



Charles Sturt  
University

# House Standing Committee on Employment, Education and Training – Use of generative artificial intelligence in the Australian education system

14 July 2023

Office of the Vice-Chancellor  
Charles Sturt University



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Lisa Chesters MP  
Chair, House of Representatives Standing Committee on Employment, Education and Training  
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Dear Ms Chester

### The use of generative artificial intelligence in the Australian education system

Charles Sturt University welcomes this opportunity to provide a submission to the House of Representatives Standing Committee on Employment, Education and Training inquiry into the use of generative artificial intelligence in the Australian education system.

This inquiry is timely, not only because of the rapid emergence and evolution of generative AI but because it comes at a time when the Australian Government is exploring major policy and funding changes for the whole of the Australian education system, from early childhood education through to universities and TAFE. The inquiry therefore has the potential to make recommendations to government that could shape the way Australia's education institutions – and the students they serve – adapt to other new technologies and the opportunities and risks they represent.

As a university with a strong focus on boosting higher education access, participation and attainment, especially among hitherto underrepresented groups, and one with a sector-leading record in graduate employment and starting salaries, Charles Sturt is already exploring ways to make effective use of generative AI and similar tools, and ensure that our students and graduates have both the skills to use these tools and the judgement to do so appropriately, thus helping our students get ready for the AI-enabled jobs of the future. To that end we are actively consulting with students, staff, and regional schools on the issue.

The attached submission provides an outline of some of the work already underway at Charles Sturt University on using generative AI in teaching and research, some thoughts on its possibilities, and some suggestions for a principles-based approach to managing its use in education and other settings. We would be more than happy to provide the Committee with more information on relevant work at Charles Sturt University or any of the other ideas raised in this submission.

Thank you for the opportunity to contribute to this important work.

Yours sincerely

A handwritten signature in black ink, reading "Renée Leon".

**Professor Renée Leon PSM**  
**Vice-Chancellor and President**



## Submission on the use of generative artificial intelligence in the Australian education system

### About Charles Sturt University

Charles Sturt is Australia's largest regional university, with more than 36,000 students and approximately 2,000 full time equivalent staff. We have campuses based in some of New South Wales' most vibrant regional communities: Albury-Wodonga, Bathurst, Dubbo, Goulburn, Orange, Port Macquarie, and Wagga Wagga. The University supports and hosts a range of social, cultural and sporting activities, including school events and exams, and like our colleagues in other regional universities we played a critical role in helping local communities deal with the challenges of bushfires, floods and the pandemic.

Established in 1989 following the Dawkins reforms but tracing its roots back over more than a century, Charles Sturt has a long and proud history in providing access to higher education for students who might otherwise miss out on the opportunities it provides. The University Strategy 2030 continues this tradition with clear goals for students, research, and the wider community.

We are particularly proud of our track record in boosting higher education participation and attainment for those living in rural, regional and remote areas, students from disadvantaged backgrounds, and for First Nations peoples. Every year at least 45 per cent of Charles Sturt's students are the first in their family to go to university. Among our domestic enrolments, around 16 per cent come from low SES backgrounds, and almost four per cent are from First Nations backgrounds.

In the annual Graduate Outcomes Survey Charles Sturt consistently ranks as Australia's top university for full-time graduate employment, with 84.7 per cent of 2020 graduates in full-time employment four months after graduation – well above the sector average of 68.9 per cent. The University also ranks in the top three for medium-term graduate employment. More than 75 per cent of Charles Sturt's graduates go on to work in regional areas, placing the University at the centre of efforts to address regional workforce shortages in a wide range of industries, including health and allied health, aged care, engineering, and education.

The University Strategy 2030 guides Charles Sturt's ten-year journey towards being Australia's leading regional university, advancing the careers of our students, inspiring research excellence and driving regional outcomes with global impact.

Charles Sturt University will achieve this goal by:

- Strategic partnering with industry, government and our communities to focus on key areas in research.
- Providing excellence in teaching and graduate employment outcomes.
- Supporting our staff and promoting an inclusive, equitable and healthy culture.
- Engaging with First Nations and promoting cultural safety for all.

In research, Charles Sturt is committed to building on our well-established, globally recognised strength in agriculture, water and the environment; expanding our capabilities in rural health research, and in cyber, data and security research (including artificial intelligence); and continuing to meet the research needs of our communities. The University's research priorities are supported by targeted investment in people, projects, and facilities, such as the establishment of new institutes for cybersecurity and data science, rural and regional health, and agriculture, environment and water.



