UNSW submission to the inquiry into the use of generative artificial intelligence in the Australian education system

Introduction

UNSW welcomes the opportunity to contribute to the House Standing Committee on Employment, Education and Training's inquiry into the use of generative artificial intelligence (GAI) in the Australian education system. UNSW, like most other higher education institutions across the world, has been grappling with the rise of GAI. While GAI has been developing as a product in recent times, we are mindful of the potential impact it will have on all aspects of the university's operations including how we educate, the way students learn, and how we assess students' work. Given new GAI is constantly evolving we are yet to appreciate the full impact GAI will have on the education system in Australia.

However, we are aware of mixed views within the sector as to whether GAI will enhance the educational experience for students or whether it will fundamentally alter the way in which students learn now and into the future.

UNSW's response to the rise of GAI and its impact on our operations is still evolving.

In this submission we share some of our experiences with GAI and reflections on how we have adapted our processes based on the GAI tools we have encountered so far.

Key messages and recommendations:

- It is difficult to appreciate the full potential impact of GAI on the Australian education system as it continues to evolve.

- We encourage the sharing of knowledge and experiences, through processes such as this inquiry, so that government, education institutions and industry can work together to discuss and devise practical methods to develop best practice use of GAI in the higher education sector.

- We do not recommend further government regulation of the sector at this stage, but encourage a principles-based approach which encourages experimentation and embraces the appropriate use of GAI. Guidance from government and resources to assist universities to train and support staff is recommended as a better option than new regulation.

We make the following recommendations:

- That the Australian Government provide funding support to universities to train staff in GAI literacy.

- That the Australian Government:
  - encourage key vendors to enter into institutional licences with universities that have unlimited use for staff and students.
- That the Australian Government:
  - consider reforms to discrimination law arising as a result of GAI and other AI systems;
  - clarify the law on copyright of outputs, inputs and prompts on GAI.
- That University accrediting bodies such as TEQSA engage with universities to discuss the use of AI in the workforce and in assessment. TEQSA needs to be supported and funded to update regulatory requirements to allow universities to innovate and adapt in the new environment.
- That the Australian Government re-establish the Australian Learning and Teaching Council or a similar body to collate and disseminate research and insights into GAI in education.
- Universities should also take steps to respond to the emergence of GAI by adapting governance processes and quality assurance guidelines to allow more flexibility in assessment design and experimentation.

Discussion

The Australian higher education system demonstrated its adaptability and resilience at the onset of the COVID-19 pandemic, when universities were forced to deliver classes online in a matter of days as students were locked down or stranded overseas. Without the impetus of the pandemic, the enhancement of online learning would have taken years rather than days.

Australia's education institutions are again demonstrating that adaptability and resilience when dealing with the emergence of GAI such as tools like ChatGPT, Bing, Jasper, and Bard.

The need to adapt to the emergence of GAI in the higher education sector is more difficult than the enhancement of online learning as there are mixed views about the rise of GAI and its potential impact on the sector. Some experts see the benefits of GAI for students and academics, while others fear it poses a fundamental threat to the future of education.

The strengths and benefits of GAI tools for students

There are a range of potential benefits of using GAI in the education sector. For students, tools such as ChatGPT can provide a summary of key research in a matter of minutes, saving students hours of online research, and training them how to effectively use such tools in the workplace following their graduation. GAI tools can be used to translate resources making a wider range of web-based information available to students, or translating or correcting assessment tasks for students for whom English is not their primary language. Students also use GAI tools to assist with 'professional' skills they may not have had exposure to, such as drafting resumes or composing emails to academics or prospective employers. Often students use it to seek further explanation or clarification of issues raised in a lecture.

However, the use of GAI is not without risks. For students, relying on GAI may provide answers which lack depth, nuance or are just incorrect. If relied on without appropriate scaffolding, it could reduce opportunities to learn key research and writing skills which are fundamental building blocks for tertiary education.

