USING ARTIFICIAL INTELLIGENCE IN LEARNING & TEACHING: OPPORTUNITIES AND CHALLENGES

BLENDED LEARNING COMMUNITY

Sharing and fostering good practice in blended learning across all disciplines for both educational practitioners and developers. The BL Community is collegial based and coordinated by A/Prof Yasir Al-Abdeli and Michelle Pedlow at ECU. We welcome members from staff at any Perth based university.

Edith Cowan University
Centre for Learning and Teaching

BL Community 12.12.2023 Wrap-up

0930 - 1000	**Settle-in, Morning tea courtesy of the School of Engineering, ECU**
1000 - 1005	**A/Prof Yasir Al-Abdeli, Associate Dean Learning and Teaching, School of Engineering, Edith Cowan University** Opening / Welcome, Acknowledgement of Country, and Housekeeping Agenda / Theme: Using Artificial Intelligence In Learning & Teaching: Opportunities And Challenges
	Themed Presentations
1005 - 1025	**(1) Dr Ghulam Mubashar Hassan, School of Physics, Maths and Computing, The University of Western Australia** ChatGPT and assessment integrity in engineering education
1025 - 1045	**(2) Dr Connie Price (SFHEA), Senior Learning Designer, Centre for Learning and Teaching, Edith Cowan University** Challenges and opportunities for GenAI in assessment
1045 - 1055	**Q&A time for presentations 1-2**
1055 - 1110	**(3) A/Prof Dimple Quyn, Faculty of Science and Engineering, Curtin University** Gen AI: Staff challenges, statistics and solutions
1110 - 1125	**(4) Zina Cordery, School of Education, Edith Cowan University** Learning opportunities using Gen AI image generation
1125 - 1135	**Q&A time for presentations 3-4**
	Upcoming Projects by BLC members: overview and seeking feedback or collaborators
1135 – 1150	**(5) Dr Muhammad Rizwan Azhar, School of Engineering, Edith Cowan University** Using AI to evaluate the depth of student learning and uphold academic integrity by generating student-specific questions
1150 – 1155	**Q&A time for presentation 5**
1155 - 1200	**Michelle Pedlow (SFHEA), Co-coordinator BLC, Senior Learning Designer, Centre for Learning and Teaching, Edith Cowan University** Open floor discussion, wrap-up, networking (to 1215)

https://intranet.ecu.edu.au/learning/academic-development/learning-communities/blended-learning-community

Want to be part of our Blended Learning Community?

Join us for our next event and **forward** this to other colleagues at ECU and any of Perth's based Uni's who may want to join the BL C

✉ y.al-abdeli@ecu.edu.au or m.pedlow@ecu.edu.au

Co-coordinators, BL C

Acknowledgements: Thank you to presenters for consenting to share their slides.

Access: Summary notes (slides) of earlier BL C activities:
https://intranet.ecu.edu.au/learning/academic-development/learning-communities/blended-learning-community

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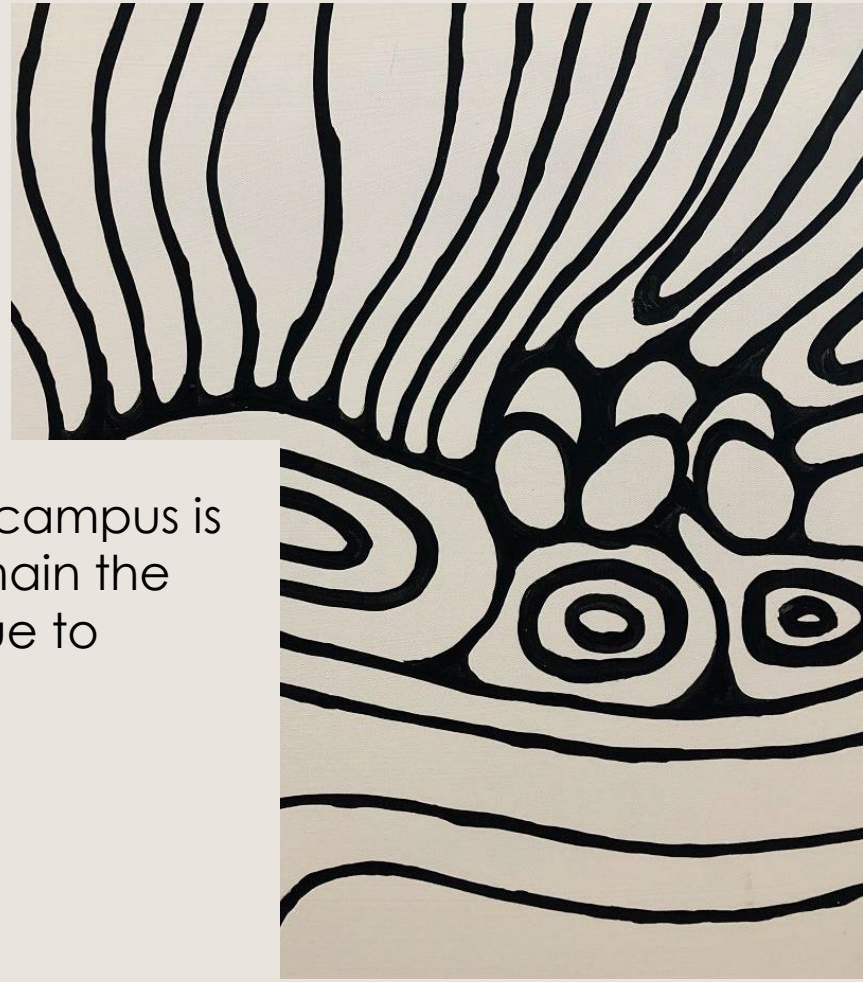
ChatGPT vs Assessment

Ghulam Mubashar Hassan
Senior Lecturer
Department of Computer Science & Software Engineering

12-Dec-2023

Acknowledgement of country

The University of Western Australia acknowledges that its campus is situated on Noongar land, and that Noongar people remain the spiritual and cultural custodians of their land, and continue to practise their values, languages, beliefs and knowledge.



Artist: Dr Richard Barry Walley OAM

Context

Engineering educators
- –Not AI or AI experts
- –7 Australian universities

Prompt engineering
- –Authors best efforts
- –Skill to be taught and learned

Fast changing field
- –Used ChatGPT 3 + some Wolfram Alpha
- –GPT4 released before paper submission
- –Many other tools

ChatGPT versus engineering education assessment:
A multidisciplinary and multi-institutional benchmarking and analysis of this generative artificial intelligence tool to investigate assessment integrity

EJEE 48:4 (2023) 559-614

DOI: 10.1080/03043797.2023.2213169

Purpose: S.W.O.T

- **Integrity strength** – How could it be strengthened?
- **Integrity Weakness** – Why was it weak?
- **Opportunity** – Understand how ChatGPT can be used to facilitate learning
- **Threat** – GPT4, Google Gemini and other tools where applicable and in scope

A multidisciplinary, multi-format investigation

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Tested assessments in our courses

- 1st Year Physics
- 1st Year Maths
- Introductory Programming
- Manufacturing Technology
- Engineering Laboratory
- Sustainable Product Engineering and Design
- Renewable Energy and Electrical Power
- Professional Comms & Workplace Practice
- Technology in Society
- Engineering Research

Classified by category

- Online Quizzes
- Numerical (Assignments and Exams)
- Code submission
- Oral assessments
- Visual/graphical tasks
- Written (Experimentation/Lab-based)
- Written (Project-based)
- Written (Reflection/Critical Thinking-based)
- Written (Research-based)

