps me stay on track and aware of what's going on.

What would you like to use this kind of GPT Assistant for?

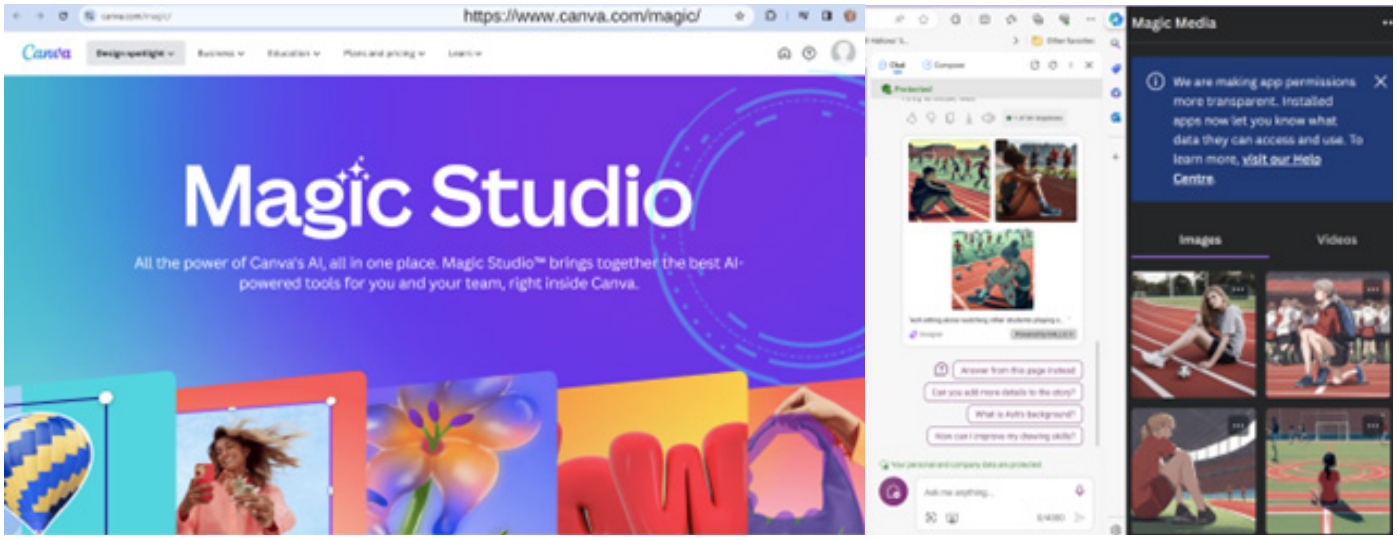
On-boarding your AI Intern - by Ethan Mollick (oneusefulthing.org) or https://www.linkedin.com/posts/katrimanninen_5-ways-my-custom-gpt-assari-makes-my-life-activity-7164954215725932544-k1PX/

AI for revelry

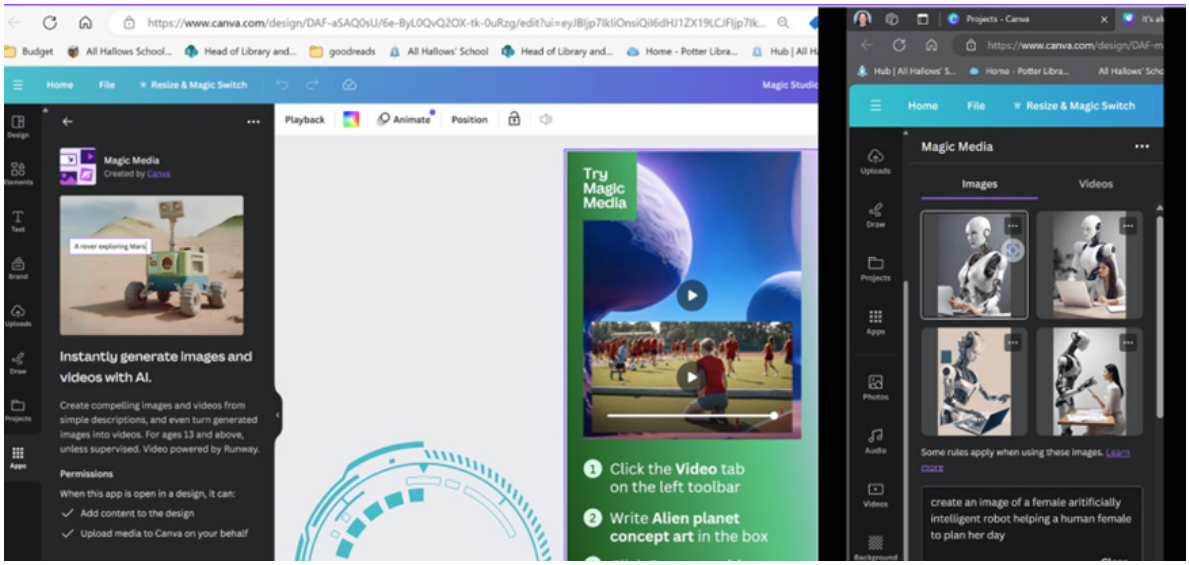
AI can be used for Creativity Such as For Displays and Creative Writing and for fun library activities.

