

Joint submission from library and information related organisations to the inquiry into generative artificial intelligence in the Australian education system



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Executive Summary

Generative artificial intelligence (generative AI) is capable of great positive transformation within Australia's education system, improving outcomes and wellbeing, as well as tackling long-standing challenges in areas such as equity. As with any powerful increase in capability, generative AI has the potential to do harm if not implemented with care.

Libraries are already key players in the adoption of AI in education and research. From using AI to enhance access to information and research, through to supporting students with the information literacy skills they need to navigate the new landscape, libraries have a strategic and multi-faceted view of the potentials for AI, including generative AI. Library and information professionals' expertise in information ethics, knowledge management, intellectual freedom and literacy uniquely places them as mediators between the current and future states.

The library and information sector is committed to fundamental principles of equity of access to information, knowledge and culture; respect for the individuality and diversity of people; and the protection of privacy.¹ In line with these values, and to effectively and safely harness the benefits of generative AI, we recommend the following:

1. Priority is given to improving literacy, including AI, information and media literacy, for students and staff.
2. A commitment to upholding human rights, ensuring fairness and centring ethical considerations² in the development and use of generative AI tools.
3. Regulations, policy, standards and guidelines should be created in consultation with key stakeholders including library and information professionals, representatives of minority groups and First Nations people.

Recognising that Australian education is a small sector when compared to the global drivers of generative AI development and deployment, and that the federal government is currently consulting on a wider inquiry into safe and responsible use of AI, this submission concentrates on areas of greatest achievable impact for the education sector:

- Skills for students and staff to effectively assess and use generative AI.
- Policies and guidelines, including for academic integrity, research and First Nations content.
- Expectations and standards for generative AI tools developed to be sold to the Australian educational market.

Detailed discussion and recommendations are made below, with a full list of recommendations at 7.

About this submission

This submission is jointly made by the Australian Library and Information Association (ALIA) including ALIA VET Libraries Australia (ALIA VLA), the Council of Australian University Librarians (CAUL), National and State Libraries Australasia (NSLA), CAVAL, AI4LAM and Open Access Australasia (OAA).

¹ International Federation of Library Associations and Institutions (n.d.) *Our Mission and Vision*. <https://www.ifla.org/vision-mission/>; Australian Library and Information Association (2018) *ALIA Core values policy statement*. <https://read.alia.org.au/alia-core-values-policy-statement>

² Australian Government. Department of Industry, Science and Resources. (n.d.) *Australia's AI Ethics Principles*. <https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles>; UNESCO (2022) *Recommendation on the Ethics of Artificial Intelligence*. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>

These organisations have expertise and experience in formal education system (schools, VET institutions and universities) as well as educational support for those not in formal education.

A note on terminology

The terminology and definitions for AI, generative AI and related terms are contested. For the purposes of this submission, we use the terms as defined by the Department of Industry, Science and Resources in the current *Safe and Responsible Use of AI Discussion Paper*,³ which are based on ISO definitions (ISO/IEC 22989:2022). Throughout the submission we highlight certain pertinent ethical considerations. When the term is more generally used it is in alignment with Australia's AI ethic's principles.⁴

1. The strengths and benefits of generative AI tools for children, students, educators and systems and the ways in which they can be used to improve education outcomes

1.1 Augmentation of human capacity

The value of generative AI as an educational tool is in its capacity to augment human intelligence building, to increase the capacity for learning, innovation and creativity, and increase efficiency. As education is preparing students for future lives which are likely to increasingly involve AI, including generative AI, across multiple formats, AI literacy is an essential skill (see 3 below).

1.2 Addressing disadvantage and educational support

AI has the potential to aid learning by summarising large amounts of information for students and supporting the expression of ideas. The benefits for students with lower levels of literacy, developing academic skills, students with English as an Additional Language/Dialect EAL/D and students with special learning needs are likely to be greatest. For example, for EAL/D students, AI powered translation, grammar, style and spelling tools are already used to support understanding, expression and language acquisition. Many EAL/D students do not have access to a mentor at home to assist them to translate, summarise and digest large amounts of information. Generative AI tools can perform this role, translating large amounts of information to specified levels of language and vocabulary complexity, supporting the learning.

Librarian and diversity and inclusion activist Nikki Anderson writes:

It's [AI] revolutionising assistive technologies, allowing disabled people to identify accessible routes and enhance personal mobility and communication. AI's adaptive nature addresses specific individual needs, greatly expanding the possibilities for reasonable accommodation.

