ChatGPT: What have we learnt?
What do we need to learn next?

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What's happened in the last 3 months?

What can ChatGPT / Bing Chat do?
Myriad exciting demos **+** **a few evaluations**

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What can ChatGPT / Bing Chat do?	Turn that into a student activity
Myriad exciting demos + a few evaluations	**Myriad creative ideas for integrating ChatGPT into student tasks**

What's happened in the last 3 months?

What can ChatGPT / Bing Chat do?	Turn that into a student activity	Pilot + Evaluate
Myriad exciting demos + a few evaluations	**Myriad creative ideas for integrating ChatGPT into student tasks**	**Stories emerging from the field + research papers in press**

What's happened in the last 3 months?

What can ChatGPT / Bing Chat do?
Myriad exciting demos **+** **a few evaluations**

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Can large language models write reflectively

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- Yes they can

- Better than students

- An AI classifier was better than educators at distinguishing ChatGPT from student writing

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What's happened in the last 3 months?

Turn that into a student activity

Myriad creative ideas for integrating ChatGPT into student tasks

Mike Sharples (Open U, UK)

Role[6]	Description	Example of implementation
Possibility engine	AI generates alternative ways of expressing an idea	Students write queries in ChatGPT and use the Regenerate response function to examine alternative responses.
Socratic opponent	AI acts as an opponent to develop and argument	Students enter prompts into ChatGPT following the structure of a conversation or debate. Teachers can ask students to use ChatGPT to prepare for discussions.
Collaboration coach	AI helps groups to research and solve problems together	Working in groups, students use ChatGPT to find out information to complete tasks and assignments.
Guide on the side	AI acts as a guide to navigate physical and conceptual spaces	Teachers use ChatGPT to generate content for classes/courses (e.g., discussion questions) and advice on how to support students in learning specific concepts.
Personal tutor	AI tutors each student and gives immediate feedback on progress	ChatGPT provides personalized feedback to students based on information provided by students or teachers (e.g., test scores).
Co-designer	AI assists throughout the design process	Teachers ask ChatGPT for ideas about designing or updating a curriculum (e.g., rubrics for assessment) and/or focus on specific goals (e.g., how to make the curriculum more accessible).

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Needed: map the evidence landscape of successes + failures

Example: tracking effectiveness of Sharples' *ChatGPT roles* across contexts

Pilot + Evaluate

Stories emerging from the field + research papers in press

Role[6]	Context 1	Context 2	Context 3	Context 4
Possibility engine				
Socratic opponent				
Collaboration coach				
Guide on the side				
Personal tutor				
Co-designer				

Educators can now articulate what ChatGPT literacy looks like, the ability range in their cohort, and how to better scaffold students

Pilot + Evaluate

Stories emerging from the field + research papers in press

ChatGPT literacy template:

Context: <your course>

Task: <student assignment>

Capacity to engage critically:

- The most able students…

- The least able students…

Student critical engagement with ChatGPT
What we're learning at UTS

Context: Applied Natural Language Processing, Master of Data Science and Innovation

Task: Write a critical summary + visual map of ethical issues in NLP applications. Encouraged to use ChatGPT for a starter text or to improve their writing. Reflect on their use of it for learning.

Capacity to engage critically:

- The most able students could engage in deep conversations with AI using excellent prompts (and follow-up replies)

- Less able students used simple prompts to access content on the topic, and did not have a deeper discussion with AI

Dr. Shibani Antonette

Lecturer
Transdisciplinary School

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Student critical engagement with ChatGPT
What we're learning at UTS

Context: Interaction Design / School of Computer Science

Task: Students use ChatGPT to develop user personas, scenarios and ideate new design solutions, and reflect critically on it

Capacity to engage critically:

- The most able students could use ChatGPT effectively to get desired outputs: rich scenarios vividly describing personas' problem and future scenarios. (Yet no critical reflection of what makes an AI-generated outcome an appropriate or accurate response — related in part to the subjective nature of design practice)

- Less able students may still use ChatGPT to get good responses — but with even less reflection.

- Clearer guidance needed on effective, critical, and responsible use. More examples and in class activities should be offered

Dr. Baki Kocaballi

Senior Lecturer
Faculty of Engineering &
Information Technology

Student critical engagement with ChatGPT
What we're learning at UTS

Context: Mechanical Design Fundamental Studio 1

Task: Student teams building a robot encouraged to use ChatGPT, and reflect critically on it

Capacity to engage critically:

- The most able students use ChatGPT as a tool for ideation and brainstorming • refining presentation slides or speeches • checking calculations • seeking advice during component selection and comparison.

- Less able students tend to rely solely on ChatGPT's calculations without verifying accuracy • struggle to apply information in the context of their project.

- Some chose not to use ChatGPT: too much effort to direct it to do what they wanted it to achieve.