As with the University Strategy as a whole, our research priorities also involve building our partnerships with industry. In the last few years Charles Sturt has formalised new partnerships with IBM, Transgrid, Marathon Health, and global technology firm Axiom Connected, who have chosen the University's Port Macquarie campus as the site for their Australian headquarters. These new partnerships complement our more well-established relationships with Telstra, the Australian Government Department of Agriculture, Water and the Environment, and the NSW Department of Primary Industries, among others.

### The University's approach to the use of generative AI

In general, Charles Sturt University's stance on generative AI is that it is a new tool that could prove useful in education and research, albeit one with, at present, largely unrealised potential and some risks. This position is reflected in the University's policy on student misconduct<sup>1</sup>, which was amended in March 2023 to include mention of AI as an example of a resource that cannot be used for an assessment task unless specifically permitted by the instructions for the task. While well short of the outright ban introduced by or being considered at other universities (and in schools), we believe this policy impresses upon students that there are limits on the use of generative AI, and inappropriate use will attract sanctions. Across the Australian higher education sector and around the world there are also moves towards adapting these tools to help detect plagiarism, a development that would act as an additional deterrent to misuse.

Charles Sturt has established staff and student consultative committees to support better understanding of the issues and challenges around generative AI and similar tools, and to inform appropriate action by the University, as well as a working group to develop training for staff and students. We are also discussing the issues around generative AI with regional school principals as part of our regular consultations with them. Early engagement with schools offers the additional advantage of ensuring many of our future students come to university with some awareness of how generative AI can – and should not – be used in an academic context.

Looking ahead, it is likely that there will be more scope for use of generative AI at universities. Examples of how they might be employed in future include:

- preparation of course materials, such as by summarising reading material or providing digests of lectures or presentations,
- creating course content tailored to individual students' needs, reading ability or language skills
- creating abstracts or literature surveys,
- generating summaries for inclusion in essays, theses and other forms of assessment or publication,
- helping researchers stay up-to-date with publications in high-volume or rapidly evolving fields, again through the generation of summaries,
- some administrative tasks, and
- managing workloads.

One staff member at Charles Sturt described a scenario in which generative AI and existing tools like Siri or Alexa could be combined into a kind of electronic assistant, one that would learn from a user's style to help

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<sup>1</sup> CSU Policy Library – [Student Misconduct Rule 2020](#)



them with administrative tasks, review and summarise complex or high volumes of material/data and analyse text.

The potential for generative AI to produce individualised course content is an important consideration for universities, like Charles Sturt, that enrol high proportions of students who are the first in their family to go to university, come from disadvantaged backgrounds, are mature-age students, or come to university through a variety of pathways. In the near future there are prospects for students using AI as a study assistant, one with infinite patience and the ability to describe concepts in terms the user can readily understand. Eventually, we may be able to produce course content that can be tailored to an individual students' reading and language abilities as part of our wider strategy to support higher education participation and attainment among groups historically less able to access and benefit from university study. Our experience with such students, though, means that general adoption of such tools must be approached cautiously. We cannot, for example, assume that all out students come to university with the same level of digital skills. Internet connectivity remains poor in many regional areas, to the extent that students from outer regional, remote and very remote locations come to university with fewer of the digital skills that their urban counterparts acquire easily. They are also more likely to be accessing the internet and using digital tools with older devices. In the case of generative AI, and especially online engines, this means many rural, regional and remote students have less exposure to the tools, fewer opportunities to use them, and a consequently greater risk of misuse or inappropriate use when they get to university. The external consultative committee mentioned above can help with this challenge, but the key role is for state governments and the Commonwealth to work with industry and internet providers to provide better connectivity for students from rural, regional and remote areas. Once such barriers have been overcome there is tremendous scope to develop AI-enabled programs for both on-campus and on-line learning, with far more interactive content.

Even so, the social dimensions of university learning will remain important. Students acquire knowledge and skills through human interaction with staff and other students, in group assignments, practicums, assessment, and casual interactions, all of which cannot be replaced by AI. Those human skills will be even more critical in future careers. In health and medicine, for example, AI-enabled diagnostic tools could mean earlier diagnosis of serious and chronic disease, but treatment will still require well-trained health and medical personnel able to interpret the results and what they will mean for the patient. Similarly in law, generative AI could quickly summarise the relevant case law for a trial, but it will be the lawyer who decides how that information should be applied to the case in hand. In these situations, critical thinking – the 'know why' as well as the 'know what and how' – will be even more important, with clear implications for course content and assessment. Universities like Charles Sturt will therefore need to teach future doctors, nurses, lawyers, and other professionals both how to use AI tools effectively and how to apply their own knowledge and judgement to the results. This extends to providing professional development – potentially through microcredentials – to help graduates stay up-to-date with new tools and their possibilities.

