THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
CREATE CHANGE

Exploring and Supporting Artificial Intelligence in Teaching and Learning: UQ initiatives June 2024

UQ events exploring AI

Workshops & Webinars

- Considerations of the impact of AI have been embedded in introductory programs run each semester for staff new to teaching and tutoring at UQ.
- Ready to Teach week events:
    - Navigating AI and assessments with students
    - Generative AI updates and tips
- Hands-on with AI – workshops supporting staff to explore uses of AI:
    - 19 March: exploring different AI systems
    - 9 May: enhancing assessment materials
    - 12 June: enhancing learning resources
- What's Working Webinars: UQ staff sharing their experiences of using AI in Teaching and Learning (April, May & July sessions)

Keynote presentations

- 29 April *What can our graduates do that a chatbot can't?* Gen AI keynote from Professor Kris Ryan

Community of Practice

- *Academic Integrity Officers Community of Practice:* semesterly meeting of Integrity Officers and interested staff considering the implications of AI on assessment and investigations of misconduct.
- Learning Design Community: *monthly meeting of Learning Designers*. Including discussions of changes in AI technology, applications for teaching and learning and implications for UQ.
- *School Directors of T&L Forum:* quarterly meeting of School Directors of Teaching and Learning. Providing updates on changes to AI technologies, UQ policy and approaches about AI and applications for teaching.
- *Teaching Focused Network*: exploring potential approaches to support staff and students across UQ

Resources and Guides

- Guides on using generative AI in Teaching and Learning produced by the Institute for Teaching and Learning innovation: https://itali.uq.edu.au/teaching-

guidance/teaching-learning-and-assessment-generative-ai including guidance in communicating AI use expectations with students.

- Digital Essentials: Generative AI guidance for students
- Guides to cite or acknowledge generative AI tools
- Artificial Intelligence subject guide for students
- Professor Jason Tangen's Academic AI guide
- Information Technology Services guide for staff using Co-pilot for web
- Compulsory Academic Integrity Modules for students incorporating responsible use of AI
- MAGE Framework for testing assessment vulnerability to AI

Staff and student initiatives, support and services

- Teaching Innovation Grant round with a focus area on AI
- Student Staff Partnership projects
- UQ Library Contact Us assistance for students
- Assessment design support for UQ course staff
- Collaborative support from central, faculty and school support teams for programs including the design and co-facilitation of activities with students. For example, presentation at the Master of Mental Health orientation (A/P Christine Slade)

Projects

- **Student Perceptions of GenAI**
  A jointly funded collaborative research project led by researchers from Deakin, Monash, University of Queensland, and University of Technology Sydney, working in partnership with students to better understand students' perceptions of AI.
- **Teaching Innovation Grant funded projects**
  Machine in the Loop: AI for Enhanced Educational Assessment led by Dr Joan Li t
  Developing a blueprint for using Generative AI Agents in teaching, learning and assessment through a case example in Motivational Interviewing: MI UQ Coach led by A/Prof Sjaan Gomersall and Professor Genevieve Healy
  Enhancing University Learning with AI-Driven Tutoring: A Cross-Disciplinary Approach led by Professor Jason Tangen
  Creators of Tomorrow: Integrating Prompt Engineering and Responsible AI in Discipline-Specific Curricula led by Dr Aneesha Bakharia
- **Student-staff partnership projects**

  Integrating GenAI in Science: Transformative Learning Strategies for UQ Students led by Dr Nantana Taptamat.

  Prompt Engineering Examples led by Dr Aneesahe Bakharia.
- **JISC Survey of Students' Digital Learning Experiences**

Survey of over 2000 UQ students including questions about experiences with Generative AI tools. Working with JISC enables comparison of data across institutions internationally

- **RiPPLE** is a UQ developed platform that leverages the latest insights from learning sciences and AI to transform student learning into an active, social, and personalized experience. A/Prof Hassan Khosravi is leading a range of project with Ripple including explorations of Emotionally Enriched Feedback via Generative AI and User Interfaces for Large Language Models in Education.
- **Transforming Discussion Forum Misunderstandings into Learning Opportunities**. In modern education, discussion forums are essential for student interaction and problem-solving in large classes. This project uses advanced computational techniques, including large language models (LLMs) and Retrieval-Augmented Generation (RAG) models, to analyse forum content.
- **AI and Self-Regulated Learning**. Self-regulated learning (SRL) is essential for lifelong learning, and AI integration presents new opportunities to support SRL as presented in (Darvishi et al, 2024). However, gaps remain in understanding the intersection of AI and SRL.The study will provide insights into current AI-SRL research, align it with foundational SRL theories, and inspire trust among educators and practitioners. We will discuss limitations and future research directions
- **Library Generative AI Program:** This program of work underway at UQ Library investigates the application of Generative AI technologies in the library context and as it relates to the library's purpose of connecting people and information, developing information literacy and digital capabilities. The project will investigate the use of Generative AI as the first step in applying metadata to digitised objects; developing intelligent tutors/assistants for developing information literacy and digital capabilities and pilot the use of a chat bot as a provider of Tier 0 support.

