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Measuring knowledge and learner success and higher-order thinking skills in
the Age of AI

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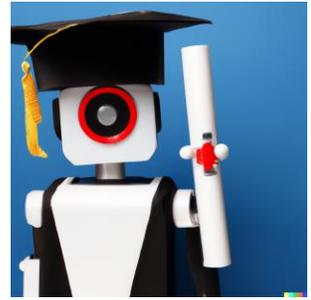
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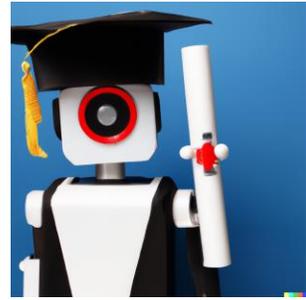


Progressing Policy for Tourism, Hospitality and Events Education

Wednesday 18th October 2023



Measuring Knowledge and Learner Success and Higher-Order Thinking Skills in the Age of AI



Aims of this discussion workshop



AI (the elephant in the room) and what we're doing about it?



Dr Faithfull Gonzo Research Paper

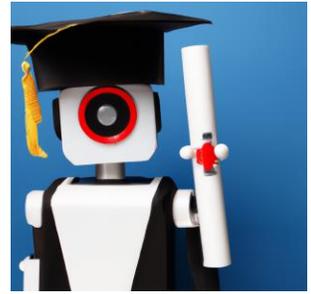


Do we all share the same fears and hopes for AI regarding teaching, learning and assessment in higher education?



Output: Food for thought, a sense of direction, unity and ideas for change and further discussion

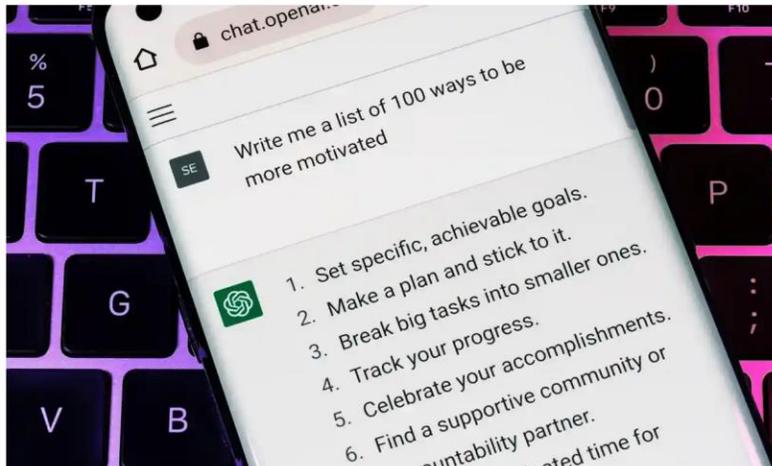
The elephant in the room



Lecturers urged to review assessments in UK amid concerns over new AI tool

ChatGPT is capable of producing high-quality essays with minimal human input

- **ChatGPT: what can the extraordinary artificial intelligence chatbot do?**



ChatGPT has already triggered concerns about the potential for hard-to-detect plagiarism and questions about the validity of the essay as a future form of assessment. Photograph: Ascannio/Alamy

'I used ChatGPT to write a university essay - and the lecturer said it would have passed'

ChatGPT Is Making Universities Rethink Plagiarism

Students and professors can't decide whether the AI chatbot is a research tool—or a cheating engine.

More than HALF of people can't tell difference between words written by ChatGPT or humans, report suggests - and Gen Z are most likely to be duped

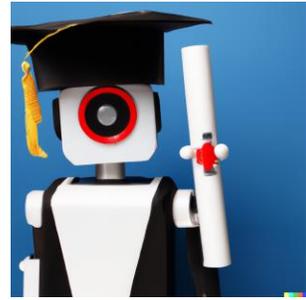
ChatGPT Is a Plague Upon Education

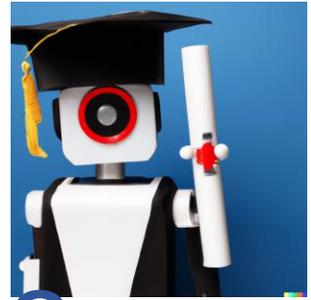
Progressing Policy for Tourism, Hospitality and Events Education – Oct-23

Measuring Knowledge and Learner Success and Higher-Order Thinking Skills in the Age of AI

This is how I view this issue

We are all in the wild west....



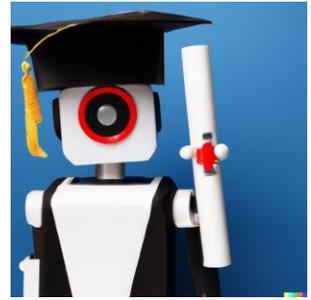


Is technology a plague upon education?

