Using Artificial Intelligence tools for academic writing, the right way.

Understanding artificial intelligence (AI) within its relevant field is necessary to prevent the incorporation of biased information. This is equally applicable in the context of academic writing. **Hence, this resource aims to educate senior or mature writers on developing competency using generative AI tools.** *We provide some recommended tools that may supplement creativity and thinking to enhance writing development. We do not recommend that novice writers, such as undergraduate students use AI, as they are still acquiring essential academic reading and paraphrasing practices.*

What's AI?

Artificial Intelligence (AI) is the simulation of human processes by computer systems, exhibiting human-like intelligence. AI has been a part of teaching, problem-solving, and learning environments for the last decade. For example, Turnitin is an AI tool that uses similarity detection[1] software. However, since 2022, the explosion of generative purpose technologies (GPTs) and Large Language Models (LLMs) has accelerated the use of Generative AI (Gen AI) in education, healthcare and other fields with a new set of technologies that can provide original and plausible responses trained from massive datasets via your input. Researchers have used AI tools throughout the research process (see the [UNESCO schematic for more information](#)). For instance, LLMs can provide five levels of writing assistance: basic editing[2] (checking spelling and grammar), evaluating the quality of the writing (finding weaknesses), *structural editing* (<u>paraphrasing</u>, translating, improving the text), *creating derivative content* (summarising, creating titles, abstracts, <u>rewriting</u>), and lastly, *creating new content* (<u>completing/expanding text</u>)[3]. The first are acceptable uses, but the last three can be problematic (underlined).

What's the big deal?

It is essential to know that while Gen AI tools have changed how the world can access information, they also raise significant concerns for academic writing development. For example, although ChatGPT, co-pilot, Gemini (and others) may appear reliable based on their ability to reference, it needs a sense of *intentional* meaning-making to establish factual accuracies unbiasedly**. Therefore, the answers are based on what it has been 'taught' following referencing convention and may even invent sources of references. Most importantly, prompting an answer may not account for [cultural diversity, identities, and global perspectives on that topic](#)**. So, while Gen AI may help produce a quick, plausible summary of standard information, perspectives on a topic, and an outline for your paper, *it must be used cautiously.*

At the Writing Lab, the importance of writing for students' academic and professional careers is foundational. Writing is not just a product but also a process, and as much as these products anchor moments in a journey, learning and development take place in the production of these products. While

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[1] Useful developmental tool to help you understand your paraphrasing techniques (more here in our [Comprehensive Plagiarism and Referencing resource](#))
[2] Lingard, L., 2023. Writing with ChatGPT: An illustration of its capacity, limitations & implications for academic writers. *Perspectives on medical education*, *12*(1), p.261.
[3] Lin, Z., 2024. Techniques for supercharging academic writing with generative AI. *Nature Biomedical Engineering*, p.1-6.

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GenAI can be used to generate a product, when we outsource the work of production (using Quillbot and other paraphrasing tools), it limits the critical thinking and sense-making of academic material for effective knowledge-making. This can only be derived through the process of *intentionally* crafting texts to convey a particular message, for a particular audience.

Additionally, Gen AI cannot write for you and represent your distinct **authorial identity and voice** shaped by your life experiences. How you decide to communicate your research in your paper/thesis and the language choices you make are unique to you as a writer, and an overreliance on Gen AI can potentially eliminate your work's creativity, originality, and authenticity as a writer[4]. This is part of the learning journey of becoming a mature writer, and we may often feel pressurised and overwhelmed to meet deadlines, it may appear 'easier' and 'quicker' to generate our work using AI, *but we need to think critically about our integrity as writers*.

As mature writers, publishing research is vital, so does this mean that all Gen AI are problematic? To help us understand this, let us look at the Centre for Innovation in Learning and Teaching's (CILT) guidelines on acceptable use at UCT (Table 1). In most cases, whether completing coursework or developing your thesis, using these tools (in any form) may be prohibited by your course convenor/supervisor/principal investigator.

Table 1: Accepted and unaccepted uses of gen AI at UCT

DO	Uses of generative AI at university likely to be acceptable	DON'T	Uses of generative AI at university likely to be unacceptable
✓	Find out whether or how AI tools can be used for each assignment before starting	x	Use AI tools when they are specifically prohibited
✓	Attribute the use of AI (eg APA style)	x	Use AI tools without acknowledgement
✓	Use AI as a prompt for an outline (unless specifically prohibited)	x	Copy an AI output and pass it off as your own work
✓	Brainstorm ideas or request summaries of information	x	Trust AI outputs without doing a critical check for facts and sources
✓	Ask ChatGPT to rephrase a difficult concept into simpler language	x	Share any personal information or upload copyrighted materials
✓	Save your prompts and the outputs in case you are challenged about your use	x	Use AI tools when original content is being expected

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[4] Werdiningsih, I., Marzuki and Rusdin, D., 2024. Balancing AI and authenticity: EFL students' experiences with ChatGPT in academic writing. *Cogent Arts & Humanities*, *11*(1), p.2392388.