Additionally, AI like ChatGPT is great for people with energy-deficit conditions (e.g. it can draft a response to an email and assist with the workload and brain fatigue) or those who struggle with decision-making, perfectionism or have a mental health condition (you can use

³ Australian Government, Department of Industry, Science and Resources (2023) *Supporting responsible AI in Australia: discussion paper*, p. 5. storage.googleapis.com/converlens-au-industry/industry/p/prj2452c8e24d7a400c72429/public_assets/Safe-and-responsible-AI-in-Australia-discussion-paper.pdf

⁴ Australian Government. Department of Industry, Science and Resources. (n.d.) *Australia's AI Ethics Principles*. <https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles>

it to get feedback or explanation without agonising whether you should bother a colleague again).⁵

The ability to use generative AI effectively for these purposes will require students to be AI literate and understand how to achieve the results required from the generative AI tool being used (see section 2). Section 3 of this submission considers some of the equity and diversity challenges, including bias and accessibility, that have the potential to undermine these benefits.

1.3 Research

Artificial Intelligence, including generative AI, can increase access and value from scholarly research and data, especially within an open access framework. AI and generative AI systems benefit from the existence of high-quality open data, including from open-access repositories, which play a vital role in facilitating the advancement of AI/GAI applications by offering indispensable high-quality content.

AI-assisted technologies can improve the discoverability and accessibility of open access resources through AI assisted search engines and automated metadata creation.⁶ AI applications can help collect and synthesise open access scientific information to advance research on a greater scale. As noted at 3.2 below the quality of data sources for generative AI tools matters, and this is especially so if tools are purporting to advance or accurately advance scholarship. See 3.5 for some of the challenges posed to research from generative AI, including concerns around a lack of transparency and openness.

2. The impact of generative AI tools on teaching and assessment practices in all education sectors, the role of educators, and the education workforce generally

2.1 Teaching AI literacy is essential

In order to use generative AI tools effectively, safely and ethically, students and staff need to be AI literate.

The International Federation of Library Associations and Institutions (IFLA) suggests that AI literacy can be conceptualised as entailing the following elements:

- A basic understanding of how AI and machine learning (ML) work, their underlying logic and their limitations;
- Understanding the potential societal impacts of AI, especially in the area of human rights;
- Personal data management skills; and
- Media and Information literacy.⁷

Libraries have historically been one of the major centres of media and information literacy for students from schools to universities, guiding them in critical evaluation of sources. Libraries help students develop the skills to find, evaluate, store and manage information, to reuse information to create new knowledge or solve problems, and to understand how information exists within social,

⁵ Nikki Andersen (2023) *AI is holding up a mirror: disability inclusion and artificial diversity*, paras 2 & 3. openpagesweb.wordpress.com/2023/05/03/ai-is-holding-up-a-mirror-disability-inclusion-and-artificial-diversity/

⁶ Choice (2023) *Using AI for Metadata Tagging to Improve Resource Discovery. A team of librarians studied new tools for creating metadata.* <https://www.choice360.org/libtech-insight/using-ai-for-metadata-tagging-to-improve-resource-discovery/>

⁷ International Federation of Library Associations and Institutions (2020) *IFLA Statement on Libraries and Artificial Intelligence*, p. 11. <https://repository.ifla.org/handle/123456789/1646>

ethical, cultural and legal contexts.⁸ This includes fostering the skills to refine search queries to find the right answer and building conceptual frameworks that are directly adaptable to the fashionable skill of “prompt engineering”, that is, understanding the right prompt to get optimal results from generative AI tools.⁹ Even the knowledge of the limitations of these approaches, with non-transparent and changeable systems that deny replication, is an important skill.¹⁰

Similarly, teacher librarians in schools have responsibility for whole school information literacy programs with a focus on the Australian Curriculum ‘General Capabilities’ of critical and creative thinking, digital literacy, ethical understanding, intercultural understanding, literacy, numeracy, and personal and social capability. This includes the elements of Digital Literacy, Practising digital safety and wellbeing, Investigating, Managing and operating, Creating and exchanging, and sub-elements including ‘Manage digital privacy and identity’, ‘Locate information’, ‘Acquire and collate data’, ‘Respect intellectual property’ and ‘Create, communicate and collaborate’, all capabilities key to a future driven by artificial intelligence.¹¹ To prepare students to meet their current and future potential these capabilities need to be articulated with an artificial intelligence lens.

The decline, particularly prevalent in public schools in some states and territories, of qualified school library staff, especially teacher librarians, places students in these schools at risk of significant disadvantage in obtaining the necessary information, media and AI literacy skills. This threatens a growing divide between schools who are well resourced with libraries that support students in knowing how to use generative AI tools, including limitations, referencing and academic integrity, and those where students have less support.¹² The limitations and challenges of generative AI tools is discussed further at 3 below and is illustrative of the necessity of AI literacy.