The impact of GAI on academics

The emergence of GAI is, for some academics, seen as a fundamental disruption to the education sector necessitating a rethink of learning and teaching. Some academics remain fearful that the teaching profession will be devalued by the use of GAI or may eventually be rendered obsolete. This is due, in part, to the suddenness with which the technology has emerged. It is also partly due to the fear that the entire sector may need a new set of skills without there yet being a clear pathway for gaining those skills.

GAI can have a positive impact on academics. With proper privacy safeguards, GAI tools can be used to assist with indicative marks and generating feedback. They can also be used in administrative documents, marketing and (when used with integrity, including attribution) the preparation of academic papers. In all cases, it will be important for expert academic staff to assess the validity of the GAI-generated drafts. The workload efficiencies GAI promises may well mean that staff have more time to generate personal connections with students, enhancing the students' education. Ensuring that teaching staff are GAI literate and understand how GAI can be used responsibly is a major undertaking for a university like UNSW with more than 3,000 academic staff.

At UNSW there has been a concerted effort to educate and inform academics and staff on how to use GAI effectively through guidelines shared on various platforms such as Sharepoint, websites, Teams channels and communities of practice.

Across the sector it will require a significant investment of time and resources to ensure that teaching staff and administrators remain GAI literate, are up-to-date with the latest GAI platforms used by students, and are cognisant of how to balance the positive aspects of GAI in the classroom or online activities while being aware of the risks involved.

There are still a range of issues that remain unresolved in relation to the use of GAI by academics.

For example, are university academics and professional staff required to disclose use of GAI in administrative documents, marketing, and assessment processes?

There are potential industrial relations issues surrounding the use of GAI instead of human resources or directions to use GAI for particular tasks.

Universities may not yet have answers to these questions or guidelines to address these emerging issues.

Recommendation: *We recommend that the Australian Government provide funding support to universities to train staff in GAI literacy.*

The impact of GAI on assessment and learning

As GAI tools are being increasingly taken up by industry, there will quickly become an expectation that universities will produce graduates who are adept at using these tools. This means that not only will they be used in class, but universities will also need to assess students' ability to use the tools, in the same way accountancy graduates are expected to be able to use Excel.

With this in mind, academics may use GAI-compatible assessments where students are expected to use GAI tools to generate or improve their answers or artefacts. In these assessments, expert guidance from academic staff is critical to allowing students to use GAI tools to their potential. Assessment marks and feedback are then focussed on how well the student used the tool to achieve the required outcome.

An alternative approach is GAI-resistant assessment where academics use GAI tools to assist with identifying possible use of GAI in answers to detect cheating and/or plagiarism. These tools do not of

themselves form a basis for a finding of wrongdoing, but instead form an alert to staff to further investigate. They form a deterrent for students, but over time well-designed assessments should minimise the usefulness of GAI in the generation of answers.

One of the key impacts of the emergence of GAI has been the need to focus on the process of learning, rather than relying on a single assessment to judge academic progress. This is a positive development in line with current learning research that gives a much richer understanding of the student's comprehension of issues and approach to problem solving, rather than just an evaluation of the final outcome. Academics can support and assess students throughout the process and then have confidence that the final product is the student's work.

In similar ways to how COVID sped up the adoption of digital technologies, the emergence of GAI has encouraged academics to adapt their assessment methodologies to emerging approaches.

For example, rather than setting assessments where students have to respond in writing to generally expressed research questions, questions are reshaped to be on specific issues or findings from their class or contemporary events. Moving beyond single large assessments, academics are introducing a portfolio approach to student assessment drawing on a number of different assessment methods including:

- Oral (or viva) assessments where students provide verbal rather than written responses;
- Asking students to use specific techniques when solving problems;
- Asking students to analyse and critique responses generated by GAI;
- Mixing written assessment components with aspects requiring drawing, posters or videos;
- In-class quizzes for core concepts;
- Assessments where students reflect on what they have learnt rather than necessarily produce a set answer.

Academics are looking for evidence that learning has occurred. A key component for assessment following the emergence of GAI is including built in avenues for conversation and communication with students. This will allow academics to see first-hand the students' learning journey and so that students can demonstrate the process to reach an answer through their own academic and intellectual efforts. The emotional and affective aspects of learning are critical to students' engagement and motivation, and is particularly important for students who are struggling with their studies. This interpersonal interaction cannot be fully replicated by a 'conversation' with GAI, especially if the student knows the response is automated. Courses with large enrolments and limited interaction between academics and students, present special challenges here, but they are not insurmountable.