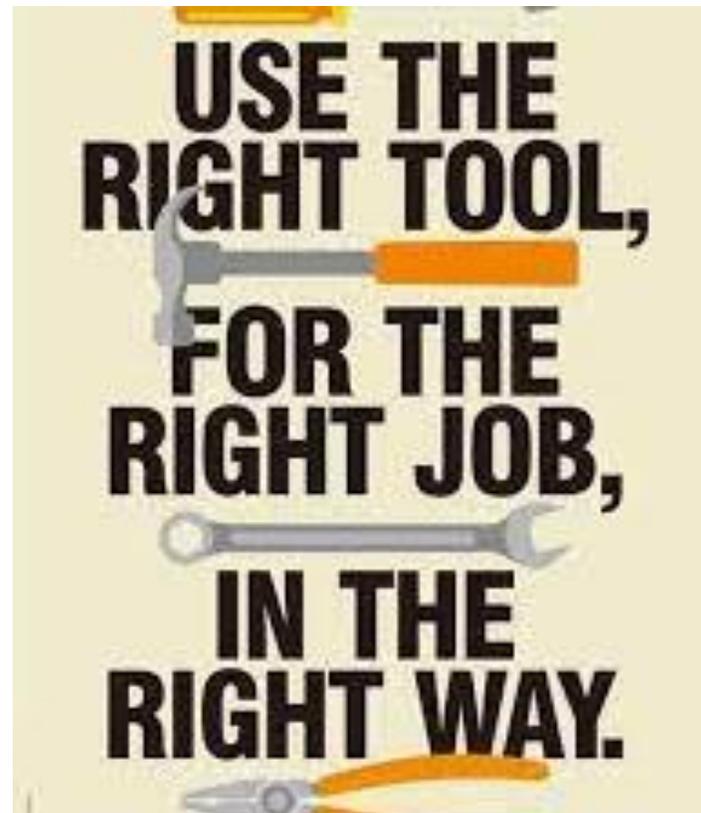
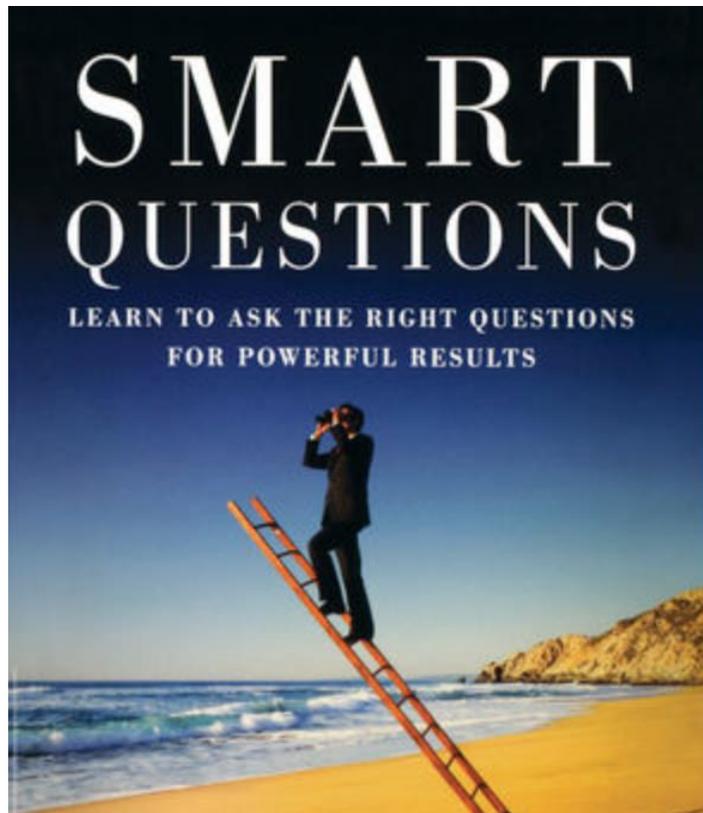


Here's what Paul Fidgeon said to me when I started teaching:

“With academia, you only get wiser by asking the right questions. Technology is just a tool; right now, only humans can ask intelligent questions, and this is what we try to teach students.”

