

# Leading change: education for a world of artificial intelligence

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DALL-E prompt: woman versus  
machine in the style of Manet



# GenAI in tourism and hospitality education

- *Personalised learning* eg chatbots
- *Online learning* eg “offline experiences in online environments”
- *Career preparations* eg “for blended teams” of AI and people
  
- Biases privacy and transparency
- Authorship and intellectual property

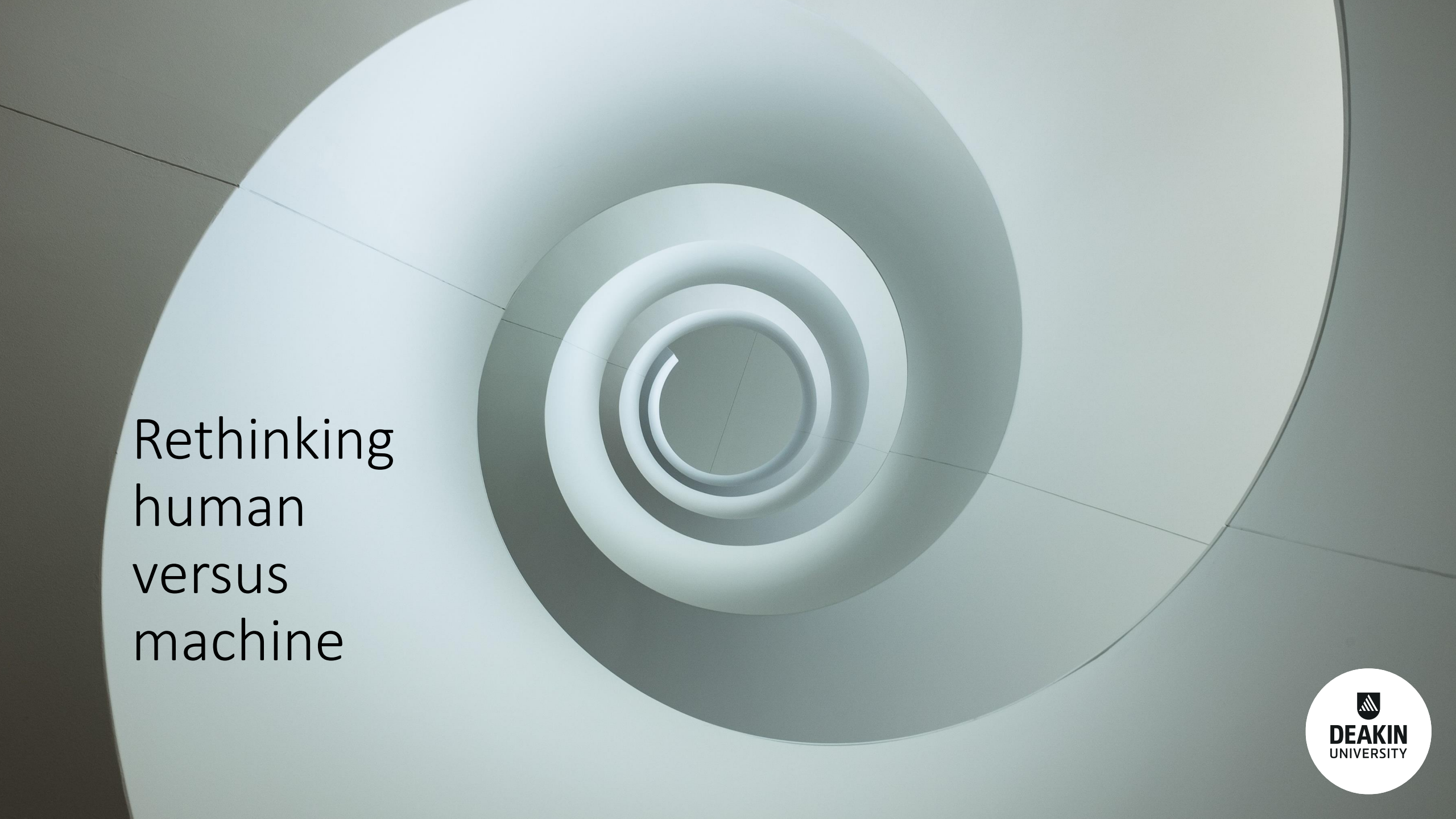
Dogru, T., Line, N., Hanks, L., Acikgoz, F., Abbott, J. A., Bakir, S., ... & Suess, C. (2023). The implications of generative artificial intelligence in academic research and higher education in tourism and hospitality. *Tourism Economics*, 13548166231204065.