Recommendations

1. Commit to all students receiving instruction in AI literacy and working with library bodies on implementation.
2. The Department of Education to collect and report national data on school library staffing and resourcing to identify students at risk of not receiving adequate information and AI literacy resources.

⁸ University of the Sunshine Coast (n.d.) *Information Literacy Framework*. <https://www.usc.edu.au/library/about-the-library/information-literacy-framework#:~:text=Information%20literacy%20skills%20include%20the,ethical%2C%20cultural%20and%20legal%20contexts>

⁹ The University of Queensland (2023) Artificial Intelligence. Tips. <https://guides.library.uq.edu.au/artificial-intelligence/prompt-engineering>; Melbourne High School Library (n.d.) Developing prompt skills. <https://libguides.mhs.vic.edu.au/c.php?g=959507&p=6979139>

¹⁰ Aron Tay (2023) Aron Tay’s musings about Librarianship. <http://musingsaboutlibrarianship.blogspot.com/2023/06/prompt-engineering-something-for.html>

¹¹ Australian Curriculum (n.d.) *General Capabilities 9.0 Digital Literacy*. <https://v9.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/digital-literacy?element=0&sub-element=0>

¹² See for example Michelle Dennis (2023) *Today we updated Haileybury's approach to Artificial Intelligence with a focus on the key principles of Academic Intelligence, Ethics & Critical Thinking*. LinkedIn. https://www.linkedin.com/posts/mdennis-tech_today-we-updated-haileyburys-approach-to-activity-7076481725312204800-dVu5?utm_source=share&utm_medium=member_desktop

2.2 Upskilling library and teaching staff

In order to teach AI literacy, teachers and library staff need to become 'AI ready'. As Luckin writes, this means being able to teach *about* and *with* AI technology.¹³ To become AI ready, educators, including librarians, will have a foundational understanding of the AI landscape and the implications of its use rather than being expected to be competent in the minutiae of the technologies which are rapidly changing. Focus is needed to learn "the essence of a subject rather than the mechanics of the moment".¹⁴ Therefore, teachers do not need advanced computational skills and knowledge; however, they must have a competent grasp of the underlying concepts and principles along which AI operates, to enable informed analysis of the ethical implications, positive outcomes and potential harms these tools present.¹⁵

Additional resourcing is needed to ensure that library staff, as well as other educators, are able to teach students to be AI literate. A model of a successful short course in a related area was the recent partnership between the University of Canberra (UC) and ALIA on the short course "Media Literacy for LIS Professionals."¹⁶ This course covered media and information literacy, algorithmic literacy, ethics and social context and AI. The focus was on teaching library staff how to *teach* media literacy, rather than just understanding the subject itself. This approach is a good model of partnership to create short and obtainable credentials for library staff necessary in a fast-moving field. Partnerships with industry bodies and educational institutions, support of peer-to-peer learning and time for library staff to research and develop resources are necessary supports.

Recommendation

3. Government funding for the creation of programs to upskill library and teaching staff to be AI literate, and to be able to teach AI literacy to students.

2.3 Collaboration within institutions

Collaboration is also necessary to embed digital pedagogies across curriculum. Teacher librarians and library staff have long been leaders in navigating the development and implementation of digital technologies.¹⁷ They are well positioned to play a leading role in schools as they respond to the implications of generative AI, including the need for increased focus on developing algorithmic literacy, awareness raising of the ethical implications of AI and engagement with critical evaluation of the selection and implementation of technologies which draw upon AI capabilities. As generative AI contributes to the proliferation of content (text, audio, visual), evaluation and verification of information online will become even more challenging, along with evaluation of tools that will profess to be able to identify generative AI content. The expertise of teacher librarians can support

¹³ Luckin et al. (2022) Empowering educators to be AI-ready. *Computers and Education: Artificial Intelligence* (vol 3). <https://www.sciencedirect.com/science/article/pii/S2666920X22000315>

¹⁴ Andreas Schleicher (2019) *Should schools teach coding?*, para. 6. oecdutoday.com/should-schools-teach-coding/

¹⁵ (Luckin et al. (2022) Empowering educators to be AI-ready. *Computers and Education: Artificial Intelligence* (vol 3). <https://www.sciencedirect.com/science/article/pii/S2666920X22000315>; Southgate et al., (2018) *Artificial Intelligence and Emerging Technologies (Virtual, Augmented and Mixed Reality) in Schools: A Research Report*. <https://docs.education.gov.au/node/53008>

¹⁶ University of Canberra. Short Courses. *Media Literacy for LIS Professionals*. <https://www.canberra.edu.au/research/faculty-research-centres/nmrc/Short-Courses>

¹⁷ See Branch-Mueller, J & DeGroot, J (2011) The Powers of Web 2.0: Teacher-librarians become school technology leaders. *School Libraries Worldwide*, vol. 17, no. 2; Lee, M & Twomey, M (2011) The role of teacher librarians in networked school communities, *ACCESS*, vol. 25, no. 1.

teachers and students to refine their abilities and to be aware of the potential for mis-, dis- and mal-information as well as the limitations and biases of outputs created by machine learning.