Evaluating performance

Required prompt engineering

- N/A : can't present
- None required
- Minor modification
- Major modification
- Fail : output resulted would fail

Student needs to know what a good/correct looks like

Expected student outcome

- Pass (or more)
- Fail
- Component Pass
- Borderline/Possible Pass

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Online quizzes & numerical questions

Online Quizzes

Subject 1	Theory based understanding	15%	Calculation based questions	**Pass**	**100%**	**minor**
Subject 2	Moodle Quiz	5%	Covers multiple choice, true and false and matching question predominately related to emotional intelligence topics from subject reading	**Pass**	**58%**	**minor**
Subject 3	Online Quizzes	10%	Questions related to theoretical and conceptual understanding of carrying out research	**Pass**	**52%**	**none**
Subject 4	Introductory Quiz	5%	Consists mainly of MCQs with essay/verification responses	Fail	15%	**fail - none**
Subject 5	Summative quiz	15%	Summative quiz on preceding weeks	**Yes**	**80%**	**none**
Subject 6	Quizzes	10%	Weekly quizzes worth 1% each consisting of four multiple-choice questions each quiz. Testing content from the entire session.	**Pass**	**60%**	**minor**
Subject 7	In-semester tests	30%	Online quiz on renewable energy fundamentals involving descriptive questions, calculations and design.	**Pass**	**60%**	**minor**
Subject 8	Weekly Labs	10%	Covered Python fundamentals, writing functions, conditions and simple loop, strings and lists, and dictionaries and more	**Pass**	**87%**	**minor**
Subject 9	End of session exam	50%	Closed book exam conducted online	**Pass**	**70%**	**minor**

Numerical (Assignments & Exams)

Subject 1	Assignment 1	3%	Full solutions to set questions on indices, inequalities, summations, straight lines and matrix multiplication.	**Pass**	**70%**	**minor**
Subject 1	Assignment 2	6%	Full solutions to set questions on trig identities, solving polynomials with complex numbers, sketch a function, eigenvalues and eigenvectors of a matrix, inverse matrices.	**Pass**	**50%**	**Minor**
Subject 1	Assignment 3	11%	Full solutions to set questions on implicit differentiation, parametric differentiation, cross product and dot product of vectors (and their interpretation), intersection of lines in 3 dimensions.	**Pass**	**79%**	**Major**
Subject 1	Mid-Session Exam	35%	Exam containing True/False, Multiple choice and short-answer questions on Fundamentals, Complex Numbers, Functions, Matrices.	**Fail**	**43%**	**Minor**
Subject 1	Final Exam	35%	Exam containing True/False, Multiple choice and short-answer questions on Differentiation, Integration and Vectors	**Pass**	**65%**	**Minor**
Subject 2	Intra-Session Exam 1 - class test	25%	Exam. In practice this is a closed-book exam conducted in class	**Pass**	**66%**	**none – major**
Subject 2	Intra-Session Exam 2 - data analysis test	15%	Exam. In practice this is a closed-book exam conducted in class	**Fail**	**36%**	**none – major**
Subject 3	Final Exam	50%	Exam. In practice closed book in-person	**Pass**	**64%**	**minor – major**

SWO: Online Quizzes & Numerical Questions

Strengths

- Figures and Tables
- Questions with a specific context e.g., from lecture notes or reading
- AI weak in some advanced maths used in engineering

Weaknesses

- AI successful for tests of theoretical knowledge and simple calculations.
- Random variables no longer strong integrity measure.
- ChatGPT would receive partial marks for more complex questions.

Opportunities

- Online quizzes were generally used as a low-stakes assessments
- Use as content/engagement check – learning tool – not assessment
- Use AI to support student learning, rather than misrepresent it
  - could provide students with free and highly capable tutoring
  - Increase equity and accessibility of personal tutoring

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Oral & Visual assessments tasks

Oral assessments

Subject 1	Industry Project Final Presentation	5%	Students in their teams present initial ideas of their project to the industry client	**Fail**	**N/A**	**N/A**
Subject 1	Class Participation – Second Session	5%	Frequency and quality of discussion in weekly tutorials	**Fail**	**N/A**	**N/A**
Subject 2	Presentation	10%	Presentation of research work	**Possible Pass**	**N/A**	**minor (script)**
Subject 3	Proposal defence	9%	Interview about each proposed experiment	**Possible Pass**	N/A	**major (script)**
Subject 3	Final Seminar	20%	Students provide a team-based presentation reflecting on their learning over the course	**Possible Pass**	N/A	**minor (script)**
Subject 4	Group project - Pitch	5%	2-3 minutes Pitch of the recommended option	**Possible Pass**	**N/A**	**minor (script)**
Subject 5	Individual interview and ePortfolio (interview part)	15%	Interview with questions taken from the student ePortfolio submission to verify it is their own work/their understanding of the subject.	**Fail**	**N/A**	**N/A**
Subject 5	Renewable Energy Design Project (Presentation)	5%	Presentation on design project outcomes	**Possible Pass**	**N/A**	**minor (script)**
Subject 5	Renewable Energy Design Project (Individual progress Presentation)	5%	Presentation on the progress of design project	**Possible Pass**	**N/A**	**minor (script)**

Visual / graphical tasks

Subject 1	Introduction Chapter	2%	Draw a mind map connecting ideas between articles from the template	**Fail**	**N/A**	**N/A**
Subject 2	Stakeholder mapping	3%	List and map key stakeholders in that technology	**Fail**	**N/A**	**N/A**
Subject 2	Stakeholder persona	5%	Develop a persona using a template diagram featuring name & image, behaviours & actions, demographic details, and needs & pain points	**Pass**	**N/A**	**major**
Subject 3	Career Ready Skills	1%	Provide evidence of e-portfolio entries	**Fail**	**N/A**	**N/A**
Subject 3	Career Portfolio	7%	Build a website demonstrating your career	**Fail**	**N/A**	**N/A**

SWO: Oral and visual assessment tasks

Strengths

- Can't replace students in classroom
- Questioning can probe knowledge
- Participation in impromptu discussions
- Current apps not integrated capabilities

Weaknesses

- ChatGPT / CoPilot create script & slides
- Deep fakes / avatars in online seminars
- Deviation from learning objective of presentations
- Mindful of inclusion factors

Opportunities

- Developing oral communication skills
- Focus on Q&A aspects
- For now, provide valid creative assessment and assessment of creativity
- AI can give all students access to high quality visuals

Written Assessments

Written (Experimentation)

Subject 1	Experiment proposals	21%	Experimental proposal	**Component Pass**	**N/A**	**major**
Subject 2	Lab work and report	10%	Students write up a final technical report covering the four lab sessions and their findings	**Component Pass**	**N/A**	**minor – major**
Subject 3	Practical	25%	Laboratory report marked at the end of the class	**Component Pass**	**N/A**	**minor**
Subject 4	Lab Report	15%	Lab report based on students completing laboratory activites	**Component Pass**	**N/A**	**minor – major**
Subject 5	Technical reports	45%	Technical report documenting the results of their experimental investigations and interpreting their meaning.	**Component Pass**	**N/A**	**major**

Student needs to know the work!

