

First 100 days of ChatGPT at Australian universities: An analysis of policy landscape and media discussions about the role of AI in higher education

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This article examines the potential impact of large language models (LLMs) on higher education, using the integration of ChatGPT in Australian universities as a case study. Drawing on the experience of the first 100 days of integration, the authors conducted a content analysis of university websites and quotes from spokespeople in the media. Despite the potential benefits of LLMs in transforming teaching and learning, early media coverage has primarily focused on the obstacles to their adoption. The authors argue that the lack of official recommendations for Artificial Intelligence (AI) implementation has further impeded progress. Several recommendations for successful AI integration in higher education are proposed to address these challenges. These include developing a clear AI strategy that aligns with institutional goals, investing in infrastructure and staff training, and establishing guidelines for the ethical and transparent use of AI. The importance of involving all stakeholders in the decision-making process to ensure successful adoption is also stressed. This article offers valuable insights for policymakers and university leaders interested in harnessing the potential of AI to improve the quality of education and enhance the student experience.

Keywords: artificial intelligence, higher education, Large Language Models, policy

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Research aims

Artificial Intelligence (AI), and machine learning in particular, has been an alluring prospect since the advent of the computer. Most of the research in this field has been carried out within the boundaries of higher education and their collaborations with technology companies, frequently limited to theoretical and experimental work involving costly and intricate equipment (Gulson & Webb, 2021). However, a recent groundswell of work has led to substantial improvement in large language models (LLMs), making interaction with AI accessible to the masses. LLMs utilise deep learning algorithms to generate human language, effectively allowing anyone to ask questions through an online chat interface (e.g., [ChatGPT](#)) and receive easy to understand answers. Whilst these answers have not always proven to be consistently accurate (Floridi, 2023) and sometimes replicate the bias of the source material (Lund & Want, 2023) the effect of this new technology has been both immediate and substantial.

ChatGPT, run by Open AI, was one of the first to capture the public's attention with its user-friendly interface, resulting in it becoming the fastest-growing consumer application in history (Hu, 2023). The greater ease of public access prompted a change in discourse from ambiguous projections of the future to enthusiasm about the present possibilities and

apprehension regarding its impact on the prevailing status quo (Tlili et al., 2023). Universities, in particular, faced a change to their core business. The position of academics as “knowledge brokers” was threatened, as the potential for students to produce effortlessly “unique” and highly intelligible text by using ChatGPT presented scholars with new challenges and new opportunities.

This rapid change required a significant response due to its immediate effect on the day-to-day business of education (Lim et al., 2023). We write this paper to describe how Australian universities have responded, both through policy in the media, in the first 100 days of ChatGPT’s release to the public. We note the evolution of views in this initial period and critically analyse the responses of the universities, including five of which have research centres making explicit reference to AI or machine learning. We then turn to the future and make recommendations for future policy development.

Method

A comprehensive content analysis (Schreier, 2013) of both policy directives and media coverage was conducted during the first 100 days of ChatGPT’s release to the public (30/11/2022–10/3/2023). The 39 universities listed by Universities Australia were designated as the focus institutions for this case study.¹ As this analysis relates to public discourse, search methods were limited to those that could be easily replicated by anyone from the public searching for the information.

Australian university policy

An initial Google search of Australian university policy was conducted using the terms “site:URL of the university homepage (“artificial intelligence” OR “machine learning” OR “AI” OR “ChatGPT” OR “Large Language Models” OR “LLM” AND polic*)”. Following this, searches for the terms “Artificial Intelligence”, “Machine Learning” and “ChatGPT” were conducted within the university websites. The university policy libraries were also searched using the same terms. Any policies found were then deductively coded based on common titling (e.g., academic integrity, authorship). The authors of the paper cross-checked this process to ensure consistency and prevent any misinterpretations.

Media analysis

Google was used to conduct a search of media outlets using the string: (“artificial intelligence” OR “machine learning” OR “AI” OR “ChatGPT” OR “Large Language Models” OR “LLM”) AND (“university” OR “higher education”) AND “Australia*”

Articles were evaluated for their relevance before Australian university spokespeople were identified and their comments inductively thematically coded related to their predominant message in the manner described by Braun and Clarke (2006). In total over the designated period, we identified 37 relevant articles using the described method and 74 discrete quotes ascribed to a variety of roles including management, academics and media liaisons. The home institution of each spokesperson was also analysed to determine the source of a majority of the dialogue.