University and VET libraries have been collaboratively working across their institutions to provide students and staff with practical advice covering everything from appraising generative AI tools to academic integrity.¹⁸ University libraries also have a key role to play in ensuring the integrity of the research ecosystem, see further below.

Recommendation

4. The Department of Education to work with librarians and teacher librarians on the development of new tools, digital platforms and programs to support AI in education.
3. The risks and challenges presented by generative AI tools, including in ensuring their safe and ethical use and in promoting ongoing academic and research integrity;

3.1 Underlying data: limitations, transparency, bias and discrimination

Generative AI is built on large unstructured datasets. While we can assume that the majority of these data sets have been scraped from the internet, there are differing levels of transparency about the content. For example, we know that GPT-3 was trained mostly using text from the web (85% of all weights) and the training data sets for GPT-4 have not been made public.¹⁹ Material scraped from the internet varies in quality and relevance to different educational contexts. It also reflects the biases of the content – a predominantly English speaking, Western-centric corpus created by people most likely to be creating online content. The biases of these groups are then built into the system, creating content that is biased in areas such as gender and race.²⁰ There is a danger that these biases will become further embedded and generative AI models are training on data sets increasingly created by generative AI tools.²¹

Data gathering may be carried out in a way that the community considers ethical or appropriate. Commercial artists and authors have raised concern that their works have been used to train models which are now undermining their ability to make a living. Similarly, while it is generally legal to use openly licenced content such as CC-BY for large language model (LLM) purposes, there are ethical and integrity issues to consider. While there should always be flexible exceptions for genuine research purposes, there is concern that open information is now being re-enclosed, with a

¹⁸ Flinders University Library (2023) *Learning to use AI artificial intelligence tools for study*. <https://library.flinders.edu.au/students/ai>; Deakin University Library (2023) *Using generative AI*. <https://deakin.libguides.com/generative-AI/types>

¹⁹ Andres Guadamuz (2023) Authors sue OpenAI for copyright infringement. <https://www.technollama.co.uk/authors-sue-openai-for-copyright-infringement>; Ella Creamer (2023) Authors file a lawsuit against OpenAI for unlawfully 'ingesting' their books. https://www.theguardian.com/books/2023/jul/05/authors-file-a-lawsuit-against-openai-for-unlawfully-ingesting-their-books?CMP=share_btn_tw

²⁰ Livingston, M (2020). Preventing Racial Bias in Federal AI. *Journal of Science Policy & Governance* https://www.sciencepolicyjournal.org/uploads/5/4/3/4/5434385/livingston_jspg_v16.2.pdf

²¹ Alemohammad S, Casco-Rodriguez J, Luzi L, Humayun A I, Babaei H, LeJeune D, Siahkoohi A, Baraniuk, R G (2023) Self-Consuming Generative Models Go MAD. arXiv. <https://arxiv.org/pdf/2307.01850.pdf>

significant risk if power and usage of these platforms and tools is concentrated among a handful of players.²²

Concerns around the lack of transparency and profit-driven business models occur in an ecosystem where library and information professionals see the impact of algorithms built into educational and research content and platforms. The lack of transparency in the design of these systems, the data sources and their costs, the built-in surveillance, bias in data and therefore analytics currently pose significant challenges for libraries in ensuring the integrity and efficiency of collections. Curricula, pedagogy, instructional design, literacy, dexterity, ethics and interpretation skills are all affected by lack of regulation around educational technology products and include those that incorporate generative AI. There are ongoing concerns that EdTech products are collecting and monetising student data, and related concerns around privacy. The risks in these areas only increase with an added incentive of profits from generative AI tools, especially within a fast-moving field where first mover advantage is significant.

3.2 Outputs: bias, stereotypes and expectations

Because generative AI works by producing the probable combination of pixels, words or other medium in response to a specific prompt (see 2.1 for prompt engineering) the biases in the training data lead to biases in responses.