Written (Research)

Subject 1	Assignment 1	20%	Assignment questions requiring interpretation of figures and multi-level questioning	**Fail**	**N/A**	**N/A**
Subject 1	Progress Check	5%	Literature Planner: Complete a template that guides students to extract understanding from the articles they read	**Fail**	**N/A**	**N/A**
Subject 1	Introduction Chapter	0%	Literature Planner: Completed template based on Assessment 1 (Needed for other components)	**Fail**	**N/A**	**N/A**
Subject 1	Introduction Chapter	18%	Introduction: Write a thesis introduction chapter based on previous activities	**Fail**	**N/A**	**N/A**
Subject 1	Final Report	5%	Abstract	**Fail**	**N/A**	**N/A**
Subject 1	Final Report	3%	Introduction	**Fail**	**N/A**	**N/A**
Subject 1	Final Report	33%	Literature Review	**Fail**	**N/A**	**N/A**
Subject 1	Final Report	10%	Research Design	**Fail**	**N/A**	**N/A**
Subject 1	Final Report	0%	Literature Planner (0%): Used as per Ass 1 and 2a	**Fail**	**N/A**	**N/A**
Subject 2	Topic summary	5%	Summary of technology topic	**Possible Pass**	**N/A**	**Minor**
Subject 2	Stakeholder stake	6%	Tabulated summary of stakeholder's power and interest in the technology	**Possible Pass**	**N/A**	**Minor**

Written (Project based)

Subject 1	Industry project- Final report	30%	Student teams provide a very detailed report outlining the solution to the client problem.	**Possible Pass**	**N/A**	**minor (Small specific components only)**
Subject 1	Client Research	4%	Students needed to undertake preliminary background research on the industry client that they would be working with	**Possible Pass**	**N/A**	**minor (Small specific components only)**
Subject 2	Group project - Technical research task	10%	Research and complete critical review of journal within 12 months	**Fail**	**N/A**	**Fail**
Subject 2	Group project - Preliminary report	20%	Preliminary report on options of the project solution	**Possible Pass**	**N/A**	**minor (Only if student builds upon it with quality references)**
Subject 2	Group project - Final report	20%	Final report of project	**Possible Pass**	**N/A**	**minor (Only if student builds upon it with quality references)**
Subject 3	Renewable Energy Design Project (Report)	20%	Scope requirements, complete design, report outcomes. Utilise software tools (System Advisor Model, HOMER Pro, Matlab-Simulink)	**Fail**	**N/A**	**Fail**
Subject 4	Stakeholder's stake	5%	Explanation of each stakeholder's power and interest in the technology [individual	**Fail**	**N/A**	**Fail**
Subject 4	Stakeholder consultation	6%	Stakeholder engagement plan with those stakeholders in regard to that technology. [group]	**Pass**	**N/A**	**major**

Written (Reflective + Critical Thinking)

Subject 1	Weekly Worksheets	30%	Weekly worksheets covering topics such as engineering, society & technology; code of ethics; policy; stakeholders; sustainability;	**Component Pass**	**N/A**	**none-major**
Subject 2	Critique	5%	Students must critique research presentations from other students and compare against their own	**Fail**	**N/A**	**minor**
Subject 3	Class participation	10%	Reflective writing on guest lecturer and research on on inspiring alumni	**Possible Pass**	**N/A**	**major**
Subject 3	Class participation	5%	Reflective writing on class activity/workshop	**Pass**	**N/A**	**minor-major**
Subject 3	Team evaluations	10%	Quantitative and Qualitative feedback to team members and their contribution.	**Pass**	**N/A**	**minor-major**
Subject 3	Peer evaluation	5%	Quantitative and Qualitative feedback to peer on their Pitch	**Pass**	**N/A**	**minor-major**
Subject 4	Incorporation of feedback	6%	Table summarising how they have incorporated feedback into their final submission	**Fail**	**N/A**	**minor**
Subject 5	Career Portfolio	3%	Reflection with evidence	**Component Pass**	**N/A**	**minor**
Subject 5	Job Application Process	4%	Selection criteria	**Pass**	**N/A**	**minor**
Subject 5	Career Ready Skills	4%	Reflective Letter (communicating skills still in need of development)	**Pass**	**N/A**	**minor**
Subject 5	Client Research	1%	Reflection on how they feel on the industry project assigned to them	**Pass**	**N/A**	**minor**

SWO: Written (Project & Reflection)

Strengths

- ChatGPT can't undertake the project work
- Word count : AI is limited to produce output
- Require in depth insights or integration of other software programs
- Correct citation and/or information

Weaknesses

- Provides useful generic information and answers
- Helps to get started on (new) projects

Opportunities

- AI software can be used to support student learning on written types assessments
- Make students aware of some examples of benefits and pitfalls
- *"Treat AI software as that unreliable 6th member of your team!"*

Coding Assessments

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Coding assessments

Subject 1	Weekly Labs	10%	Covered Python fundamentals, writing functions, conditions and simple loop, strings and lists, and dictionaries	**Pass**	**87%**	**none**
Subject 1	Project 1	15%	Required to write a program to read CSV file and provide statistical outputs	**Fail**	**30%**	**major**
Subject 1	Project 2	20%	Required to write a program to read CSV file and provide statistical outputs but of higher complexity as compared to Project 1	**Fail**	**0%**	**major**
Subject 1	Final Exam	55%	Exam. In practice this is a closed book and notes exam.	**Pass**	**100%**	**minor**

SWO: Coding

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Strengths

- Computational thinking skills
- Analysis of data
- Interaction with images and CSV files
- Generalized solutions

Weaknesses

- Any straightforward and simple
- Helps to get started on new projects

Opportunities

- AI software can be used to support student learning on simple programming
- Make students aware of some examples of benefits and pitfalls
- Students can learn to program in different language by using computational thinking skills
- *Computational thinking skills will be highly required rather than coding*

Conclusion

Findings: ChatGPT vs Assessments

Assessment type	n	Student outcome	Prompt engineering	Headline
Online Quizzes	9	8 Pass – 1 Fail	None – Minor	