Images can be generated from text. The short bit of writing previously shown in the Reading Coach section, was input into Copilot. In the past users had to choose Creative or Designer mode in Copilot, but it now seems that this is no longer needed. I found I had to limit the length of the text I included. Copilot gave me 3 image choices based on my piece of writing and these were racially inclusive. Students can change their writing if the image does not match their intended description. It may be necessary to limit the length of the prompt.

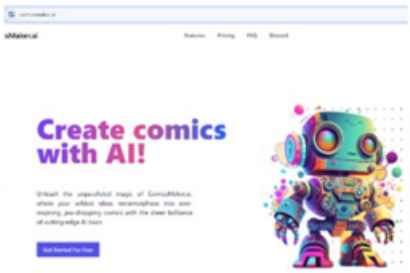
Another great AI tool is Canva Magic Media. The education version was used. It also had limits on the number of characters that could be input. Canva AI can make a video from text.



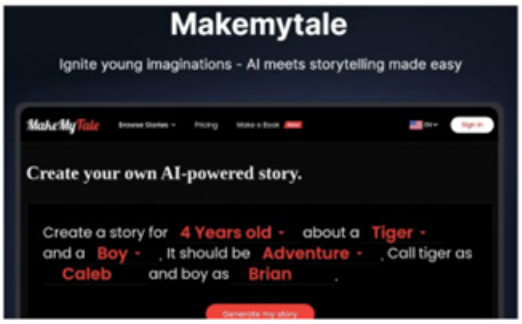
AI tools can create book covers and entire books in minutes. Canva has a tool called Magic Write. There are an exploding number of tools that can write books like NovelAI, makemytale and ComicMakerAI. These tools can be used alone or in combination. Some tools can go in the reverse direction and use images to generate text, which may help with “writers block.”



https://novelai.net/



https://www.comicsmaker.ai/

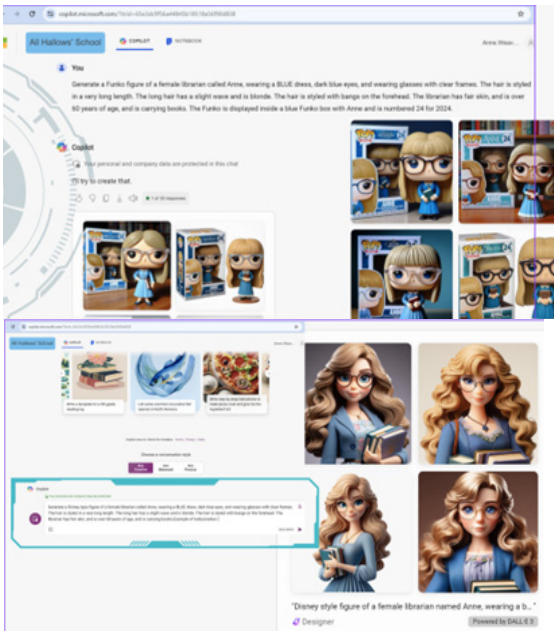


https://deepgram.com/ai-apps/makemytale

Finally, we will end with a fun activity to practice prompts. Go to https://www.bing.com/ and wait a few seconds for the Copilot button to appear. Click the Copilot button.

Enter a prompt to create an image of yourself – edit as suits needs:

Generate a Funko figure of a female librarian called Anne, wearing a blue dress, dark blue eyes, and wearing glasses with clear frames. The hair is styled in a very long length. The long hair has a slight wave and is blonde. The hair is styled with bangs on the forehead. The librarian has fair skin, and is over 60 years of age, and is carrying books. The Funko is displayed inside a blue Funko box with Anne and is numbered 24 for 2024.



Once having done this, try different types of characters and descriptions as a fun way to practice prompting skills. This is especially effective if the prompts are altered multiple times.

For example:

Generate a Disney type figure of a female librarian called Anne, wearing a blue dress, dark blue eyes, and wearing glasses with clear frames. The hair is styled in a very long length. The long hair has a slight wave and is blonde. The hair is styled with bangs on the forehead. The librarian has fair skin, and is over 60 years of age, and is carrying books.

In conclusion

Trying to stop students from using AI is like standing in front of an avalanche with an umbrella. AI is an amazing opportunity for Libraries to support learning and our communities. A great quote to end comes from the New York Times:

> 'A.I. will force us humans to double down on those talents and skills that only humans possess. The most important thing about A.I. may be that it shows us what it can't do, and so reveals who we are and what we have to offer.'

Further Resources to Learn More

On LinkedIN follow Ethan Mollick https://www.linkedin.com/in/emollick/ and Vince Wall | LinkedIn

Facebook has many AI groups for educators

PD https://csermoocs.adelaide.edu.au/professional-learning/artificial-intelligence-in-schools

Good resources for teaching AI Stanford CRAFT

Training Resources from Microsoft
https://learn.microsoft.com/en-us/training/educator-center/topics/ai-for-education

https://copilot.cloud.microsoft/en-US/prompts

How AI Could Save (Not Destroy) Education | Sal Khan | TED How AI Could Save (Not Destroy) Education | Sal Khan | TED (youtube.com) May 2023

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