Due to the nature of the probability model used, the outputs of generative AI tools are likely to be more biased than the underlying data sets against non-majority subsets. It is also incredibly hard to see this in individual examples. For example, for this submission we asked ChatGPT to write a short story about two children set in Australia. It wrote a trite piece about Max and Lily. It was then asked to rewrite the story with different names. After seven requests, the names stood at Ava, Emily, Ethan x2, Jack, Liam, Lily x2, Max, Mia, Noah, Olivia, Oliver, Sophia. In any one story nothing would stand out, but with 14 names together it's notable that this is a roll call of traditional English-speaking names, not reflective of a multicultural society.²³

This is a simple example to illustrate that what is clear in aggregate is not apparent in single answers. Even when humans are aware of the risk of bias or stereotypes in a source, we are still receptive to them. If generative AI tools are being deployed at scale in schools it's important that some form of testing of outputs (without breaching student privacy) is undertaken, preferable by neutral third parties, to identify issues of accuracy, bias and other challenges.

While the major generative AI tools are created outside of Australia, and out of reach of our legal and regulatory systems to a large extent, there is an ability to influence the commercial delivery of generative AI tools. See also recommendations under 3.4 below for recommendations on Australian-created generative AI tools.

Recommendation

5. That a research program is put in place to monitor outputs of generative AI tools deployed in an educational setting, with tool providers committing to continual improvement in response to findings.

²² Federal Trade Commission (2023) Generative AI Raises Competition Concerns.

<https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/06/generative-ai-raises-competition-concerns>

²³ Open AI (2023) ChatGPT. *Breakfast adventure in Australia*. <https://chat.openai.com/share/b6f366a4-ec76-49f7-a59b-673782d7112f>

3.3 First Nations

A particularly significant concern around training data and generative AI output has to do with Aboriginal and Torres Strait Islander people's content. Colonialism and forced dispossession have systematically denied Aboriginal and Torres Strait Islander people full control over their own voices, knowledge and information for more than 200 years. Recent movements, including around Indigenous data sovereignty and Right to Reply²⁴ are slowly redressing past injustices, but there is a long way to go.

The library sector is committed to reconciliation and working to support First Nations led processes to address injustices and ensure ethical and respectful progress. Guidelines and protocols, such as the ATSILIRN protocols,²⁵ Indigenous Cultural and Intellectual Property (ICIP) protocols,²⁶ and referencing guidelines²⁷ support libraries and information services in the respectful handling and use of First Nations content.

These guidelines emphasise respect, self-determination, cultural protocols and community consultation. They acknowledge ICIP, and the access limitations that need to be applied to some content, for example secret or sacred content.

There is a legitimate concern that the process of scraping materials from the internet and using them to train LLMs does not respect these principles. There is further concern that the data that is collected will contain historical biases that are detrimental to First Nations peoples, noting that the majority of published First Nation historical content was written about, not by, First Nations people.

There are also legitimate concerns about appropriation of First Nations stories and voices. To take one generative AI tool as an example, you can ask it to tell you an Aboriginal or Torres Strait Islander story that it has no right to tell, and it will.

Recommendations

6. That Federal, state and territory governments prioritise meeting with First Nations groups with expertise in matters of information governance and ICIP to understand the concerns and actions required.
7. Generative AI tools officially used in educational settings should ensure they have not misused Aboriginal and Torres Strait Islander peoples' knowledge and culture, and cannot produce answers that mimic or appropriate First Nations voices.

²⁴ Indigenous Archives Collective (n.d.) *Indigenous Archives Collective position statement on the Right of Reply to Indigenous knowledges and information held in archives* <https://indigenousarchives.net/indigenous-archives-collective-position-statement-on-the-right-of-reply-to-indigenous-knowledges-and-information-held-in-archives/>

²⁵ ATSILIRN (2012) ATSILIRN Protocols. <https://atsilirn.aiatsis.gov.au/protocols.php> see also Caitlin Murphy. (2023) Elevating and Respecting Aboriginal and Torres Strait Islander knowledges and perspectives in UQ Special and Research Collections. <https://espace.library.uq.edu.au/view/UQ:ff03c00>

²⁶ For example Queensland Department of Education (2022) *Indigenous Cultural and Intellectual Property Protocol for the teaching of Aboriginal languages and Torres Strait Islander languages in Queensland State Schools*. <https://education.qld.gov.au/student/Documents/icip-protocol.pdf>, and NSLA (2023) *Position statement: Indigenous Cultural and Intellectual Property (ICIP)*.