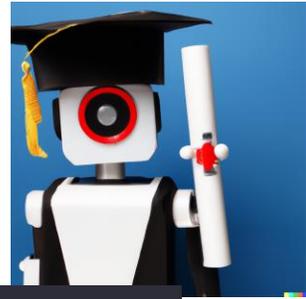


This is really what we've been teaching



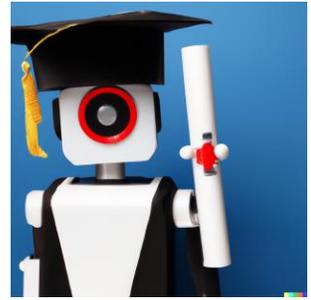
There's an AI for that

Search engine for the latest AI tools



Dedicated search engines where more tools are added every week

The screenshot shows the homepage of the search engine 'THERE'S AN AI FOR THAT'. The main heading is 'THERE'S AN AI FOR THAT' in large white letters. Below it, a subtitle reads '7,808 AIs for 2,124 tasks and 4,847 jobs. Updated daily. Sponsored by [Stocking AI - Image generator for brands.](#)' A search bar contains the text 'Academic writing' and shows '108,779 searches today'. A navigation bar includes options like 'Featured', 'New', 'Most saved', 'Timeline', 'Get featured', 'Job Impact Index', 'Community', and 'Subscribe'. The main content area is titled 'Academic writing' and displays a grid of AI tool cards. On the left, there are four vertical category filters: 'Simpler' (Productivity, 4.2 rating), 'Essense' (Product insights, 5.0 rating), 'Keywrds' (SEO keywords, \$19/mo), and 'Bomml' (Large Language Models, 3.7 rating). The main grid includes tools like 'SEO Writing AI' (SEO content, 3.7 rating), 'Sudowrite' (Writing, 4.3 rating), 'Easy-Peasy.AI' (Writing, 3.0 rating), 'Academic Help' (Essay writing, 5.0 rating), 'Caktus' (Writing, 2.3 rating), 'Writefull Academizer' (Academic writing, Free), 'PaperPal', 'Textero.ai', and 'Isaac Editor'. A 'Sort: Default' dropdown is visible in the top right of the grid.



Aims of this discussion workshop



AI (the elephant in the room) and what we're doing about it?



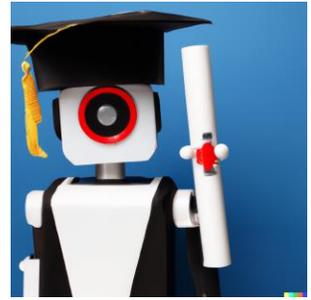
Dr Faithfull Gonzo Research Paper



Do we all share the same fears and hopes for AI regarding teaching, learning and assessment in higher education?

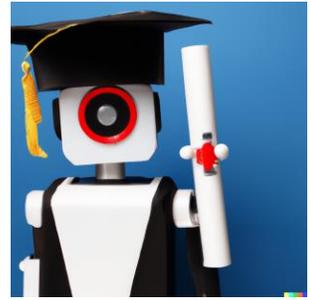


Output: Food for thought, a sense of direction, unity and ideas for change and further discussion



Examining the Influence of ChatGPT, on Assessment Design in Higher Education





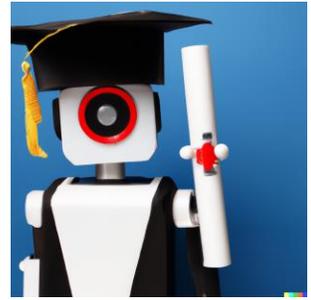
Objectives



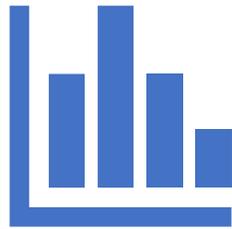
Investigate the extent to which AI tools such as CHATGPT use is impacting assessment design.



Establish mechanisms and strategies implemented by educational institutions to mitigate/identify the usage of AI technology such as CHATGPT in learning assessments.