Final Thoughts

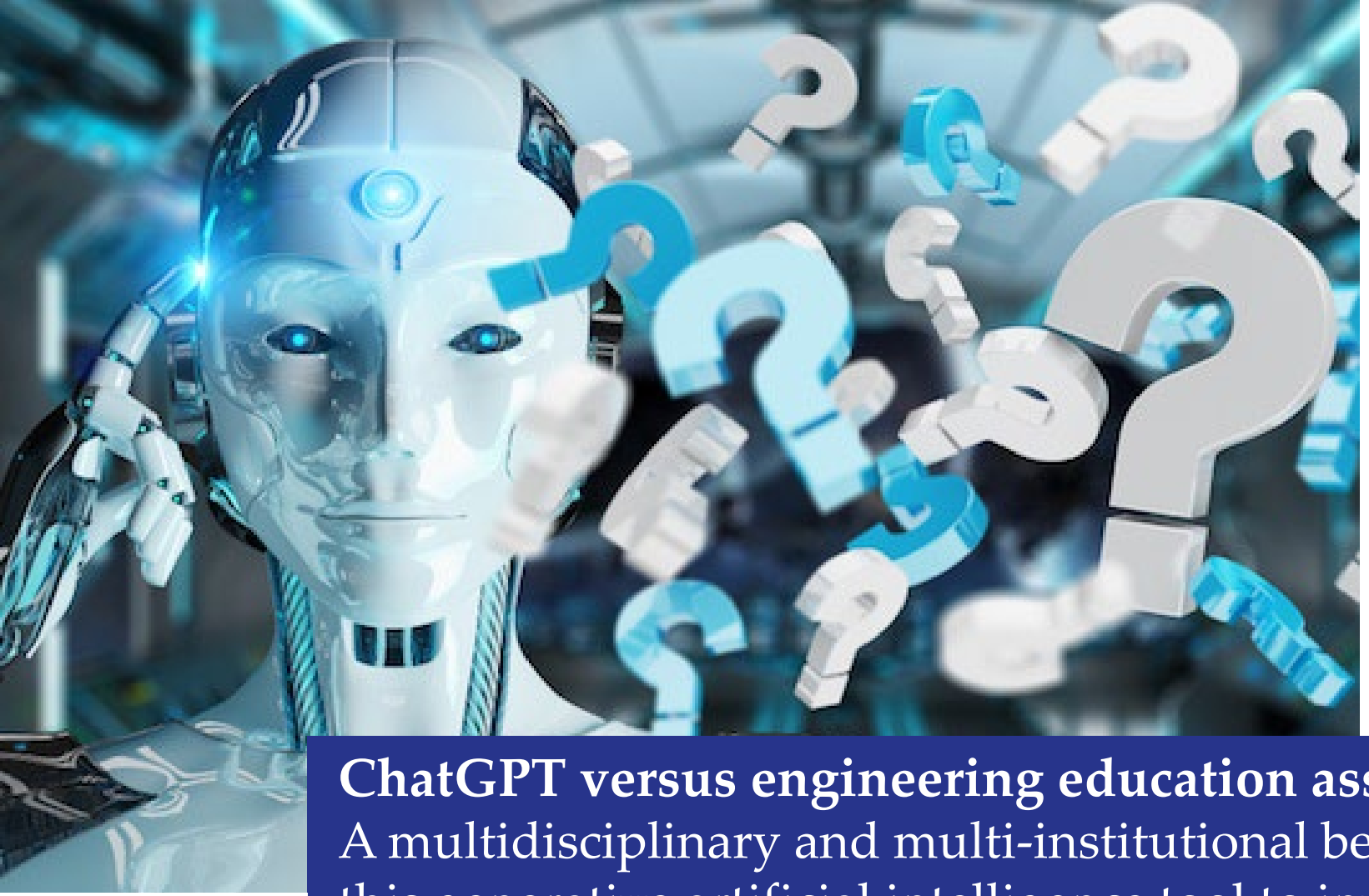
1. How could you use ChatGPT in your teaching?
2. What should/could you change in your current assessment regime to make it more robust, reduce the risk of academic misconduct and/or incorporate the use of ChatGPT (if there is a pedagogical benefit)?

Recommendations

- Understand capabilities will improve (e.g., visuals)
- No easy solution (e.g., process, reflection, authentic style)
- Think about learning objective
  - Oral: Presentation skills or content knowledge
  - Lab: Report writing, problem solving skills, kinesthetics
- Require thorough prompt engineering
- Engagement with tools
  - Ideation
  - Scaffolding
  - Refining clarity
  - Understand limits – critical thinking

Australasian Artificial Intelligence Engineering Education Centre (A²IE²)

- AAEE AI in Engineering Education Special Interest Group (AAEE AIEE SIG) https://www.linkedin.com/groups/14354485/
- Engineering Education Research Design Award 2023
- Australasian Association of Engineering Education Research Grant 2023
- 5th Most read article of all time in European Journal of Engineering Education in 2 months
- Members (7 universities):
  - Marina Belkina (WSU)
  - Rezwanul Haque (USC)
  - Peter Neal (UNSW)
  - Scott Daniel (UTS)
  - Ghulam Mubashar Hassan (UWA)
  - Sasha Nikolic (UOW)
  - Sarah Grundy (UNSW)
  - Sarah Lyden (UTAS)
  - Caz Sandison (UOW)



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Questions

ChatGPT versus engineering education assessment:
A multidisciplinary and multi-institutional benchmarking and analysis of this generative artificial intelligence tool to investigate assessment integrity

European Journal of Engineering Education 48:4 (2023) 559-614
https://www.tandfonline.com/doi/full/10.1080/03043797.2023.2213169

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Artificial Intelligence in Assessment

Opportunities and Challenges

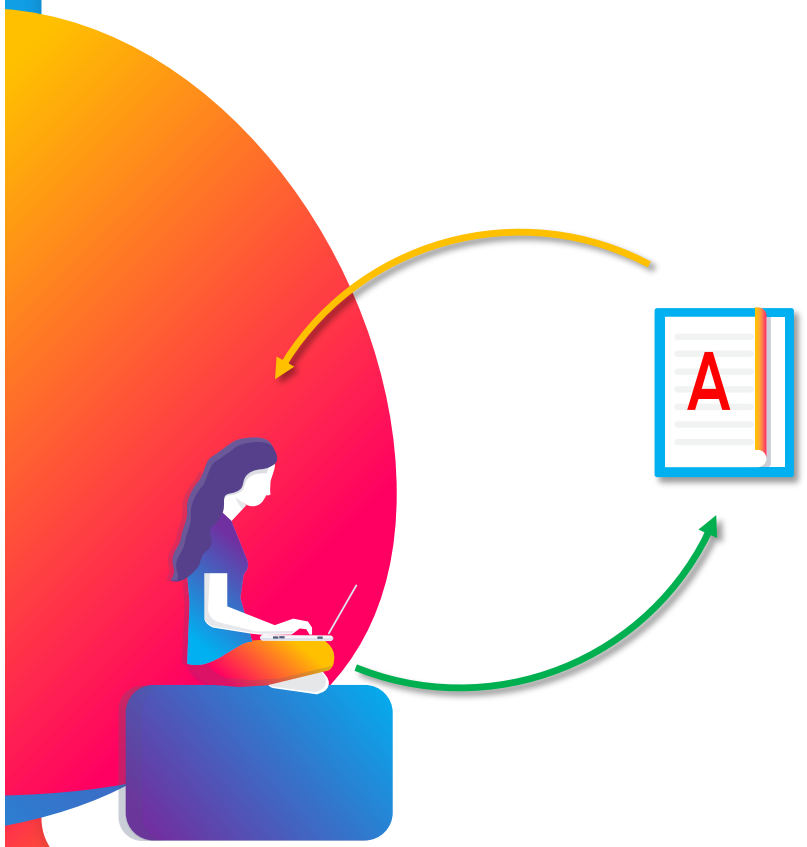
2023

The year Assessment changed FOREVER

The Challenge of Assessment

- Cannot directly measure learning

Inferences about Learning



- Student does some learning
- Submits their work
- Assessor makes judgements about
  - the quality of the work
  - if the task brief was met
- We make inferences about
  - the learning
  - development of skills

Increasing concerns about provenance

Is it the student's work?

Collusion

Contract Cheating

Generative AI

Concern

Alarm

Extend Focus and Evidencing

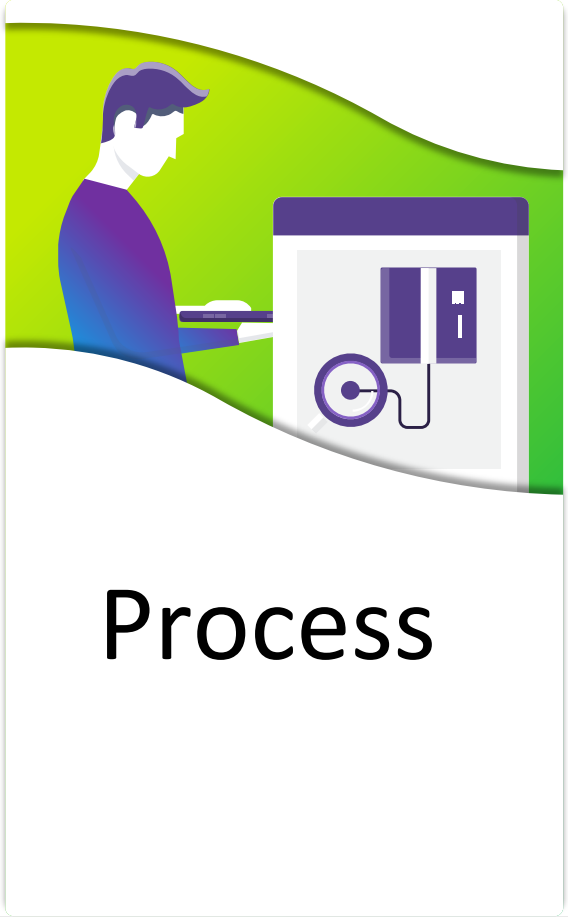
Jason Lodge, July 2023

“transitioning assessment design to allow inferences to be made on the basis of evidence of learning processes, rather than artefacts of this process [products], as a means of adapting to generative AI.”

