

Inquiry into the Use of Generative Artificial Intelligence in the Australian Education System

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The Australian Academy of the Humanities is the national body for the humanities in Australia. As one of the nation's five Learned Academies, we are a unique resource for government, working to ensure cultural, creative, and ethical perspectives inform Australia's plans for now and the future.

Introduction

The [Australian Academy of the Humanities](#) welcomes the opportunity to contribute our advice to the House Standing Committee on Employment, Education and Training's Inquiry into the Use of Generative Artificial Intelligence (AI) in the Australian Education System.

This submission draws on the [Rapid Research Information Report](#) (RRIR) on generative AI our Academy co-led for the Office of the Chief Scientist,¹ and focuses on the **role of higher education system in building Australia's AI capability (including its teacher workforce)**, and the **centrality of humanities education and research to the development and deployment of ethical AI**.

We want Australians to be confident and capable users of trustworthy artificial intelligence. The foundations of generative AI are being laid now, and it is essential that as a country we apply it in a way that supports our agency, purpose, and opportunity. That is why humanities scholars are at the forefront of providing advice about AI to governments, starting with a rapid research report for the Chief Scientist.

Key observations from the Generative AI RRIR paper

The paper is the product of a collective and multidisciplinary approach convened by the Australian Council of Learned Academies (ACOLA); our Academy was co-lead alongside the Australian Academy of Technology and Engineering (ATSE) with support from the Australian Academy of Science. The point being that it brought the best of the

¹ Bell, G., Burgess, J., Thomas, J., and Sadiq, S. (2023, March 24). Rapid Response Information Report: Generative AI - language models (LLMs) and multimodal foundation models (MFMs). Australian Council of Learned Academies. https://www.chiefscientist.gov.au/sites/default/files/2023-06/Rapid%20Response%20Information%20Report%20-%20Generative%20AI%20v1_1.pdf

humanities, technologists, and sciences together to provide advice on the emerging challenges and opportunities of generative AI.

The paper did not take a sectoral approach but contains pertinent observations for the education sector as follows:

- **Settings and capabilities:** “The current concentration of generative AI activities poses risks for Australia and raises questions about our capabilities, capacities, investments and regulatory frames”. Of specific relevance to education (schooling through higher education) is whether we have sufficient and “appropriately skilled practitioners, scientific expertise, workforce development strategies and policy settings that range from critical technologies, to education, ethics, governance and regulation?”
- **Policy principles and frameworks:** The speed of development of generative AI makes it very difficult if not impossible to forecast what the future holds. Governments and public and private sector organisations are responding in real-time to possible risks, with an initial focus on ChatGPT. There is not yet a consistent or tested approach to policy development and implementation in Australia’s schools or universities, nor across the research sector and its agencies.
- **Risks to democratic deliberation, public information, and education:** The fact that “LLM [Large Language Models] – generated content could also be misused in democratic processes such as parliamentary consultations by creating a flood of submissions to mislead public opinion” gets to the heart of why we need an education agenda which builds and leads on developing AI critical literacy.
- **Systems integration:** As generative AI is integrated into Australian systems, “there will be questions regarding sovereign ownership of LLMs and MFMs, and the data they are trained on, particularly if integrated into public systems such as healthcare and education. New methods for providing and handling consent, frameworks for sharing and using data, and considerations for security in highly complex networks and with shared public–private ownership will be required.”
- **International Models:** The paper explores international models and experiences with a focus on legislative and governance response, and the development of standards. Again, this is a moving space. At the time of writing (the paper), we were able to canvass key developments in a number of international jurisdictions (including UK, China, US, Canada, ASEAN) ranging from more voluntary standards-based approaches to regulatory and interventionist.

It is worth spotlighting Canada – which “already has in place law requiring future impact assessments for the use of automated systems in the public sector. As drafted, it will apply to the deployment of systems based on LLMs/MFMs. In March

2023, Canada published plans to extend risk- based regulation and ‘interoperate’ with the EU Act. The initial focus of Canada’s proposed new regulator, the AI and Data Commissioner, will be on **education and upskilling**, but the proposed legislation (the Artificial Intelligence and Data Act) is structured like the EU Act, and grants the regulator powers to require audits, and even order suspension of an AI system’s use.”