Research APPROACH



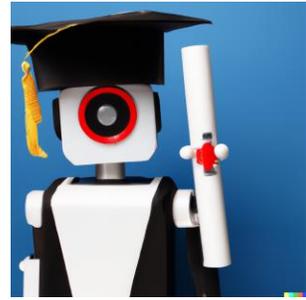
Mixed Methods

Qualitative
Quantitative

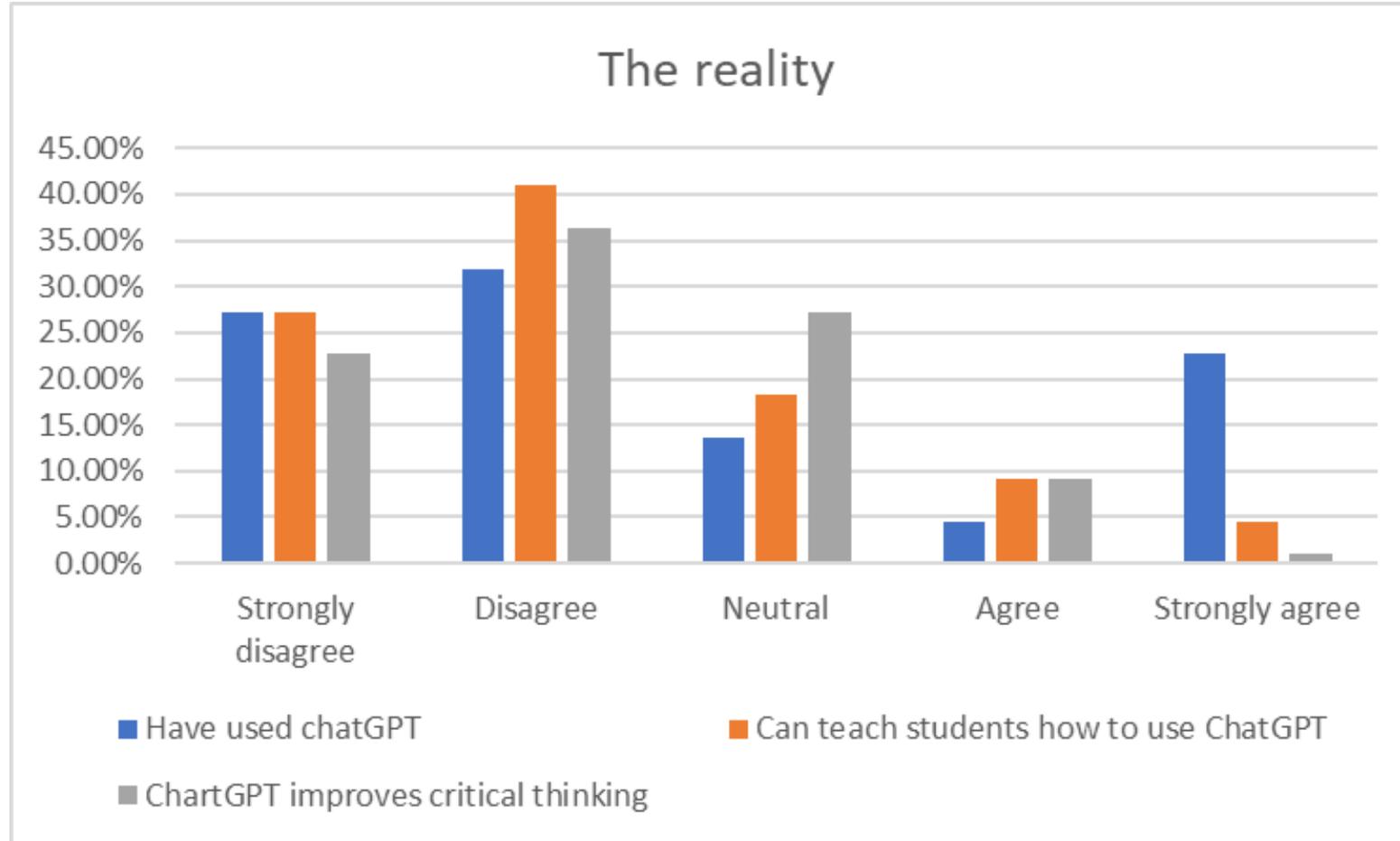


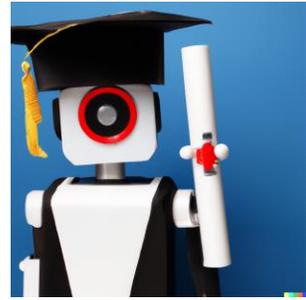
Sample

3 different universities
Academics

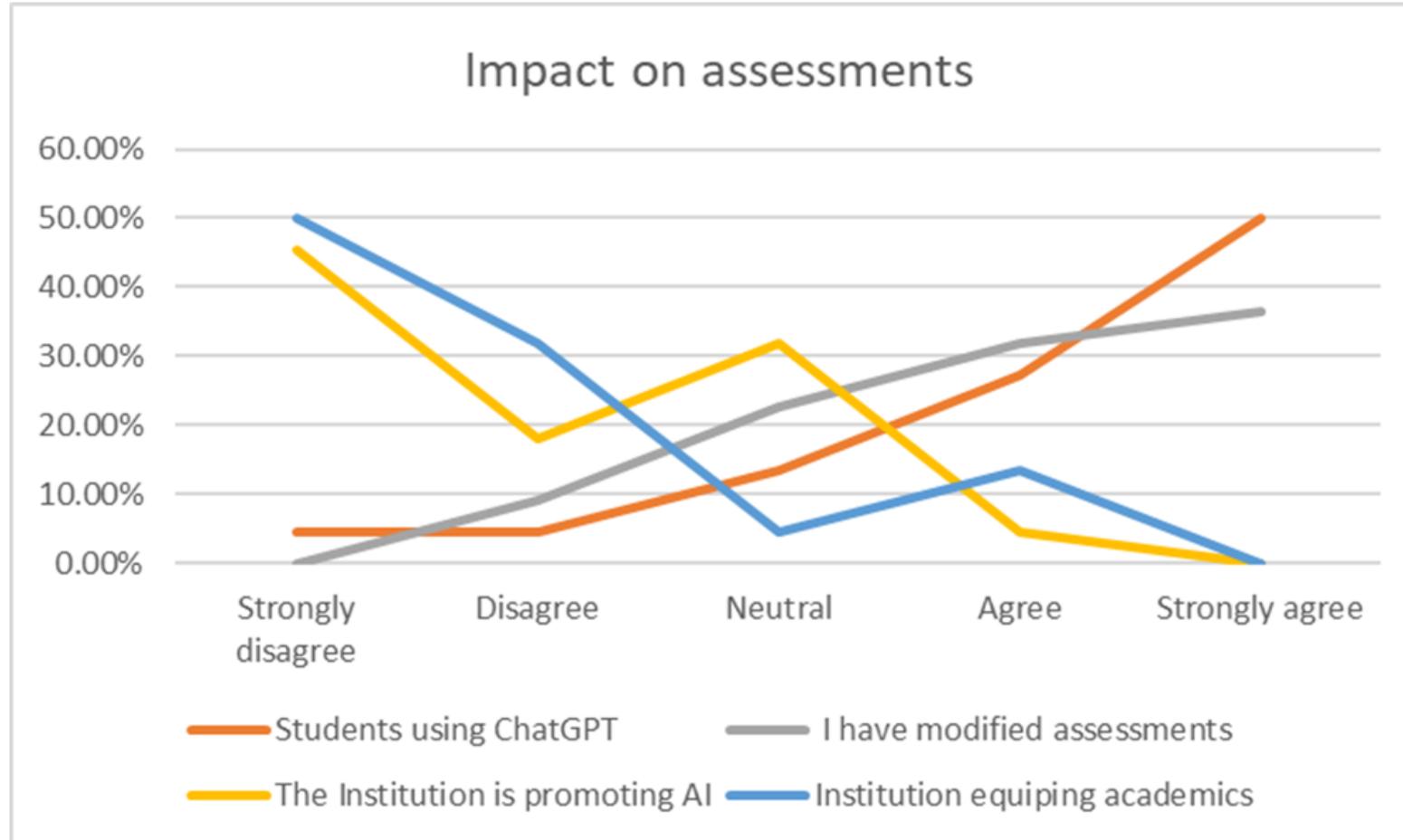