A number of issues surrounding the use of GAI in assessment remain unresolved, such as the circumstances in which GAI could be used to provide fully automated marking and feedback on assessments; the circumstances where that would be inappropriate and human review and feedback would be required; and the circumstances in which a student could challenge a GAI-marked assessment and request that a person reviews their work.

The difference between undergraduate studies and higher degree research (HDR) candidature

In developing a policy response to GAI, the difference between undergraduate students and higher degree research (HDR) candidates needs to be acknowledged. HDR candidates and their supervisors have additional obligations placed on them by the *Australian Code for the Responsible Conduct of Research*. Whilst also a principles-based document, guides which support the Code risk becoming

more prescriptive. Care should be taken to ensure that any policy response to this issue is consistent with existing obligations.

HDR candidates are likely to use GAI more frequently in the ways already highlighted in this submission, such as summarising research papers, helping to fix language in paper drafts, and incorporating GAI as a key tool in the research which underlies these outputs. These are positive benefits of using the technology, and any policies that might suppress these uses should be carefully scrutinised to avoid unintended consequences.

The impact of GAI on students and equity concerns

While there may be students seeking to get an advantage (or a short cut) through the use of GAI, for the most part we have found that students want to do the right thing and want to make sure that they are using emerging GAI tools appropriately. Some students have reported feeling anxious and uncertain around the use of GAI in their studies and assessment. Generally, students have a wide range of questions about how they can safely use GAI to assist their learning without falling foul of university guidelines.

A major issue raised in discussions regarding the use of GAI in education is the impact on equity and diversity in education.

GAI tools have great potential to level the playing field for students, including international students, who can use GAI tools to check and edit their work - enabling their ideas to be judged rather than their English or grammar skills (at least where those skills are not themselves learning outcomes).

For international students, significant questions exist about the appropriateness of writing answers in their first language and using GAI to translate into English. There is much to be said for permitting this practice given the significance of Australia's international student population and global educational reach, but clarity is needed on how English language markers can have confidence that the submitted work is substantially that of the student.

There are concerns that students who cannot afford the latest technology or the full suite of emerging GAI applications may be disadvantaged in their studies. If vendors insist on a pay-per-use licencing system, it will be difficult for students and universities to properly budget for GAI use.

A potential solution to this problem is for the Australian Government to encourage key vendors to enter into institutional licences with universities that have unlimited use for staff and students. It will be important to ensure that platforms students have access to at high school remain available to them at university.

Recommendation: *We recommend that the Australian Government encourage key vendors to enter into institutional licences with universities that have unlimited use for staff and students.*

Applying a principles-based approach

At this stage, UNSW has not developed university-wide rules on the use of these tools, but has instead asked academics to provide specific instructions to students about their approved use in each assessment task. These instructions are evolving as we learn more about the implications of GAI on teaching and learning and because the appropriateness of the use of GAI will be different for each course.

Furthermore, given the early stage of the technology, there are opportunities to learn from experimentation across diverse approaches. We recognise that what may be the appropriate use of

GAI tools is determined by what the appropriate learning outcome is for each activity, and general rules would undermine the ability for staff to set pedagogically appropriate conditions.

To provide clarity to students UNSW has taken a principles-based approach to the use of GAI. The principles we follow are:

- UNSW has always worked to equip students to take advantage of the latest technologies.

- There are plans to make the most of ChatGPT and related technologies in teaching and student learning.

- We recognise that students should not be overly dependent on any one use of technology, and independent thought and knowledge remain essential.

- Students will receive course-specific instructions on whether the use of GAI will be allowed or not be permitted.

The key message we impart to students is that if you use GAI, to then acknowledge it and attribute it as you would any other resource. Ensuring our instructions for tasks and assessments are clear and expectations set out at the outset is fundamental.