<https://www.nsla.org.au/resources/indigenous-cultural-and-intellectual-property-icip/>

²⁷ CAVAL & Indigenous Archives Collective (n.d.) *Referencing Toolkit. Indigenous Referencing Guidance for Indigenous Knowledges*. <https://members.caval.edu.au/indigenous-referencing-guidance>

8. That the government work with libraries to build on and continue First Nations led work around protocols and guidelines on the use of First Nations content in education and research.
9. That ICIP is acknowledged in any guidelines, standards or ethical positions on generative AI.
10. That all educational staff and students undertake cultural awareness training.

3.4 Diversity, inclusion and the Australian voice

Library and information professionals are committed to respect for the diversity and equality of all people. We are also committed to ensuring that local voices are heard and Australian creators supported. As we saw at 3.2, the nature of generative AI is to emphasise the most common, and further marginalise minority groups, potentially rendering them invisible.

While acknowledging that models are improving all the time, the current approach to Australian content from generative AI tools is far from satisfactory. To take ChatGPT as an easy example, the default spelling is American. If you ask it to write something in Australian English, rather than add in a u in 'neighbour', it creates sentences such as "in that moment, Australia's dinkum rainbow of colours transformed the drongo into the dinky-di."²⁸

No matter how good the prompt is, generative AI tools are not designed to reflect the full nature of society. Minority voices (in the context of the training data), whether that be non-Caucasian people or the entire country of Australia, will struggle to be seen in outputs.

This emphasises the importance of supporting Australian voices in other content. From graphic novels to textbooks, quality recreational and educative resources, which celebrate a diversity of voices are more important than ever. Libraries in schools, VET institutions and universities, as well as national, state and public libraries all have a critical role to play in ensuring a diverse range of voices are promoted to Australians, and Australian students. In the context of additional challenges faced by Australian authors and creators, secure funding for Australian and diverse resources would show the commitment to creators.

Looking to the future, Australia has a rich cultural heritage. Investment is needed to ethically digitise collections held in collecting institutions and combine this with additional data sets to build generative AI technologies from Australian data sources for the public good. These tools should consider best practice, include in regards First Nation and ICIP, data privacy, attribution and transparency.

Recommendations

11. That state and territory governments agree to minimum resourcing standards for school and TAFE libraries to promote Australian and minority voices.
12. That the government invests in Australian AI capacity including supporting a genuinely Australian voice.

²⁸ OpenAI (2023) ChatGPT. *Colours of Australian Wonder*. <https://chat.openai.com/share/f6304b33-f24b-4bc8-bf70-2e3f96559ced>

3.5 Research

Over last few years we have seen a major shift in research moving from closed to open access, in recognition of the benefits that this brings to research and the whole community.

Australia's ability to remain competitive and contribute fully to the global economy relies on it grasping the new opportunities available for research dissemination to advance knowledge, solve complex real world problems and stimulate innovation. Lack of access to interlinked evidence in research publications and research data currently inhibits national and international research and scholarship, collaboration, and public debate.²⁹

As discussed at 1.3, open scholarship is critical if we are to gain the greatest community benefit from generative AI. However there is also a risk that the sudden lure of additional revenue or power from data sets might incentivise publishers and others re-enclose publicly funded research for private commercial benefit. There are significant risks of monopolistic and anti-competitive behaviour,³⁰ with flow through effect to public good, equity, transparency and outcomes. There are also challenges from the increasing use of generative AI tools in the production of research and scholarly publications, including in peer review.³¹

Australia is already playing a leading role in the region on the ethical and responsible use of AI,³² and libraries can play a key role in these discussions due to our provision of both content and information skills.

4. How cohorts of children, students and families experiencing disadvantage can access the benefits of AI

4.1 Ensuring equitable access

As noted at 1.2 and 1.3 above, generative AI has the potential to level the playing field for students, educators and researchers. However as noted at 2.1, unequal access to resources including school libraries threatens to further entrench existing patterns of advantage and disadvantage.

Students need access to generative AI tools and the resources to use the tools, including learning how to use the tool in an ethical and effective manner. We discussed at 2.1 the important role of AI literacy in addressing student's knowledge. This teaching however relies on students having access to the tools themselves. The majority of generative AI products are being developed and sold by for-profit companies. It is not clear whether there is enough competition in the market, or sufficiently low barrier to entry, to ensure that generative AI tools will not become prohibitively expensive once the beta testing period for some apps expires. Or alternatively, companies may offer an "affordable" option that requires the provision of personal data or the exposure to advertising or similar. This two-

²⁹ FAIR (n.d.) *Policy statement on F.A.I.R. access to Australia's research outputs*. <https://www.fair-access.net.au/fair-statement>

³⁰ Federal Trade Commission (2023) *Generative AI Raises Competition Concerns*. <https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/06/generative-ai-raises-competition-concerns>

³¹ Donna Lu (2023) *Are Australian Research Council reports being written by ChatGPT?* <https://www.theguardian.com/technology/2023/jul/08/australian-research-council-scrutiny-allegations-chatgpt-artificial-intelligence>

³² Australian Government. Department of Industry, Science and Resources. (n.d.) *Australia's AI Ethics Principles*. <https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles>

tier model, where money can buy you (sometimes limited) privacy and functionality is already established in the technological product sector, but is not an acceptable market model for students.

