

# GENERATIVE ARTIFICIAL INTELLIGENCE LITERACY AMONGST SCIENCE STUDENTS

Miriam Sullivan<sup>a</sup>, Andrew Kelly<sup>a</sup>, and Katrina Strampel<sup>a</sup>

Presenting Author: Miriam Sullivan, m.sullivan@ecu.edu.au

<sup>a</sup>Centre for Learning and Teaching, Edith Cowan University, Joondalup, WA 6027, Australia

**KEYWORDS:** Generative Artificial Intelligence, ChatGPT, academic integrity, digital literacy

## BACKGROUND

The emergence of *ChatGPT 3* at the start of 2023 was greeted with a mix of opinions about whether generative artificial intelligence (AI) tools could be used to improve our teaching or were an obstacle to maintaining academic integrity and student learning (reviewed in Rasul et al., 2023). Early discussions, particularly media coverage, were focused on university and academic opinions at the expense of the student voice (Sullivan et al., 2023). Universities have a responsibility to ensure all students are digitally literate and able to make ethical choices about generative AI in their work and studies.

## AIMS

This research examined students' awareness, experience and confidence in their ability to use *ChatGPT* and other generative AI tools ethically.

## DESIGN AND METHODS

An online survey was distributed to all students at Edith Cowan University at the beginning of semester one, 2023, with a mix of closed and open-ended questions. Quantitative data were analysed in *SPSS*, while qualitative data were thematically coded.

## RESULTS

At the start of the semester, most students ( $n=1135$ ) had heard nothing or very little about *ChatGPT* and other generative AI tools. However, Science and Engineering students had significantly more awareness and experience with generative AI compared to other schools, including Medical and Health Sciences. However, some students were more confident in their ability to use generative AI ethically than expected given their lack of practical experience. Qualitative data showed that while many Science and Engineering students were excited about the potential of AI, they also had concerns about its reliability and how it would impact their studies and society as a whole, and they expected the University to supply resources and training.

## CONCLUSIONS

University students, and Science and Engineering students in particular, are engaged with the emergence of *ChatGPT* and other generative AI, but want more support to work through the benefits, risks, and practical applications for their work. As a result of this research, Edith Cowan University has introduced *ChatGPT* resources and training for students.

## REFERENCES

- Rasul, T., Nair, S., Kalendra, D., Robin, M., de Oliveira Santini, F., Ladeira, W. J., ... & Heathcote, L. (2023). The role of ChatGPT in higher education: Benefits, challenges, and future research directions. *Journal of Applied Learning and Teaching*, 6(1).
- Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, 6(1), 1-10. <https://doi.org/10.37074/jalt.2023.6.1.17>

Proceedings of the Australian Conference on Science and Mathematics Education, The University of Tasmania, 30 August – 1 September 2023, page 68, ISSN 2653-0481.