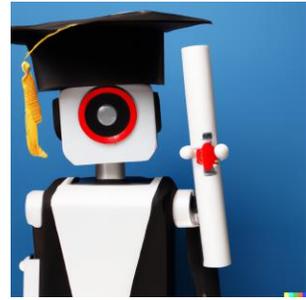
RESULTS



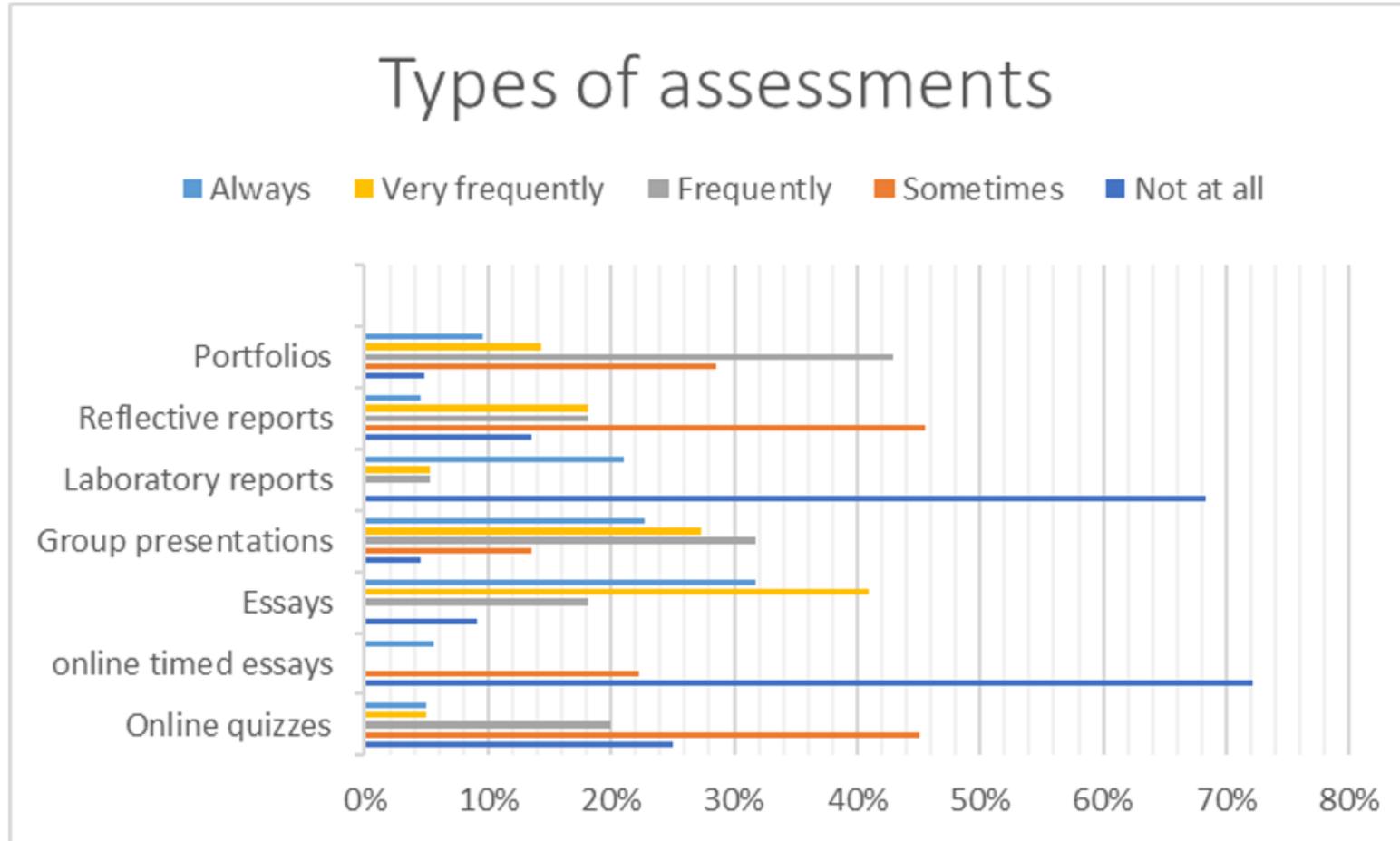


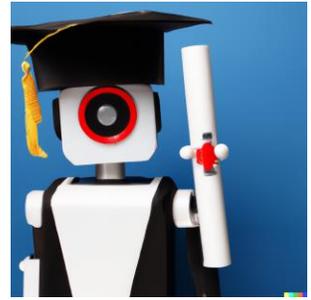
RESULTS



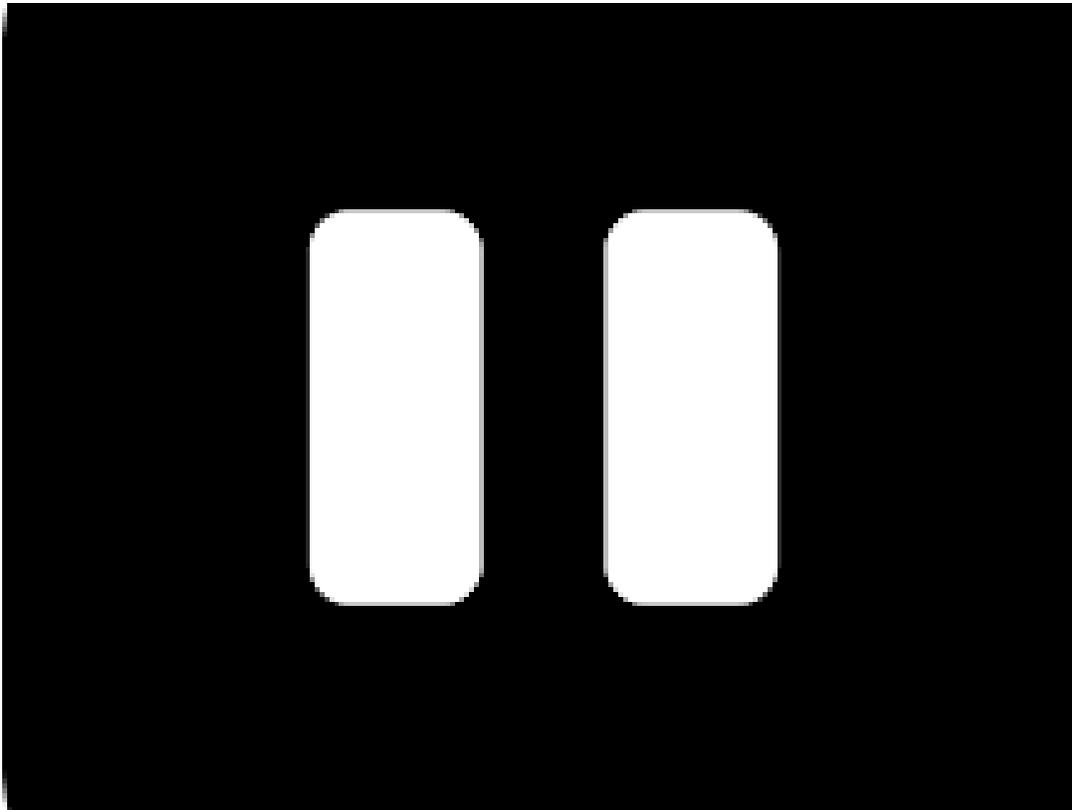


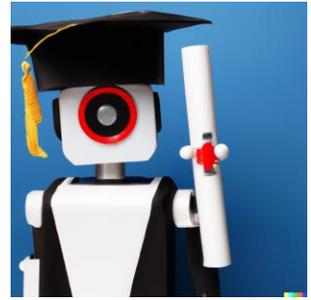
RESULTS





Pause: Reflections & Questions





Aims of this discussion workshop



AI (the elephant in the room) and what we're doing about it?



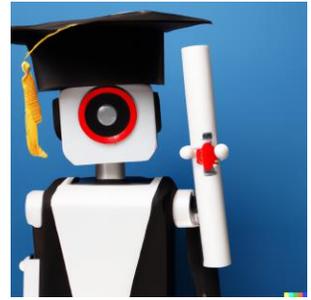
Dr Faithfull Gonzo Research Paper



Do we all share the same fears and hopes for AI regarding teaching, learning and assessment in higher education?