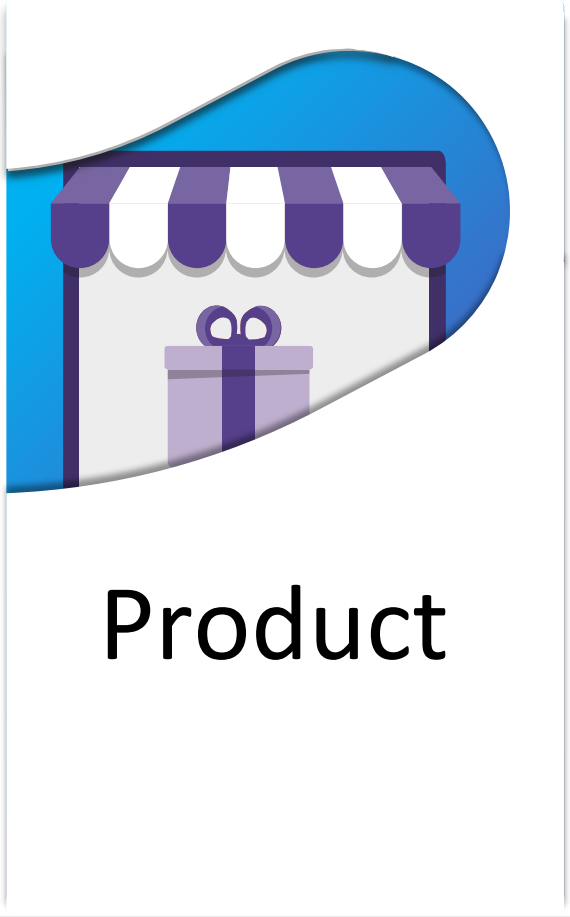
“Learning is not just about outcomes; it is a developmental process that occurs over time.”

“Assessing learning processes aligns more closely with the core goals of education, which encompass not only the transfer of knowledge, but the cultivation of lifelong learning skills.”

https://is.gd/9Vat2D



Process

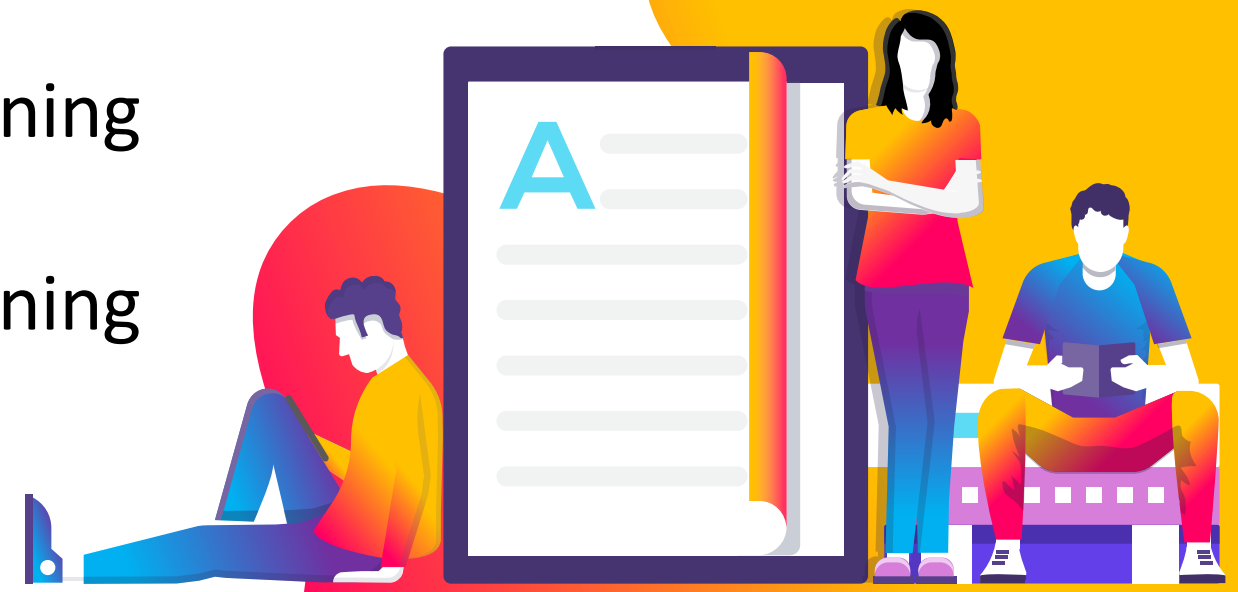


Product

Assessment OF Learning

Assessment FOR Learning

Assessment AS Learning



1

What Learners can do

WITHOUT

Artificial Intelligence

2

What Learners can do

3

What Learners can do

WITH

Artificial Intelligence

Danny Liu, Uni Sydney July 2023 https://is.gd/nzuaG5

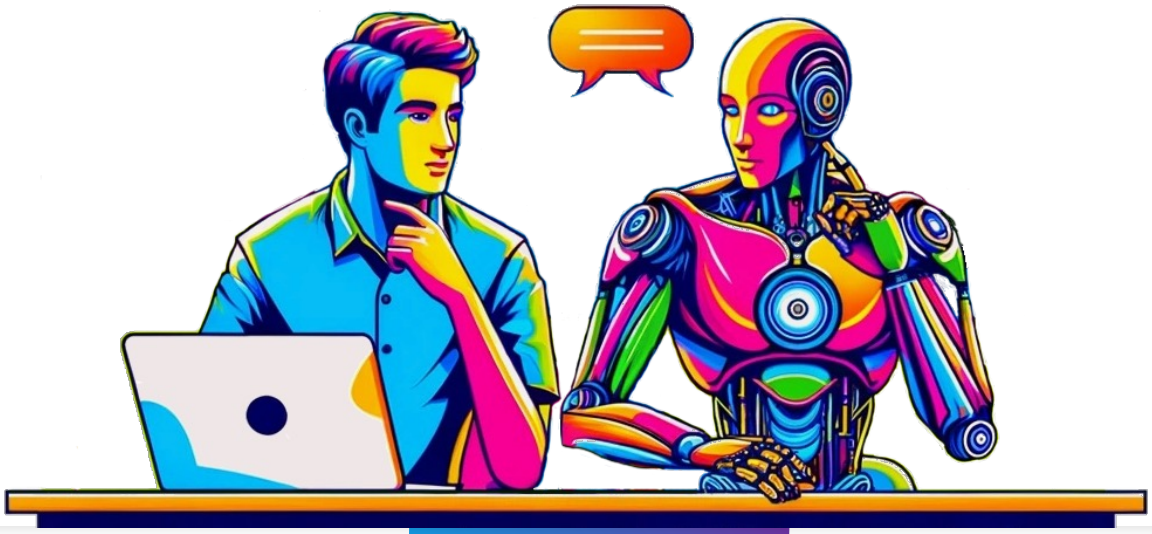
Weaving in AI

- Multi-stage assessments
  - Gather evidence for each step
- Distinguish between

  Human Intelligence (HI) and

  Artificial Intelligence (AI)
- Evidence specific aspects of HI
  - Critical thinking
  - Judgement
  - Metacognition
    - Reflection
    - Think aloud
  - Human skills & capabilities

Task 1	HI + AI collaboration	Work with a GenAI agent to generate ideas for a new [drink] in markets that are underserved.
Task 2	HI independent	Identify what you think is the best idea. Consider that you are working for an [advertising agency]. Explain why/how you made your selection so that your boss and colleagues in your team can understand your thinking.
Task 3	HI + AI collaboration	Work with a GenAI agent to develop a potential prototype [drink]. Write a paragraph (3-4 sentences) describing the [drink] in vivid detail. Come up with at least 4 possible names for the product.
Task 4	HI independent	Identify what you think is the best combination of name and description. Pitch your new product to boss and colleagues in your team.