## Options for government

While comparing AI to existing tools such as word processing or image processing software is somewhat simplistic, in many ways similar principles around their use can be applied, drawing on prior experience in the development, adoption, and growing use of new digital tools, and especially online tools. In their time, personal computers, word processing tools, search engines and social media have all forced universities and other organisations to re-think how they undertook their core activities. Universities accommodated those changes and can accommodate the growing use of AI.

That said, there is no doubt that generative AI and similar tools pose a significant challenge for legislators, regulators, employers, and all sectors of the economy, including education. By their nature these tools are evolving rapidly, with improvements in capability emerging in weeks rather than months or years. Most



pertinently, the current pace of evolution is faster than can be accommodated by Australia's current approach to regulating new technologies.

Charles Sturt University suggests, therefore, that governments, industries, and education institutions should adopt a principles-based rather than rules-based approach to legislation, regulation and guidelines on the use of AI, and of generative AI in particular.

These principles include:

- appropriate use of generative AI, including open acknowledgement that it has been used (and why)

Most students (and staff) will come to appreciate that moderate use of generative AI (for example, producing literature summaries) is appropriate, but blanket use (such as churning out an entire essay) is not – though even moderate use should, for the foreseeable future, be acknowledged even in situations where the use of AI is sanctioned. A comparable situation is the use of online tools like Wikipedia: good students know, or quickly realise, that it should be regarded as a source of information, and not necessarily a definitive one.

- ensuring that users understand the limitations and risks of generative AI, including, for example, the recognition that some tools could involve the intentional or unintentional sharing of personal, private, or confidential information

There are also risks, at least at present, with the accuracy of AI tools. Their results – including those provided by so-called 'expert systems' – can be very convincing, even when wrong. The limitations of facial recognition tools, for example, are well known, and are, in part, a consequence of the way they are 'trained' (see below). Generative AI is subject to similar shortcomings and raises the possibility not only of inaccurate information but intentionally or unintentionally created and convincing misinformation.

- user anonymity, except in cases where the AI may be part of a subscription or fee-for-service system (in which case this will need to be made clear to users)
- equity of access, as a way to help minimise algorithmic bias but also to ensure the widest possible benefit from these tools
- transparency about inputs, including those used to 'train' the AI engine, those employed by the AI engine to generate outputs, and those provided by the user, especially when, in either case, proprietary content may be involved (though this would not extend to revealing information about the AI's underlying algorithms or system architecture)

To date the training of generative AIs has involved the use of public domain or open information systems, though developers' use of sources like social media platforms is now being challenged in some jurisdictions. There are also allegations some AIs have been trained using copyrighted material. This may force developers to rely on fewer and more specialised sources, potentially leading to the creation of more specialised generative AI – for example for use in medicine – but a more likely result is free-to-use engines becoming less flexible, and perhaps more 'biased'. Providing users with information about inputs will mean they can make an informed choice about which engine(s) to use.

- in general terms, transparency about how an AI engine generates an output (interpretability), a principle that would also help improve users' confidence in the tool and its outputs, and support users' ability to evaluate the quality and pertinence of outputs
- a clear framework around ownership of the outputs of generative AI, and who can use it



An analogous example is the Terms of Use attached to many social media platforms, which tend to give the owners of the platform a non-exclusive license to use posted content. It is not yet clear whether similar terms would be appropriate for online AI tools.

Universities have a key role in establishing and communicating these principles to their students, staff, partners in industries and wider stakeholders (like schools). In particular, we can help ensure that students, staff, and graduates moving into their careers are familiar with tools like generative AI, and understand their uses, risks and limitations.

Libraries, other information management facilities, and student support services will have a core role in developing these tools and teaching staff and students how to make best use of them.

Some universities might, understandably, seek a competitive advantage through the adoption and use of generative AI in course design, delivery, and assessment, to boost their research performance, or even simply to save time. There are risks to doing so: recent reports of generative AI being used to produce a grant assessment report for ARC resulted in a quick response from the funding body based on concerns about confidentiality, security, and research integrity<sup>2</sup>. Too-liberal use of generative AI could raise questions about the quality of Australian university research and education and pose a significant threat to our global reputation. This could be mitigated by a common albeit flexible higher education sector position on the use of generative AI, backed by government.

And, given the range of current and potential uses for generative AI in education, many of which will not be relevant to other sectors of the economy, there may be a case for governments to consider a different regulatory framework for AI in education (or perhaps a subset of the wider framework). Ideally, the development of a regulatory framework for AI in education would include broad consultation with education institutions and appropriate arrangements for ongoing consultation.

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<sup>2</sup> Australian Research Council: [Confidentiality obligations of assessors, 30 June 2023](#)