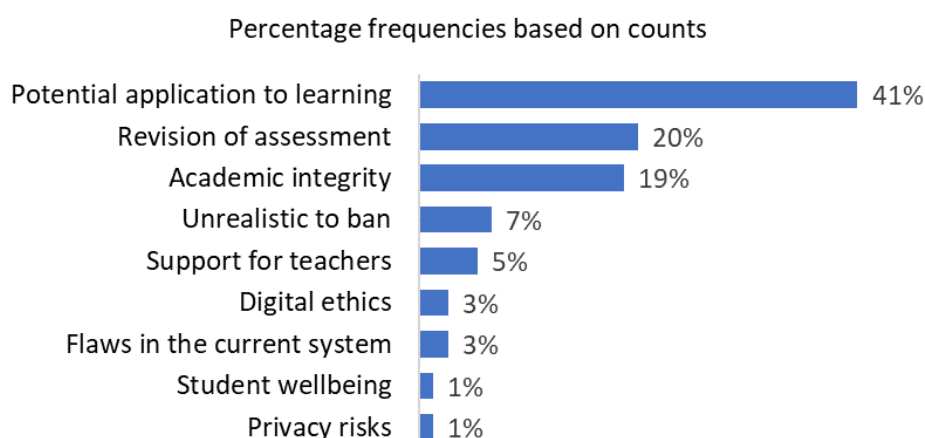
Findings

After 75 days of ChatGPT being publicly available, only 20% (8) Australian universities had policies referencing AI. However, by the 100th day, this had increased to 36% (14). Each of these universities made references to academic integrity, while some also addressed exam

¹ <https://www.universitiesaustralia.edu.au/our-universities/university-profiles/>

procedures, assessment, referencing, data governance, and cybersecurity. None of the universities had officially published, publicly accessible references to AI in the context of learning, which was in contrast to university spokespeople within the wider media. During the first 100 days of ChatGPT implementation, the authors identified 74 comments from various media publications. The sample comprised of 60% of comments originating from academics, 24% from management, and 15% from media liaisons. Two contrasting themes emerged in relation to ChatGPT; one was the concern over its potential use for cheating, while the other highlighted the positive potential of LLMs in learning environments (further detail is provided in Figure 1).

Figure 1: Types of media commentary by university staff in the first 100 days of ChatGPT



Comments were also coded based on higher education coalitions within Australia. Nearly half (49%) of commentary was provided by the staff from the Group of Eight (Go8) universities which comprise the largest and oldest universities in Australia, followed by 20% of comments attributed to staff from Australian Technology Network (ATN) universities (see Table 1).

Table 1: Sources of media commentary by type of university

| Category of comments | Go8 | ATN | Innovative Research Universities | (Formerly) New Generation Universities | Other | Total |
|--|------------|------------|----------------------------------|--|------------|-------------|
| Potential application to learning | 13 | 9 | 4 | 2 | 2 | 30 |
| Revision of assessment | 10 | | 3 | 1 | 1 | 15 |
| Academic integrity | 6 | 1 | 1 | 1 | 5 | 14 |
| Unrealistic to ban | 2 | | | 1 | 2 | 5 |
| Support for teachers | 1 | 3 | | | | 4 |
| Digital ethics | 2 | | | | | 2 |
| Flaws in the current system | 1 | 1 | | | | 2 |
| Student wellbeing | | 1 | | | | 1 |
| Privacy risks | 1 | | | | | 1 |
| Total | 36 | 15 | 8 | 5 | 10 | 74 |
| % of the total number of comments | 49% | 20% | 11% | 7% | 14% | 100% |