Dr. Anna Lidfors Lindqvist

Lecturer
Faculty of Engineering
& Information Technology

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Student critical engagement with ChatGPT
What we're learning at UTS

Context: Bachelor of Engineering (Civil Eng) – Soil Behaviour Subject (Year 2/3) – Research Project – Autumn 2023

Task: Assessing ChatGPT output quantitively and qualitatively against Finite Element Simulation using PLAXIS software for Soil-Structure Interaction problems

Capacity to engage critically:

- The most engaged students formulated meaningful queries after trial & error (often 4-7 trials) • distinguished between useful advice/common misconceptions/errors • more proficient in maths/physics and interpreting the data

- Least engaged students struggled to articulate their queries (too broad a question) • took AI's responses at face value with no critical assessment or identify errors or misconceptions • struggled to comprehend the significance of the data

A/Prof. Behzad Fatahi

**Subject Coordinator
School of Civil &
Environmental Engineering**

Needed: Concepts + evidence re. *"Generative AI Literacy for <u>Learning</u>"*

Conversational pedagogical agents are not new. Used well, they should move us towards more dialogical learning + feedback

Every turn in a conversation is a form of feedback — but…

- how do students engage with feedback, from humans and machines?

We have concepts + evidence pre-GenAI:

- Student feedback literacy* → student automated feedback literacy**

- Teacher feedback literacy*** → teacher automated feedback literacy
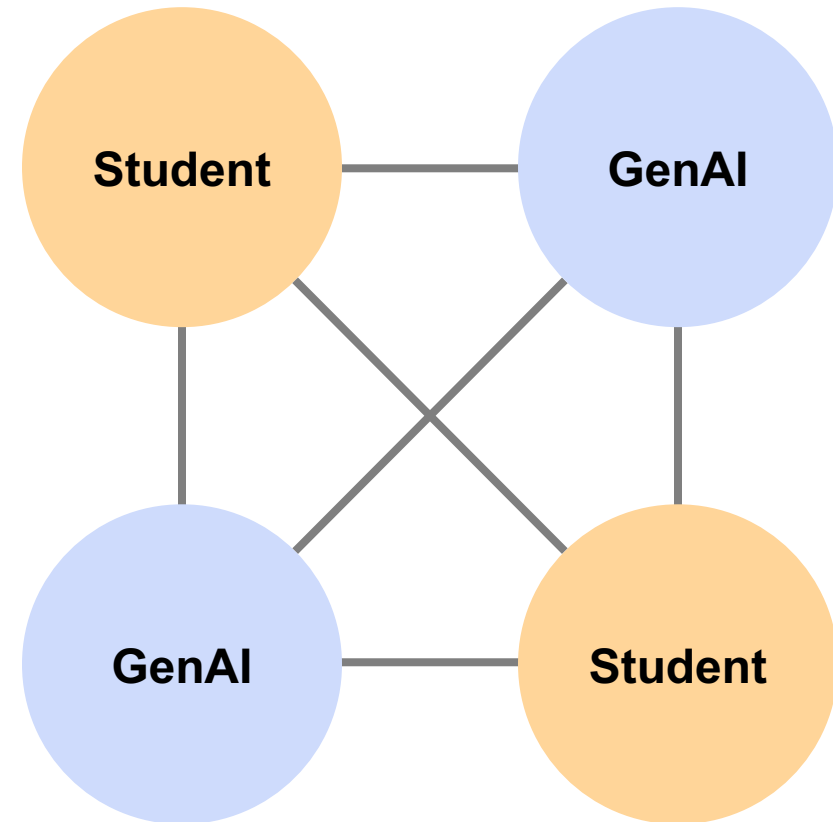
* Molloy, E., Boud, D. & Henderson, M. (2020) Developing a learning-centred framework for feedback literacy. *Assessment & Evaluation in Higher Education*, 45:4, 527-540. https://doi.org/10.1080/02602938.2019.1667955
** Shibani, A., Knight, S., & Buckingham Shum, S. (2022). Questioning learning analytics? Cultivating critical engagement as student automated feedback literacy. *Proc. LAK 2022*. https://doi.org/10.1145/3506860.3506912
*** Boud, D., & Dawson, P. (2021). What feedback literate teachers do: an empirically-derived competency framework. *Assessment & Evaluation in Higher Education*, 1-14. https://doi.org/10.1080/02602938.2021.1910928

Needed: Student Partnership in AI

Workshop in collaboration with the Students Association…

- >150 applicants → stratified sample of 20 students

- Pre-workshop readings and online discussion

- Half-day face-to-face workshop

- Briefings from UTS experts

  - introduction to generative AI

  - how ChatGPT is being integrated creatively into assessments at UTS

  - ethics of GenAI

  - Turnitin — turn it on?

- Breakout groups and plenary discussion → jointly approved report

3 things UTS students told us in our workshop

Equip us to use ChatGPT for **learning**

More assessments **integrating** ChatGPT

Turnitin? **Handle with care**

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What do we need to learn next? 3 questions…

What do we mean by GenAI literacy and how do we scaffold it?

How well do GenAI learning designs translate across contexts?

How do we engage our students in co-designing this radical shift with us?