External presentations and events

- Lodge, J. M., Broadbent, J., Palmer, E., Gentili, S. & Logeswara, J. (2024, July). Evolution or revolution? Learning, teaching, and assessment with artificial intelligence. Higher Education Research and Development Society of Australasia Conference 2024, Adelaide.
- Baik, C., Lodge, J. M., Stone, C., Farrell, T. & Andreade Parra, R. (2024, July). Enhancing student access and success through ed tech and big data. Student Success Conference 2024, Melbourne.
- Lodge, J. M. (2024, June). Assessment in transition: Adapting to AI from task to program level. UNSW School of Business Education Matters Workshop.
- Lodge, J. M. (2024, June). AI literacy, employment and universities. The University of Melbourne Teaching and Learning Summit, 2024.
- Lodge, J. M. (2024, May). Challenges and opportunities of AI and digital futures. English Teachers Association of Queensland State Conference, 2024.

- Cicchino, A., Hoeppner, K., Conefrey, T., Slade, C., & Kelly, K. Encouraging Equity and Engagement through ePortfolios in the Age of AI. Presentation Peralto Equity Conference. Online. 30 April 2024.
- Fitzgerald, R, Gribble, L & Raiti, J. (2024, June 6**)** Beyond the Hype: Evaluate the Impact of AI on Learning. International Conference of Artificial Intelligence in Higher Education. OAPA. Online
- Gniel, H., Lodge, J. M., Shaw, J. et al. (2024, May). Studiosity Students First National Symposium on AI and Academic Integrity.
- Gribble, L., Marshall, B., Morgan, D. & Slade, C, panel members representing the Australasian Academic Integrity Network's submission no. 58, at the public hearing of the House Standing Committee on Employment, Education and Training's Inquiry into the use of generative artificial intelligence in the Australian education system. Monday 5th February 2024.
- Lodge, J. M. (2024, March). What would it mean if we failed to lift our educators and students to be future ready? Australasian Council for Open and Digital Education Workshop 91, Western Sydney University. (Keynote speaker)
- Lodge, J. M. (2024, January). Beyond AI literacy to understanding ourselves as learners with machines. HKUST x EdUHK Joint Conference on AI and Education, Hong Kong. (Keynote speaker)
- Slade, C. Artificial Intelligence and Academic Integrity. Presentation Education Special Interest Group of the Australian society of Microbiology. Brisbane Convention Centre 4 July 2024.

Publications

- Lodge, J. M., Ellerton, P., Zaphir, L. & Brown, D. (forthcoming). Assessing in the age of AI, is critical thinking the answer? In H. Crompton & D. Burke (eds.), Artificial Intelligence Applications in K-12: Theories, Ethics, and Case Studies for Schools. Routledge.
- Lodge, J. M. (2024). *Implications of AI and emerging technologies for teaching and learning*. Report for the Australian Department of Education. The University of Queensland.
- Bond M, Khosravi H, De Laat M, Bergdahl N, Negrea V, Oxley E, Pham P, Chong SW, Siemens G. (2024) A meta systematic review of artificial intelligence in higher education: a call for increased ethics, collaboration, and rigour. International Journal of Educational Technology in Higher Education. 2024 Jan 19;21(1):4. https://doi.org/10.1186/s41239-023-00436-z
- Crawford, J., Vallis, C., Yang, J., Fitzgerald, R., O'Dea, C., & Cowling, M. (2023). Artificial Intelligence is Awesome, but Good Teaching Should Always Come First. *Journal of University Teaching & Learning Practice*, *20*(7), 01.

- Darvishi A, Khosravi H, Sadiq S, Gašević D, Siemens G. Impact of AI assffistance on student agency (2024). Computers & Education. 1;210:104967. https://doi.org/10.1016/j.compedu.2023.104967
- Longo, L., Brcic, M., Cabitza, F., Choi, J., Confalonieri, R., Del Ser, J., ... Khosravi, Hassan. & Stumpf, S. (2024). Explainable artificial intelligence (XAI) 2.0: A manifesto of open challenges and interdisciplinary research directions. *Information Fusion*, 102301. https://doi.org/10.1016/j.inffus.2024.102301
- Newell, S., Fitzgerald, R., Hall, K., Mills, J., Beynen, T., May, I. C. S., ... & Lai, E. (2024). Integrating GenAI in Higher Education: Insights, perceptions, and a taxonomy of practice. Routledge. 10.4324/9781003482918-7
- Pozdniakov S, Brazil J, Abdi S, Bakharia A, Sadiq S, Gasevic D, Denny P, Khosravi H. Large Language Models Meet User Interfaces: The Case of Provisioning Feedback. arXiv preprint arXiv:2404.11072. 2024 (and under review by Computers & Education). https://doi.org/10.48550/arXiv.2404.11072
- Rashid, M. P., Gehringer, E., & Khosravi, H. (2024). Navigating (Dis) agreement: AI Assistance to Uncover Peer Feedback Discrepancies. In Proceedings of the 14th Learning Analytics and Knowledge Conference (LAK '24). ACM, 907–914. https://doi.org/10.1145/3636555.3636931
- Zaphir, L., Lodge, J. M., Lisec, J., McGrath, D., & Khosravi, H. (2023). How critically can an AI think? A framework for evaluating the quality of thinking of generative artificial intelligence. arXiv preprint https://doi.org/10.48550/arXiv.2406.14769
- Thompson, K., Corrin, L., & Lodge, J. M. (2023). AI in tertiary education: progress on research and practice. *Australasian Journal of Educational Technology*, *39*(5), 1-7.
- Crawford, J., Allen, K. A., & Lodge, J. (2024). Humanising Peer Review with Artificial Intelligence: Paradox or Panacea?. *Journal of University Teaching and Learning Practice*, *21*(1).