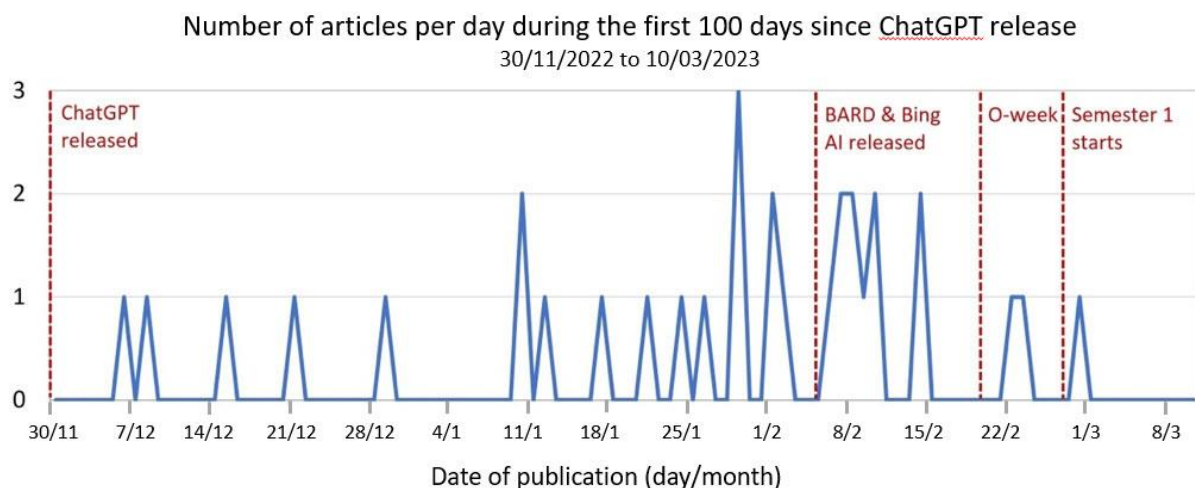
The commentary from the Go8 universities tended to be split between a focus on threats to academic integrity and the need for revision of assessment to prevent cheating (45% of all comments) and opportunities for student learning (36%). In contrast, the staff from the ATN group of universities tended to focus on the opportunities created by the emergence of user-friendly and easily accessible LLMs (60% of all comments), with little to no reference to academic integrity or short-term changes to assessment practices. In their own media outlets, most universities tended to discuss opportunities for learning of LLMs and AI in general (see Table 2).

Table 2: Sources of media commentary by type of publication

| Category of comments | University media outlet | The Guardian | ABC | Times Higher Education | The Age | Other | Total |
|--------------------------------------|-------------------------|--------------|------------|------------------------|-----------|------------|-------------|
| Potential application to learning | 10 | 5 | 3 | 2 | 3 | 7 | 30 |
| Revision of assessment | 3 | 2 | 4 | | 1 | 5 | 15 |
| Academic integrity | | 5 | 2 | | 2 | 5 | 14 |
| Unrealistic to ban | | 1 | 2 | | | 2 | 5 |
| Support for teachers | | | | 4 | | | 4 |
| Digital ethics | | | | 2 | | | 2 |
| Flaws in the current system | | 2 | | | | | 2 |
| Student wellbeing | | | | | 1 | | 1 |
| Privacy risks | 1 | | | | | | 1 |
| Total | 14 | 15 | 11 | 8 | 7 | 19 | 74 |
| % of total number of comments | 19% | 20% | 15% | 11% | 9% | 26% | 100% |

As Figure 2 shows, overall media coverage of ChatGPT using university spokespeople during the 100 days was initially high due to concerns about its impact on the upcoming academic year.

Figure 2: The number of media articles about ChatGPT and education that quote university.



The discourse shifted towards competition between large technology companies after ChatGPT's integration with Microsoft's "Bing" and the proposed trials of Google's "Bard" program. Additionally, the beginning of university orientation weeks (20–24 February) and the corresponding increase in academic workload may have contributed to the reduction in media commentary by university spokespeople.

Discussion

Overall, Australian universities have proven to be ill prepared for this new technology. This was not surprising as larger organisations such as the European Union have also failed to predict the sudden impact of programs such as ChatGPT, focusing more on conventional models which leverage machine learning for specific applications such as detecting cancers or identifying errors (Hacker et al., 2023). It is clear from the analysis that initial considerations of the impact of ChatGPT on the work of universities was predominantly "knee jerk" and centred on concerns about academic integrity and specifically the prevention of cheating. This was also reflected in the few policies that made reference to AI. Over time, this discourse has partially shifted to position AI as a tool for supporting deeper learning by students. This is particularly the case in media aimed at academics, such as through university blogs. Future policies should mirror this shift of emphasis by beginning to define the acceptable use of these new tools. As is evident by the paucity of advice to academics currently accessible on university websites, those wishing to experiment and develop new practices are hindered by the ethical ambiguity of directions from university management. They are aware of the need to protect intellectual property, but lines have not been drawn that define the parameters by which AI can influence thinking or aid text clarity. The ease with which effective communication can be generated has the potential to allow a freer expression and interrogation of ideas, but without policy guidance we risk focusing on misconduct and returning to more antiquated assessments such as pen and paper tests (Cassidy, 2023).