Output: Food for thought, a sense of direction, unity and ideas for change and further discussion



Group Discussion Agenda (x4 discussions)

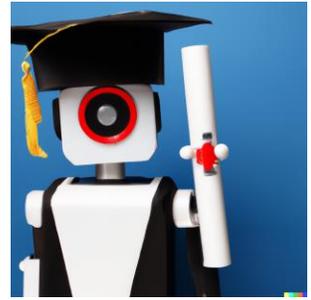
1. Importance of assessing learner success in higher education

2. The impact of artificial intelligence on measuring knowledge & learner success

3. How do you assess higher-order thinking skills?

4. Ideas for authentic assessments

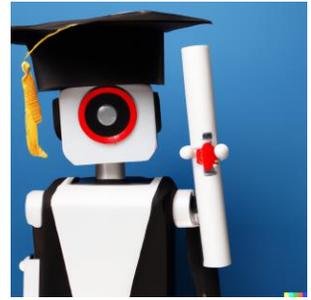
Wrap Up



1. Importance of assessing learner success in higher education

1. In your groups, how would you define the importance of measuring and assessing learner success in higher education?
2. What is society/ industry looking for from your graduates?
3. What are future students looking for in higher education?
4. Discuss and share within your groups





Different Types of Knowledge

Explicit Knowledge: Knowledge that is easy to articulate, write down, and share.

Explicit

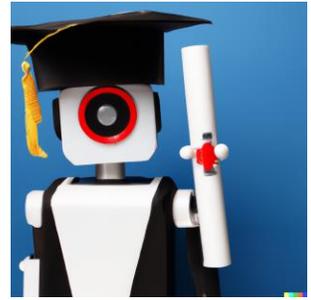
Implicit Knowledge: The application of explicit knowledge. Skills transferable from one job to another are one example of implicit knowledge.

Implicit

Tacit Knowledge: Knowledge gained from personal experience that is more difficult to express.

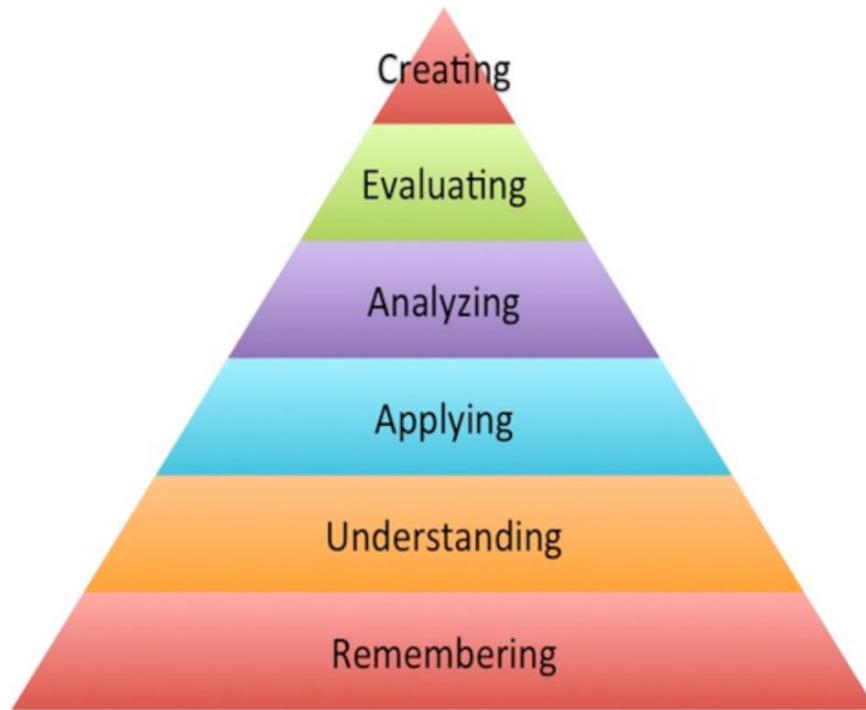
Tacit

Nonaka-Takeuchi model (1995)

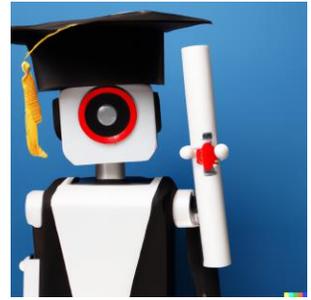


2. The impact of artificial intelligence on measuring knowledge & learner success

The New Version of Bloom's Taxonomy



1. Using the new version of Bloom's Taxonomy in your groups, discuss how you assess your students learning **today**.
2. Which ones do you feel AI will make assessing more challenging and why?
3. Discuss and share within your groups/ room



Explanation of Higher Order Thinking Skills

- **Executive function** refers to a set of cognitive processes responsible for skills such as planning, organising, problem-solving, decision-making, self-control, and working memory.
- **Metacognition**, on the other hand, refers to the ability to think about and monitor one's own cognitive processes.