Libraries with their commitment to equitable and open access have a role to play, providing access to connectivity, devices, and training. Library staff are well placed to help evaluate different products, including ethical concerns such as bias, exclusion and privacy. Public libraries already support students out of school hours, and the families of students. Libraries, especially school, VET and public libraries must be funded and supported if our disadvantaged communities are not to fall further behind.

Recommendations

13. Agreed minimum standards for generative AI products used in teaching and learning are developed in consultation with librarians, educators, experts, students and parents.
 14. Funding is provided to public libraries in recognition of their role in supporting students and students' families with infrastructure and advice, especially for disadvantaged groups.
5. International and domestic practices and policies in response to the increased use of generative AI tools in education, including examples of best practice implementation, independent evaluation of outcomes, and lessons applicable to the Australian context

5.1 Library implementation

The International Federation of Library Associations and Institutions (IFLA) notes the following international examples of libraries supporting AI literacy:

- In the Netherlands, public libraries support the National AI Course initiative.
- The Canadian Federation of Library Associations, Ryerson University Library and Toronto Public Library have launched AI for All Canada – a project aiming to develop an AI and algorithmic literacy programme that can be implemented in public libraries throughout Canada.
- The Frisco Public Library in the United States offers take-home Artificial Intelligence maker kits. Based on a Google AIY Voice Project kit, a library AI maker kit contains a “smart” speaker (a box with a Raspberry Pi entry-level computer and a small speaker) and an instructional book. Library users can check out the kit and learn how to code the device to understand voice commands, making use of the Python programming language.³³

5.2 National Media Literacy Framework

A critical component of AI literacy is media literacy. Unfortunately, research by the Australian Media Literacy Alliance (AMLA) core members shows that many adults and children have a low level of confidence in their own media abilities and most say they are not getting support to help them. Just one third of young Australians think they can tell fake news from real news,³⁴ and almost two thirds

³³ International Federation for Library Associations and Institutions (2020) *IFLA Statement on Libraries and Artificial Intelligence*, pp. 13-14. <https://repository.ifla.org/handle/123456789/1646>

³⁴ Notley, T., Dezuanni, M., Zhong, H.F. & Chambers, C. (2020) News and Australian children in 2020: How young people access, perceive and are affected by news media. <https://researchdirect.westernsydney.edu.au/islandora/object/uws:56697/>

(64%) of adults are not confident that they can tell if a website can be trusted. Media literacy competency is negatively correlated with being more than 55 years old, having low literacy, living with a disability, having a low income or living in regional Australia.³⁵

Given this, AMLA recommends that the Australian government progress a national policy, strategy and framework for media and information literacy in line with recommendations by UNESCO.³⁶ National approaches support media literacy educators, including schools, libraries, national organisations and media organisations, to work together in a coherent way while allowing for benchmarking over time. This approach is in line with international best practice.³⁷

Qualified school library staff in every school would ensure greater opportunity for media literacy embedded within curriculum and adequately resourced.

Recommendation

15. That the Australian Government work with the Australian Media Literacy Alliance to develop a national media literacy strategy.

6. Recommendations to manage the risks, seize the opportunities, and guide the potential development of generative AI tools including in the area of standards.

6.1 Literacy is key

As noted at 2.1 above, there is a greater need for teachers and students to have the literacy skills they need to both effectively use and navigate an information ecosystem shaped by Generative AI.

The importance of critical thinking when using content has never been greater. The confusing element of generative AI is the *wrong* response is as grammatically convincing as the *right* response and delivered in an equally authoritative voice either way.

To consider critically whether a given piece of media is genuine, to know how algorithms influence the information one sees in search engines and social media platforms, to be more confident in an increasingly AI-mitigated information flow – digital, media and information literacy is an important part of the solution. Literacy efforts offer a way to tackle such concerns without compromising freedom of expression, or intellectual freedom at large.³⁸

Literacy will not solve all the problems. You can be aware of bias in answers, and still be influenced by the bias. But without literacy the potential for negative impacts is increased and for positive innovation decreased.