Dell'Acqua et al, 2023

https://is.gd/6tstta

CoPilots, Assistants, and Agents are coming

ChatGPT - Product Development Activity

A conversational AI system that listens, learns, and challenges

chat.openai.com

ChatGPT4+ required to run

Curtin University

GenAI: Staff challenges, statistics and solutions

Dean Learning and Teaching, Faculty of SAE, Dec 2023 @ ECU Joondalup

Curtin University

Staff Challenges

1. Communication of a clear national and local policy framework
2. Staff professional development
3. Navigating assessments and learning outcomes
4. Teaching the first cohort of students in 2024 who have used GenAI in high school

Staff Challenges

- Communication of a clear national and local policy framework
  - EU AI Act
  - The UK's 2023 AI Safety Summit
  - US President Biden's Executive Order -> mandated setting up educational programs to develop AI skills within the US workforce
  - Chinese AI regulations
  - Australia
  - Universities

Academic integrity, assessment and AI

- Academic integrity in the context of artificial intelligence (ICMS)
- Artificial intelligence content generators for schools and universities good practice guide (University of Wollongong in Dubai)
- ChatGPT and academic integrity: Options for adapting assessment in semester 1, 2023 (The University of Melbourne)
- Designing assessment for artificial intelligence and academic integrity (Flinders University)
- Generative AI and assessment (Monash University)
- Generative artificial intelligence guidelines (Australasian Academic Integrity Network) (PDF, 237 KB)
- Quick-start guide for adapting to AI (University of Technology Sydney)
- Rethinking assessment in response to AI (The University of Melbourne)
- Summary of institutional responses to the use of Generative Artificial Intelligence (Australasian Academic Integrity Network) (PDF, 417 KB)

Generative AI in research

- Thinking about using AI in your research? Read this first (Deakin University)
- Research Integrity Resource Sheets: #17 artificial intelligence and research outputs (Griffith University)
- Using AI tools in research (Flinders University)
- Authorship and AI tools (COPE)
- Policy on use of generative artificial intelligence in grant applications and peer review (National Health and Medical Research Council)
- Policy on use of generative artificial intelligence in the ARC's grant programs (Australia Research Council)
- Using generative AI in research - 10 tips (TEQSA)

Incorporating AI in your classes

- AI for teaching and learning in higher education (University of South Australia)
- How AI can be used meaningfully by teachers and students in 2023 (The University of Sydney)
- So you want to use ChatGPT in the classroom this semester (Dr Ben Swift, Australian National University)

https://www.teqsa.gov.au/guides-resources/higher-education-good-practice-hub/artificial-intelligence#international-approaches

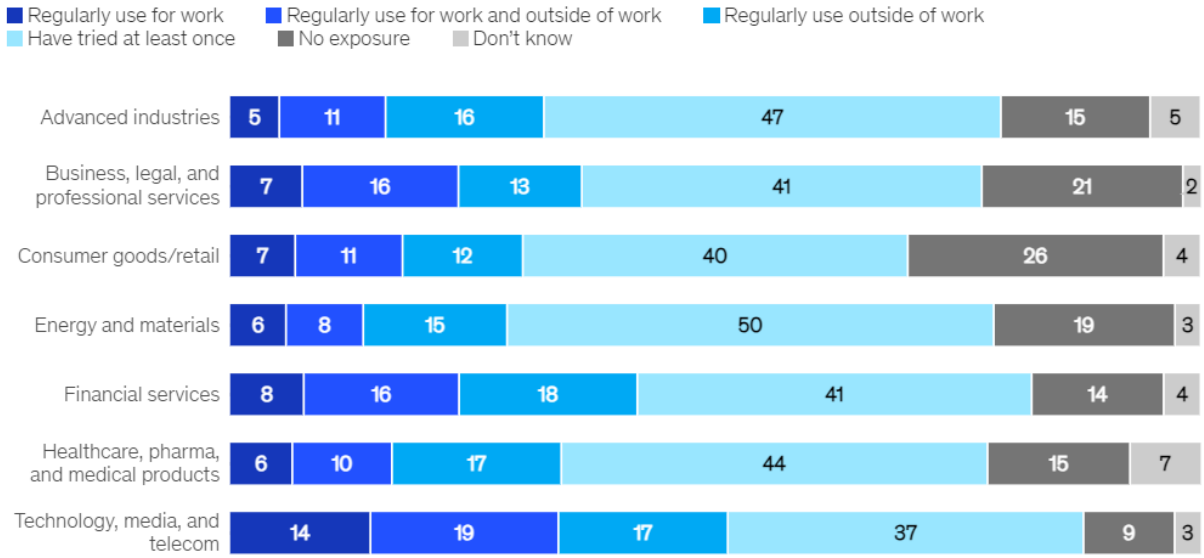
Staff Challenges

- Staff professional development

Respondents across regions, industries, and seniority levels say they are already using generative AI tools.

Reported exposure to generative AI tools, % of respondents

Select demographic: By industry



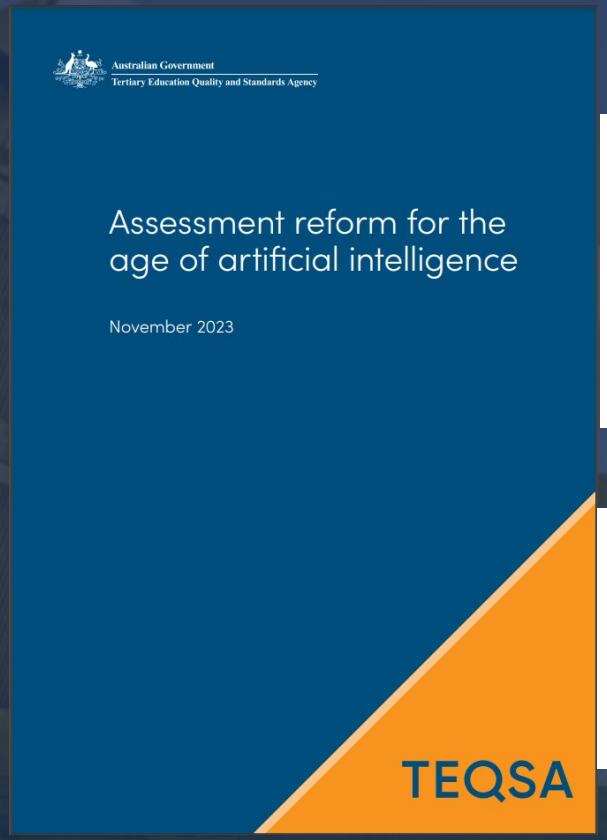
Note: Figures may not sum to 100%, because of rounding. In Asia–Pacific, n = 164; in Europe, n = 515; in North America, n = 392; in Greater China (includes Hong Kong and Taiwan), n = 337; and in developing markets (includes India, Latin America, and Middle East and North Africa), n = 276. For advanced industries (includes automotive and assembly, aerospace and defense, and advanced electronics), n = 96; for business, legal, and professional services, n = 215; for consumer goods and retail, n = 128; for energy and materials, n = 96; for financial services, n = 248; for healthcare, pharma, and medical products, n = 130; and for technology, media, and telecom, n = 244. For C-suite respondents, n = 541; for senior managers, n = 437; and for middle managers, n = 339. For respondents born in 1964 or earlier, n = 143; for respondents born between 1965 and 1980, n = 268; and for respondents born between 1981 and 1996, n = 80. Age details were not available for all respondents. For respondents identifying as men, n = 1,025; for respondents identifying as women, n = 156. The survey sample also included respondents who identified as "nonbinary" or "other" but not a large enough number to be statistically meaningful.
Source: McKinsey Global Survey on AI, 1,684 participants at all levels of the organization, April 11–21, 2023