Ethical implications

Moving from academic misconduct to equity, future university policies will need to address the potential impact of LLMs on underrepresented minority groups. Although LLMs are currently freely accessible, as companies are aiming to establish their market position and refine their systems, the availability of this free service is not guaranteed for the future, which will alienate those who cannot access or afford a paid subscription (Bozkurt et al., 2023). Similarly, these models are trained on a large corpus of data which has inherent biases such that minority groups, by definition, are often underrepresented or misrepresented in this data (Weidinger et al., 2021). Therefore, this means that cultural bias may impact outputs and further discriminate against minority populations (Zhuo et al., 2023).

The process of training LLMs also raises concerns about informed consent since personal data is shared with large corporations. Within an educational institution, the issue of data privacy is particularly relevant, and policymakers should give it significant consideration (Lund & Want, 2023). Research data is typically stored on secure servers, but if LLMs like ChatGPT are to be used in higher education, there needs to be greater scrutiny regarding who has access to the work produced within the university (Bozkurt et al., 2023).

Equity questions once again become prevalent when considering the orchestrators of the potential learning tools in university contexts. Without guidance for implementation of AI in courses, there will be variable practice based on the perspectives and knowledge of the course coordinators and tutors. Additionally, teaching academics may struggle to recognise their roles within the new paradigm. As such, recommendations for changes must not only define how

all students may benefit from these new tools, but which tools are beneficial and where they fit into the development of complex capabilities.

The role of universities

Advice is also required on a much broader level for universities. Whilst some university strategic plans have pointed towards AI as being the way forward for their organisations, few have articulated how the role of universities will change in response to these developments. ChatGPT represents the first of many future LLMs that will continue to advance in both sophistication and effectiveness. The higher education community must therefore begin to contemplate their societal value beyond simply translating complex information into understandable knowledge for students (Penprase, 2018). They require clearer definitions of how AI can improve thinking and learning through reflective innovation (Tlili et al., 2023). Fortunately, universities are uniquely positioned to undertake this kind of work as long as they recognise that the advent of ChatGPT heralds a dramatic change in the process of education.

Additionally, the LLMs themselves need greater scrutiny from academic institutions. LLM companies often guard their intellectual property, limiting the transparency of how their algorithms work and the nature of their training data (Lund & Want, 2023). This lack of transparency can pose a challenge for universities in assessing the potential of LLMs to aid higher education. Limited access to training data, compounded by paywalls on a significant proportion of peer-reviewed academic literature (Segado-Boj et al., 2022), further hampers universities' ability to assess these programs. As institutions that produce and value a more critical consideration of knowledge, it is essential that universities assess and provide guidance on the types of LLM that reflect their values.

Conclusion

At present, we stand at a pivotal juncture. It is apparent that the decisions taken by leaders of higher education institutions will carry far-reaching consequences, not merely for the present generation of students, but also for their potential to flourish in a future society that is increasingly reliant on AI technologies. Despite slow policy guidance from Australian universities on the acceptable use of these new tools, there are indications within the media that the discourse is shifting from academic misconduct concerns to more progressive considerations of how LLMs can enhance teaching and learning. Based on early media coverage, the Australian context is not unique (Leung & Niazi, 2023), so all universities are therefore encouraged to follow this more proactive trend and promptly establish policies outlining the ethical use of these new tools to enhance the learning opportunities for graduates, whilst recognising the well-being needs of individuals affected by the sudden impact of the changing educational landscape.

Lift Learning

Engage further with the authors and the issues surrounding the first 100 days of ChatGPT in universities at the companion LIFT Learning site. Hear the authors grapple with some of the pressing challenges and opportunities that this technology brings through this panel style interview. The LIFT Learning site is available at <https://apps.lift.c3l.ai/learning/course/course-v1:LEARNINGLETTERS+0101+2023>

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