6.2 Whole institution approaches

Organisations and institutions need to factor AI governance and training costs into their budgets. Without investment in managing AI, organisations will not be ready for its oversight, adoption and

³⁵ Notley, T., Chambers, S., Park, S., Dezuanni, M. (2021) *Adult Media Literacy in Australia: Attitudes, Experiences and Needs*. https://www.westernsydney.edu.au/_data/assets/pdf_file/0007/1824640/Australian_adult_media_literacy_report_2021.pdf

³⁶ UNESCO (n.d.) Media and Information Literacy. <https://www.unesco.org/en/media-information-literacy>

³⁸ International Federation for Library Associations and Institutions (2020) *IFLA Statement on Libraries and Artificial Intelligence*, p. 7. <https://repository.ifla.org/handle/123456789/1646>

management of risks and benefits. Larger institutions and education systems need to have expertise in-house, the outsourcing of these roles to consultants or for-profit-companies who are benefiting from the sale of generative AI tools presents a conflict of interest that is incompatible with long term ethical benefits.

6.3 Regulatory and policy development

There is a need for minority and marginalised communities to have a 'seat at the table' in the development of regulatory and policy tools. It is important that First Nations input and priorities are led by First Nations people.

People with expertise across information literacy must also be including in regulatory and policy development. Library and information professionals will play an important role in mediating the use of generative AI tools in educational settings and research, and in supporting colleagues and students in AI literacy. Their expertise in information ethics, knowledge management, intellectual freedom and literacy bring an important perspective to discussions. They have practical experience of the challenges and opportunities. Representatives from major library and information associations welcome the opportunity to contribute our expertise to further policy development.

Given the important role that generative AI is likely to play in Australia's education and beyond, it is important that standards and guidelines are created in a transparent fashion, and are openly accessible to ensure that people are able to engage and use them. Any cost barrier is likely to further disenfranchise the most marginal of Australians, who are also the group most vulnerable to biases and impacts of generative AI tools.

Recommendation

Regulations, policy, standards and guidelines should be created in consultation with key stakeholders including library and information professionals, representatives of minority groups and First Nations people.

7. Full list of recommendations

Overarching recommendations

1. Priority is given to improving literacy, including AI, information and media literacy, for students and staff.
2. A commitment to upholding human rights, ensuring fairness and centring ethical considerations³⁹ in the development and use of generative AI tools.
3. Regulations, policy, standards and guidelines should be created in consultation with key stakeholders including library and information professionals, representatives of minority groups and First Nations people.

Detailed Recommendations

1. Commit to all students receiving instruction in AI literacy and working with library bodies on implementation.

³⁹ Australian Government. Department of Industry, Science and Resources. (n.d.) *Australia's AI Ethics Principles*. <https://www.industry.gov.au/publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles>; UNESCO (2022) *Recommendation on the Ethics of Artificial Intelligence*. <https://unesdoc.unesco.org/ark:/48223/pf0000381137>

2. The Department of Education to collect and report national data on school library staffing and resourcing to identify students at risk of not receiving adequate information and AI literacy resources.
3. Government funding for the creation of programs to upskill library and teaching staff to be AI literate, and to be able to teach AI literacy to students.
2. The Department of Education to work with librarians and teacher librarians on the development of new tools, digital platforms and programs to support AI in education.
3. That a research program is put in place to monitor outputs of generative AI tools deployed in an educational setting, with tool providers committing to continual improvement in response to findings.
6. That Federal, state and territory governments prioritise meeting with First Nations groups with expertise in matters of information governance and ICIP to understand the concerns and actions required.
7. Generative AI tools officially used in educational settings should ensure they have not misused Aboriginal and Torres Strait Islander peoples' knowledge and culture, and cannot produce answers that mimic or appropriate First Nations voices.
8. That the government work with libraries to build on and continue First Nations led work around protocols and guidelines on the use of First Nations content in education and research.
9. That ICIP is acknowledged in any guidelines, standards or ethical positions on generative AI.
10. That all educational staff undertake cultural awareness training.
11. That state and territory governments agree to minimum resourcing standards for school and TAFE libraries to promote Australian and minority voices.
12. That the government invests in Australian AI capacity including supporting a genuinely Australian voice.
13. Agreed minimum standards for generative AI products used in teaching and learning are developed in consultation with librarians, educators, experts, students and parents.
14. Funding is provided to public libraries in recognition of their role in supporting students and students' families with infrastructure and advice, especially for disadvantaged groups.
15. That the Australian Government work with the Australian Media Literacy Alliance to develop a national media literacy strategy.