We recognise that we will need to continue to update these principles to ensure they remain appropriate as new GAI products emerge. However, in the short term, a flexible approach to assessment design and experimentation is most appropriate.

Recommendation: Universities should take steps to respond to the emergence of GAI by adapting governance processes and quality assurance guidelines to allow more flexibility in assessment design and experimentation.

Working with government and industry

UNSW acknowledges that GAI will have an impact not just on the education sector but on the jobs and workforce of the future. As the training ground for leading thinkers, business leaders and entrepreneurs, the ability of the Australian workforce to be GAI literate depends on universities. We anticipate that we will actively partner with industry to develop curriculum content that equips students to leverage GAI in the workplace.

However, at this stage the higher education sector needs scope to experiment and engage with emerging GAI. We do not see that further regulation of GAI in the education sector is required at this stage, but acknowledge there are areas where government action would be beneficial.

Privacy and data sovereignty issues need to be resolved at the government level so that universities can engage with vendors. Clarification on the Australian position on copyright of outputs, inputs and prompts is also required. Discrimination law can also usefully be clarified and extended in its application to the kinds of bias associated with machine learning and other data-driven applications.

We would also encourage the government to ensure that the bodies charged with regulating and accrediting the education sector are kept up to date with the latest developments in GAI. Accrediting bodies need to urgently engage with universities to discuss the level of use of GAI tools to be expected in the workforce, and how authentic assessment incorporates those skills. A heavy reliance on traditional closed book exams appears a convenient temporary security measure, but can be an unreliable measure of student workplace skills.

Recommendation: We recommend that the Australian Government:

- *clarify the law on copyright of outputs, inputs and prompts on GAI;*

- *consider reforms to discrimination law arising as a result of GAI and other AI systems.*

Recommendation: We recommend that University accrediting bodies such as TEQSA engage with universities to discuss the use of AI in the workforce and in assessment, and to ensure that relevant regulatory requirements allow universities to innovate and adapt in the new environment.

Working collaboratively across the sector

There is no longer a national, sector-wide learning and teaching institute or grants body, such as that which previously existed. Now more than ever, a body to coordinate university insights into GAI tools is needed. We would urge the re-establishment of a body similar to the Australian Learning and Teaching Council with a remit to collate and disseminate research and insights into GAI in education. Funding to undertake research into the way students learn with GAI is also urgently needed, and that funding needs to be more agile and in smaller scale than through the ARC approach. Such a body should also be tasked with developing training packages/courses to allow for nationwide upskilling of academic staff and could also usefully develop student focussed materials as well.

Recommendation: We recommend that the Australian Government re-establish the Australian Learning and Teaching Council or a similar body to collate and disseminate research and insights into GAI in education.

International best practice

Both the Unites States and the United Kingdom have recently published reports on GAI.[1] The US Department of Education report makes a series of recommendations, including one that requires students to remain 'in the loop'. The US report also notes that efforts to consider GAI in education are also being conducted in the European Union, at the United Nations by organisations such as UNESCO. We encourage the Committee to draw upon the work being done in other jurisdictions.

Conclusion

Given there is great uncertainty regarding the use of GAI in the higher education sector key stakeholders must continue to engage and share information about how they are responding to this issue. Given the evolving constantly nature of the issue we do not recommend further new regulation by the Government at this stage.

However, there are a range of measures the government can take in the meantime as outlined in this submission.

UNSW, like other universities is considering how to encourage staff and students to experiment with GAI and embrace the embrace the benefits GAI offers, whilst acknowledging the risks of increased use of GAI across our operations.

We would welcome the opportunity to further discuss this issue as the Committee considers its findings. If you would like to discuss any issue raised in this submission or would like further information about our approach, please contact Professor Alex Steel, Acting Pro Vice-Chancellor Education and Student Experience at a.steel@unsw.edu.au.

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[1] U.S. Department of Education, Office of Educational Technology, *Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations*, Washington, DC, 2023.
This report is available at https://tech.ed.gov
JISC, GAI in Tertiary education: AS summary of the current state of play Second edition, June 2022. The report is available at:
https://beta.jisc.ac.uk/reports/artificial-intelligence-in-tertiary-education