Readying Australia’s education system

The unchecked development of generative AI could pose an existential threat. It is impossible to accurately forecast how things will play out in the case of the development of generative AI, but we can ready our education system, higher education and research, future graduates, the workforce we need – for navigating this changing world.

An approach to capability building is needed across all stages of learning (schooling through university and beyond, as per the Department of Education’s series of education reviews).

Universities have a unique role in building AI capability and resilience – in teacher training and upskilling and workforce development, developing new education programs, and driving new approaches to problem-based research – which are necessarily multidisciplinary – to respond to the challenges and opportunities of generative AI.

As we said in [our submission to the Universities Accord](#) the humanities are well-equipped to lead the development of AI education and research. The expertise of the humanities on AI development in Australia is central in its own right (not just in support of the science and technology) to the development of tractable, ethical and community-focused solutions and inclusive uptake across a range of sectors.

Strong discipline-based knowledge will be essential (philosophers, applied ethicists, linguists, creative arts) as will multidisciplinary and interdisciplinary formations – which the co-authors of the RRIR report exemplify: Distinguished Professor Genevieve Bell AO FAHA FSTE who helms the School of Cybernetics at ANU; and the humanities-led ARC Centre of Excellence for Automated Decision-making and Society (ADM+S) directed by Professor Julian Thomas FAHA and Professor Jean Burgess FAHA.

Another Academy Fellow, Professor Terry Flew, has this year received an ARC Laureate Fellowship to “investigate the relationship between social trust, digital media and the

news". His research model, coined "mediated trust", might offer key pedagogical considerations for our schooling system.²

We believe the following three areas would benefit from immediate consideration:

1. **An appraisal of Australia's AI capability is needed with a focus on education, training, and research.**

The RRIR paper notes that "Australia has capability in AI-related areas like computer vision and robotics, and the social and governance aspects of AI, but its core fundamental capacity in LLMs and related areas is relatively weak". It is not clear whether we are producing enough "experts" in core fields through research training. Nor do we have a whole-of-sector view to AI industry workforce – inclusive of education as a major industry – so that we can be confident we are producing cohorts of graduates with the foundational education and skills to meet the AI challenges of our time.³

2. **Tracking and evaluating the deployment and uptake of generative AI** in education contexts will also be vital. The recent release of the UTS AI Governance report is a useful model.⁴

One of the biggest issues – flagged in the Inquiry's terms of reference – is the risk of entrenching social disadvantage and of perpetuating racist, homophobic and sexist stereotypes. Developing and investing in a Generative-AI index akin to the Digital Inclusion Index⁵ would be one way of tracking and evaluating models based on set of criteria so students, the broader public and governments can make informed choices about uptake.

3. There is a major opportunity for the **development of Australian models** – datasets, LLMs, and significantly, small language models. This is a research infrastructure agenda and is also brings in large public datasets that could offer opportunities for generative AI in Australia. We would single out (as per the RRIR paper) large datasets such as the Bureau of Meteorology, Australian Bureau of Statistics, and the National Library of Australia's Trove.

² Mediated Trust work program at the University of Sydney led by Professor Flew, <https://mediated-trust-arts.sydney.edu.au>

³ One model is the Academy's *Australia's China Knowledge Capability* (funded through a grant from the National Foundation for Australia China Relations) which had a focus on mapping capability in universities, <https://humanities.org.au/our-work/projects/australias-china-knowledge-capability/>

⁴ The State of AI Governance in Australia 2023, <https://www.uts.edu.au/human-technology-institute/news/report-launch-state-ai-governance-australia>

⁵ Australia's Digital Inclusion Index, <https://www.digitalinclusionindex.org.au>

Next steps

Generative AI remains a novel and evolving area. Research agencies and universities continue apace on policy development (for example, the Australian Research Council's recent policy regarding authorship and integrity which responds to the use of Chat GPT in the research grant process),⁶ and adapting pedagogy on-the-go.

Our Academy is actively engaged in the AI agenda through our policy work, and via Fellows and national and international networks.

This year the focus of our 54th Annual Academy Symposium is AI. In November in Melbourne, we will convene a range of experts to explore the possibilities and hazards of automation, and the complexities of human-machine relations.

We would be happy to convene further advice of relevance to the Inquiry, particularly on ethics, misinformation, trust, recognising bias, data sovereignty, and Indigenous data.

⁶ Research assessment is just one of the areas of complexity where the use of Chat GPT comprises integrity of the process, including the confidentiality of peer review.