# Structure of the keynote

1. **Rethinking** human versus machine
2. **Refocussing** how we teach
3. **Reforming** how we assess

BERA BLOG

<https://www.bera.ac.uk/blog/rethinking-artificial-intelligence-through-a-relational-lens>

The background features a series of concentric circles and a central spiral, all rendered in a light blue-grey color. The circles are semi-transparent, allowing the spiral and other circles to be seen through them. The overall effect is a sense of depth and movement, reminiscent of a tunnel or a futuristic architectural element.

Rethinking  
human  
versus  
machine

“... right now, higher education is at a major crossroads. The impact of massive shifts in society due to the Fourth Industrial Revolution, with the double whammy of COVID-19 leads to an entire sector requiring deep, urgent, radical change”

Macken, C., Hare, J., & Souter, K. (2021). Higher Education in the Time of Disruption. In *Seven Radical Ideas for the Future of Higher Education* (pp. 1-13). Springer, Singapore. p. 2.

ChatGPT has an extraordinary ability to statistically synthesise large amounts of text and present them in a coherent and often dialogic way.

For many educators and students, ChatGPT makes tangible the opportunities and challenges presented by AI.

# But how has the game changed?

## **Holy or unholy?**

Iskender, A. (2023). Holy or unholy? Interview with open AI's ChatGPT. *European Journal of Tourism Research*, 34, 3414-3414.

## **Ragnarok or reformation?**

Lim, W. M., Gunasekara, A., Pallant, J. L., Pallant, J. I., & Pechenkina, E. (2023). Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. *The International Journal of Management Education*, 21(2), 100790.



# *Potential* for genAI to change practices

“The infusion of technology, such as the use of generative AIs like ChatGPT, will aid in providing the required scale and scope to the organization's activities. ChatGPT will not completely replace personnel in the hospitality and tourism industry but rather augment them and enhance employee productivity. It will also give them the freedom to shift from monotonous work to more meaningful customer-related job responsibilities.”

Dwivedi, Y. K., Pandey, N., Currie, W., & Micu, A. (2023). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*.

# Alternatively

“ (i) no regulation of the AI market and urgent need for regulation, (ii) poor quality, lack of quality control, disinformation, deepfake content, algorithmic bias, (iii) automation-spurred job losses, (iv) personal data violation, social surveillance, and privacy violation, (v) social manipulation, weakening ethics and goodwill, (vi) widening socio-economic inequalities, and (vii) AI technostress.”

Wach, K., Duong, C. D., Ejdys, J., Kazlauskaitė, R., Korzynski, P., Mazurek, G., ... & Ziemia, E. (2023). The dark side of generative artificial intelligence: A critical analysis of controversies and risks of ChatGPT. *Entrepreneurial Business and Economics Review*, 11(2), 7-24.



# Human versus machine?

DALL-E prompt: Frankenstein monster  
in the style of Manet

# Persistent discourses of technology

We noted in a critical review of artificial intelligence in the higher education literature, the presence of two dualism:

- utopia-just-around-the-corner versus dystopia-is-now
- human versus machine

Bearman, M., Ryan, J., & Ajjawi, R. (2023). Discourses of artificial intelligence in higher education: A critical literature review. *Higher Education*, 86(2), 369-385.

# Survey of AI in professional practice

“... considering how AI might hinder or promote human-human relationships may be a particularly important to explore for those responsible for the education of health and school professionals. However, across [legal, teaching and health] professions, it may be that **we need to ensure that students understand AI is mundane as it is revolutionary. AI can make things more efficient, but it can also be inaccurate.**”



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In teaching and learning in higher education, we need to move beyond the binaries

# The AI interaction: a useful starting point

An AI interaction occurs when a person works with technology - and has to rely on that technology's judgement.