McKinsey & Company

https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2023-generative-ais-breakout-year

Staff Challenges

- Navigating assessments and learning outcomes



1. Assessment and learning experiences equip students to participate ethically and actively in a society where AI is ubiquitous

AI represents an urgent catalyst for change. It does not just influence how student learning can be assessed, it also influences what is worth assessing and, consequently, 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. While acute issues relate to academic integrity, the longer-term challenge for assessment design will be to incorporate these new technologies into higher education in a thoughtful and evidence-informed manner.

Responding to the risk posed by generative AI needs to focus not only on what is inappropriate but also on what is appropriate.

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

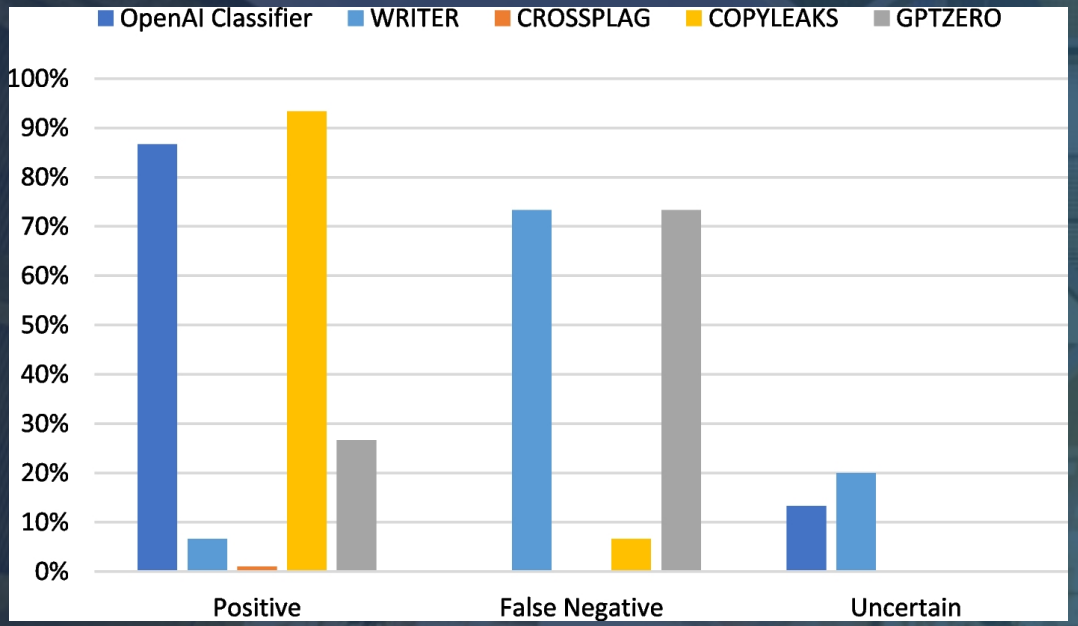
There is no single assessment type that can account for all desirable and undesirable uses of AI by students. Using multiple assessments of different types, when triangulated, provides greater trustworthiness and allows for practices that are more inclusive. This principle captures an approach to assessment design that is increasingly necessitated by the introduction of generative AI.

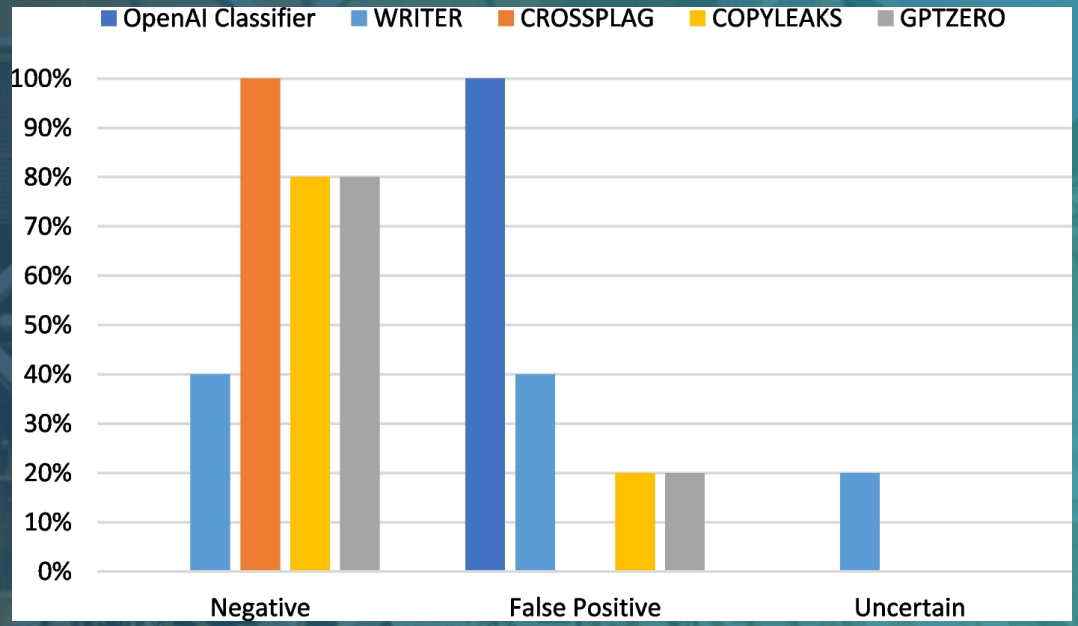
Assessment should emphasise:

1. …appropriate, authentic engagement with AI
2. …a systematic approach
3. …the process of learning
4. …opportunities for students to work together and with AI
5. …security at meaningful points across a program

Statistics

- Curtin student Gen AI *lodged* misconduct has increased by 135% compared to 2022
- Over-reliance on AI detection





Elkhatat, A.M., Elsaid, K. & Almeer, S. Evaluating the efficacy of AI content detection tools in differentiating between human and AI-generated text. *Int J Educ Integr* **19**, 17 (2023). https://doi.org/10.1007/s40979-023-00140-5

Curtin University

Statistics

- Student perceptions and use of GenAI

Characteristic	n	%
Sex		
Male	204	51.1%
Female	195	48.9%
Academic level		
Undergraduate	177	44.4%
Postgraduate	222	55.6%
Major		
STEM	221	55.4%
Non-STEM	173	43.4%
Have you ever used generative AI technologies like ChatGPT?		
Never	133	33.3%
Rarely	87	21.8%
Sometimes	116	29.1%
Often	39	9.8%
Always	24	6.0%