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Using Gen AI comes with experience in navigating when and how to use it during the writing process. Unacceptable use (copying and pasting, no acknowledgement of use) can be considered cheating as a form of academic misconduct and is prohibited in academia. At UCT, this is made explicit in the Academic Misconduct Policy and can be subject to disciplinary action.

Cheating is the practice of attempting to gain an unfair advantage. This includes accessing prohibited materials in an examination, making use of 'essay mills', language models such as chatbots (eg. ChatGPT and other large-language models or generative Artificial Intelligence), and any service or software that provides answers to assessments, or writes or re-writes assignments or parts thereof, other than software that detects and corrects spelling and grammatical errors. The only permissible instances of such practices are where they are explicitly permitted by the terms of the assessment instructions. In the case of group work, cheating includes students indicating that they have participated in group work when in fact they have not.

Other forms of misconduct include, for example, misrepresenting, fabricating or falsifying the views, conclusions, arguments or data of another.

Some AI tools that you can use the right way

There is an ocean of different AI tools[5], most of which are monetised. Free versions, whilst appealing, sometimes exist to provide an appetite for the features and use levels that are available only to paid subscribers (such as entering a limited number of prompts, uploading a limited number of documents, etc.). We have found some tools that may be useful in the reading and writing process that you might want to explore further.

Firstly, there is Litmaps or Research Rabbit which are both valuable visual mapping tools that can help find initial readings or important voices/scholars on a particular topic. However, these are limited in its free versions, but the visual connections can help understand key literature and suggest further papers to consider reading on that topic. This is helpful during the early proposal writing stage when navigating the sea of literature. It may also be beneficial at the thesis stage when you need updated literature and can visually identify new readings to include in your review or to discuss findings.

Then you could also use Elicit, which has limited use with its free version but is a useful summarising tool. It can supplement your reading by helping you work through the different readings and help extract answers to critical questions you are interested in. This is useful when you are further along in the thesis journey and have become more familiar with the literature or when writing for publication.

Grammarly is also a valuable learning tool for English language development, but some functionality is limited to a paid subscription only. The free version can offer grammatical assistance. Some may use

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[5] Pinzolits, R., 2024. AI in academia: An overview of selected tools and their areas of application. *MAP Education and Humanities*, *4*, p.37-50.

it solely as a corrective editing tool or a translator, but caution should be exercised by understanding the changes suggested by the software. Remember that you are in control of how you use any AI tool!

Lastly, there are some alternative Gen AI tools you may find more useful that have more uses and are free. SciSpace, an AI chatbot for PDFs, helps engage with readings. It allows you to 'chat' with your articles to extract useful information and can be added as a plugin to your web browser. Then, NotebookLM from Google is also a versatile note-making tool that helps you make sense of a cluster of articles and resources. This, again, can be helpful in the literature review stage of your research. Here, the information belongs to you, and you can ask unlimited questions.

Moving forward

Gen AI tools are shared daily, and you control what and how you develop your learning and writing process. So, when you want to use a tool, ask yourself these crucial questions:

- Why do I want to use this tool? *Is it for a quick fix or for fact-checking? If so then best to refrain from using them*
- How will this tool advance my learning and writing development? *Am I using it to help summarise a paper, which I will then use to support my argument? If you are unsure, then best not to use the tool.*
- Lastly, does my course convenor/supervisor/examiners/journal editors allow the use of Gen AI tools? *And, if so, in what way can I use them? Do I need to declare my use? When in doubt, ask!*

Remember to acknowledge your use of Gen AI appropriately. Also, indicate where you have used them in your text. Either way, Gen AI use can offer some affordances for reading and writing but they should be approached cautiously!

References and further reading

1. ChatGPT and Artificial Intelligence in higher education: UNESCO Quick Start Guide
2. CILT Student Guide: Using ChatGPT and other Artificial Intelligence (AI) Tools in Education.
3. CILT Staff Guide: Assessment and academic integrity in the age of artificial intelligence
4. CILT Staff Guide: Teaching and learning with AI tools
5. https://thesiswhisperer.com/2023/12/06/my-favourite-chatgpt-chattieg-writing-prompts/
6. Lingard L, Chandritilake M, de Heer M, Klasen J, Maulina F, Olmos-Vega F, St-Onge C. Will ChatGPT's Free Language Editing Service Level the Playing Field in Science Communication?: Insights from a Collaborative Project with Non-native English Scholars. Perspect Med Educ. 2023 Dec 19;12(1):565-574. doi: 10.5334/pme.1246.