Photo by [charlesdeluvio](#) on [Unsplash](#)



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Prompt: who is Professor Margaret Bearman ChatGPT 4.0

A shift away from an AI as a particular technology, and towards a **contextualised relationship**.


This kind of thinking shifts the emphasis in teaching (and learning) from *what AI can do for us* and *what AI is doing to us* to *what we are doing together*.

Bearman, M., & Ajjawi, R. (2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. *British Journal of Educational Technology*.

# People and AI as part of a sociotechnical system

Dall-E prompt: people machines interwoven



An aerial photograph of a highly complex and intricate maze. The maze is constructed from thick, rounded hedges of vibrant green foliage, interspersed with small, bright red flowers. The paths are narrow and winding, creating a dense and confusing network. The maze is set in a garden with a dark, reflective water feature that winds through the paths. The overall scene is one of natural complexity and beauty.

Full of  
complexity,  
indeterminancy  
and ambiguity

Working with AI can be thought of as a dynamic, in-the-moment experience, rather than a singular, static position.

Our students can learn to judge the trustworthiness of AI interactions rather than take a fixed global view of AI.

And this also allows us to ‘future-proof’ against new and evolving technologies...

Bearman, M., & Ajjawi, R. (2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. *British Journal of Educational Technology*.

Refocussing  
how we  
teach





Who determines what counts as 'good'?

Photo by [Ben Wicks](#) on [Unsplash](#)

Think of current practices in your discipline or profession.

Why is something considered good? How do you know?

Are there things that are considered quality in one location and not in another?



What counts as “good quality” is a socially derived, evolving and contextual process.

Bearman, M., & Ajjawi, R. (2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. *British Journal of Educational Technology*.

Bearman, M., Dracup, M., Garth, B., Johnson, C., & Wearne, E. (2022). Learning to recognise what good practice looks like: how general practice trainees develop evaluative judgement. *Advances in Health Sciences Education*, 1-14.



We should orient our students to this process with all its complexity

Any AI interaction in practice will involve some sense of what 'good' should be.

Within an interaction, when do you trust, when do you doubt?

Bearman, M., & Ajjawi, R. (2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. *British Journal of Educational Technology*



Helping students understand what 'good' looks like

- In idealised knowledge situations – with or without AI
- In simulation – with or without AI
- In work-based learning – with or without AI

Becomes a framing approach for teaching in a time of generative AI.

# Physiotherapy case (Bearman & Ajjawi 2023)

Patient wants to be completely independent

Predictive AI algorithm thinks very limited independence based on profile

Disciplinary guidelines suggest there are areas of restriction but aren't conclusive for this patient.

Physiotherapy students can discuss different care plans.

- What kind of extra information might the physiotherapist need?
- Who else might the physiotherapist need to work with to ensure a positive outcome?
- What are the ethical challenges in weighting the patient's wishes, the professional judgement and the algorithmic recommendations?

Refocussing  
how we  
assess





Australian Government  
Tertiary Education Quality and Standards Agency

## Assessment reform for the age of artificial intelligence

September 2023

TEQSA

# Draft guiding principles for the HE sector



<https://www.teqsa.gov.au/guides-resources/resources/corporate-publications/assessment-reform-age-artificial-intelligence>

Assessment and learning experiences equip students to participate ethically and actively in a society pervaded with AI

AI represents a catalyst for change unlike anything else in the past. It does not just influence how students learning can be assessed, it also influences what is worth assessing and, consequentially, what and how students learn. This necessarily includes the ability to use AI tools, as well as a broader understanding of the ethics, limitations, biases, and implications of AI.

Forming trustworthy judgements about student learning in a time of AI requires multiple, inclusive and contextualised approaches to assessment

There is no single assessment type that can account for all desirable and undesirable uses of AI by students. Using multiple assessments of different types, when triangulated, provides greater trustworthiness and allows for practices that are more inclusive.





## Concluding comments

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1. Rethink the binaries: good AND bad, human AND machine
2. Refocus what we teach: from *what is this?* to *how do you know?*
3. Reform assessment: students to be active and ethical participants with credentials assured in multiple, inclusive and contextualised ways.



Questions?