Table 1 Demographic Information

Student Perception of GenAI Technologies

Benefits related to	Challenges concerning
1. Personalized and immediate learning support	1. Accuracy and transparency
2. Writing and brainstorming support	2. Privacy and ethical issues
3. Research and analysis support	3. Holistic competencies
4. Visual and audio multi-media support	4. Career prospects
5. Administrative support	5. Human values

Table 5 Benefits and Challenges on Generative AI Technologies from Student Perception

Chan, C.K.Y., & Hu, Wenjie. Students' Voices on Generative AI: Perceptions, Benefits, and Challenges in Higher Education. *Int J Educ Tech in Higher Educ* **20**, 43 (2023). https://doi.org/10.1186/s41239-023-00411-8

Curtin University

Solutions

1. University – staff MOOCs/short courses and regular PD on familiarity with GenAI tools; start with Microsoft Co-Pilot and ChatGPT?
2. School/discipline level – working with staff on individual and course-level learning outcomes and assessments; brainstorming best practice for a variety of assessment types, and using GenAI in setting up assessment
3. Staff – ChatGPT account on OpenAI, working with Microsoft Co-Pilot, teaching *and* assessment

Microsoft has announced the first Australian customers to receive access to Microsoft 365 Copilot as part of the invitation-only global Early Access Program. Among the first are Microsoft customers AGL, Data#3, Bupa, NAB, Powerlink Queensland, Rest Super and Suncorp.

Curtin University

Solutions

GenAI_Dec2023_ECU

https://forms.office.com/r/aGn1t2jGup

GenAI_Dec2023

28	01:10	Active
Responses	Average time to complete	Status

1. What is your main role at University?

Teaching academic	6
Teaching & research academic	13
Research academic	1
Professional staff	8
Other	0

2. How confident are you to integrate GenAI tools into your teaching and/or assessemnts in 2024?

Extremely confident	7
Somewhat confident	11
Neutral	5
Somewhat not confident	5
Extremely not confident	0

3. What would you most like from your School or the Faculty leadership, to help you feel confident in navigating GenAI?

28
Responses

Latest Responses

"*Conduct forums* "

"*Clear expectations/guidelines for its use.* "

"*Pragmatic Workshops*"

5 respondents (**18**%) answered **use** for this question.


Thank you
Make tomorrow better.

How will you use GenAI Art?

Generative AI Image Generation

Enhanced Visual Learning: AI tools have the capability to generate precise and detailed visual depictions of intricate concepts, which can help students better understand and engage with them.

Customization and Relevance: Lecturers can tailor images to the specific needs and context of their course material, ensuring that visuals are directly relevant to the topics being taught.

Efficiency and Resources: AI-generated images offer lecturers a time-efficient method for creating course visuals, freeing up resources for other teaching and preparation activities.

Dreamstudio

https://dreamstudio.ai/

- **Advanced AI for Diverse Imagery:** AI models trained on diverse images and styles can create detailed, imaginative visuals from text descriptions.
- **Versatile Applications in Creativity and Education:** Graphic design and digital art. Educational contexts- aids in concept visualisation and enriches technology and design-related materials.

Blockade Labs

https://skybox.blockadelabs.com/

- **AI-Powered 3D World Generation:** Create immersive 3D worlds using AI; 360-degree environments.
- **Creative and Technical Applications:** For digital artists and game developers; creation of expansive, detailed environments; various creative and technical uses, including 3D modelling and virtual reality.

ChatGPT

https://chat.openai.com

- **Text-Based Image Generation:** DALL-E creates images from textual prompts, enabling the visualization of a wide range of concepts.
- **Diverse Imagery:** Produces various image styles, from realistic to fantastical, catering to different creative requirements. Suitable for professionals, graphic designers and in education.

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[Date]

Using AI to evaluate the depth of student learning and uphold academic integrity by generating student-specific questions

Muhammad Rizwan Azhar and Waqas Uzair

Introduction

- Proposal for a software tool
- Generates quizzes and exams from student assignments
- Addresses contract cheating and AI misuse in academics

Objective and Need

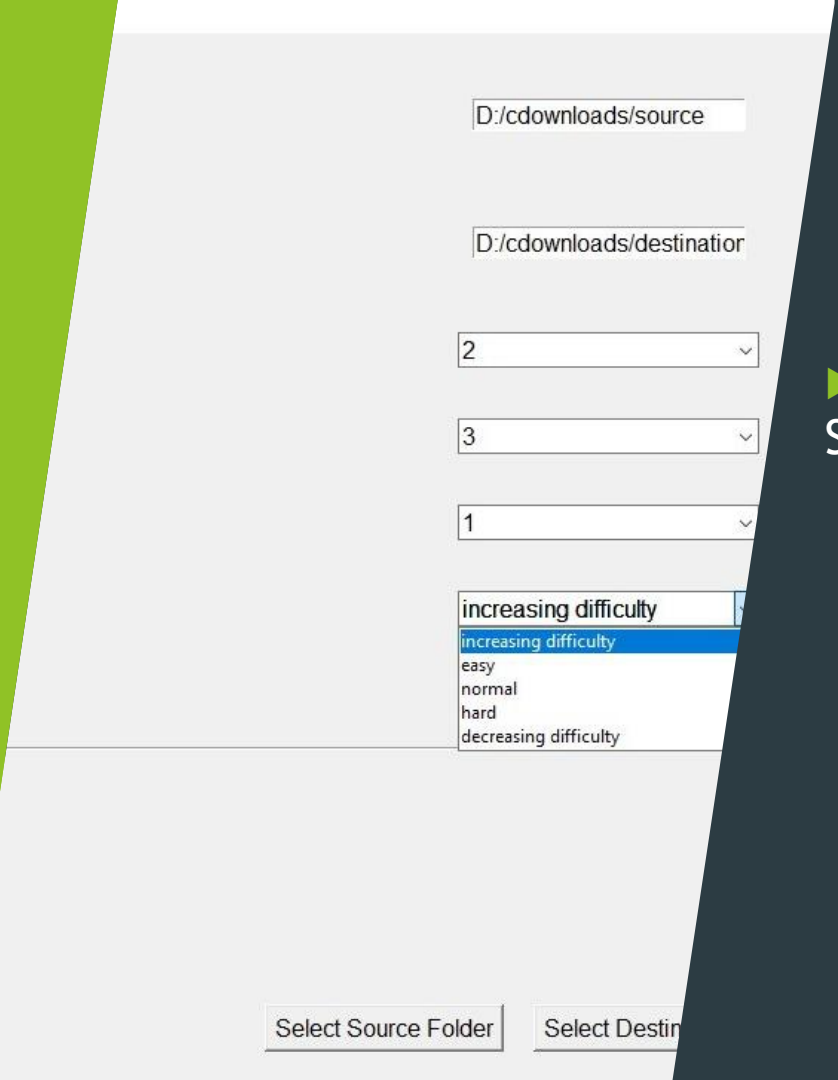
- Validates student learning and understanding
- Custom quizzes based on submitted work
- Reinforces genuine grasp of subject matter

Development Status

- Software in development phase
- Analyzing and interpreting student submissions
- Crafting meaningful assessments

Software Preview

- Early design of the Software's Interface



Real-World Preparedness

- Equips students for professional environments
- Integrates delegation and AI tool usage in learning
- Aligns academic learning with real-world practices

Conclusion

- A significant step towards enhanced educational integrity
- Focuses on application and understanding of knowledge
- Aligns learning with real-world professional scenarios