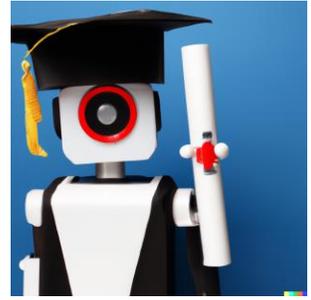
Executive Function
Air Traffic Controller

Baddeley and Hitch (1974)



Metacognition
The thinker

Flavell (1979)



3. How do you assess higher-order thinking skills?

1. Using this list of higher-order thinking skills, are there any things you might change or add to your student assessments for **tomorrow**?
2. Discuss and share within your groups/ room

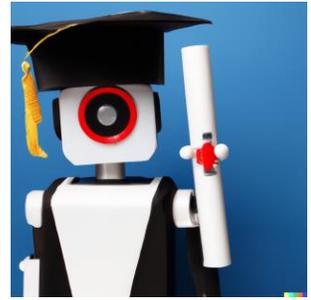
Problem-Solving

Reasoning

Decision Making

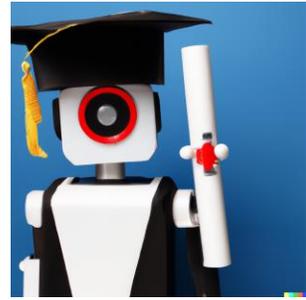
Creativity and Innovation

Metacognition



Authentic Assessments





Authentic Assessments

Authentic assessments in higher education are assessment methods that aim to evaluate students' knowledge, skills, and abilities in a context that closely resembles real-world or professional situations. These assessments go beyond traditional tests and exams by emphasising applying knowledge and skills to meaningful tasks or problems.



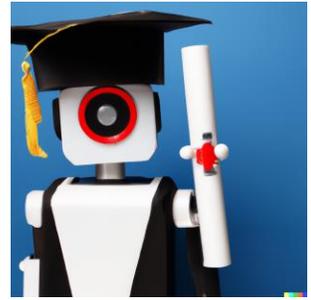
Studies in Educational Evaluation

Volume 70, September 2021, 101030



Advantages of authentic assessment for improving the learning experience and employability skills of higher education students: A systematic literature review

[Zahra Sokhanvar](#)^a, [Keyvan Salehi](#)^b  , [Fatemeh Sokhanvar](#)^c



4. Ideas for authentic assessments

1. Using this list of ideas for authentic assessment, which ones work best for you and which ones haven't you tried? Are there others?
2. Discuss and share within your groups/room

Case studies

Simulations

Projects

Field experiences

Portfolios

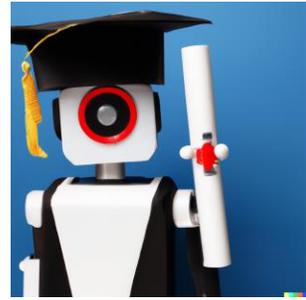
Debates or role-playing

Performance assessments

Authentic assessments with technology

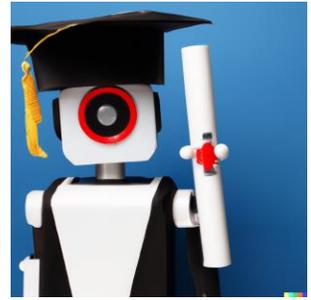
Professional collaborations

Self-assessment and reflection



4. Ideas for authentic assessment

- **Case studies:** Present students with real or realistic scenarios related to their field of research and ask them to analyse the situation, identify problems or challenges, and propose solutions or recommendations. This can be done individually or in groups.
- **Simulations:** Develop interactive simulations that allow students to engage in virtual or simulated real-world experiences. For example, in a nursing program, students could participate in a virtual patient care simulation, making decisions and performing tasks as they would in a natural clinical setting.
- **Projects:** Assign complex, long-term tasks that require students to apply their knowledge and skills to solve real problems or create tangible outcomes. Projects could involve researching, designing prototypes, developing business plans, or creating multimedia presentations.
- **Field experiences:** Provide opportunities for students to engage in real-world experiences outside the classroom. This could involve internships, fieldwork, service-learning projects, or collaborations with industry partners. Students can then reflect on their experiences and connect them to course content through assignments or presentations.
- **Portfolios:** Have students compile a portfolio of their work throughout a course or program. This can include samples of their projects, papers, presentations, and reflections. Portfolios provide a holistic view of students' learning and growth over time.
- **Debates or role-playing:** Organize debates or role-playing activities that simulate professional or disciplinary debates and discussions. Students can research and present arguments from different perspectives, engaging in critical thinking, analysis, and communication.
- **Performance assessments:** Create assessments that require students to demonstrate their skills through performances, such as presentations, demonstrations, or performances in the arts. These assessments can focus on specific competencies or techniques relevant to their discipline.
- **Authentic assessments with technology:** Leverage tools and platforms to design accurate evaluations. For example, students can create websites, develop multimedia projects, or participate in online simulations or virtual reality experiences.
- **Professional collaborations:** Establish collaborations with professionals in the field or industry partners to provide students with real-world challenges or opportunities to work on authentic projects. This can include mentorships, guest lectures, or joint projects.
- **Self-assessment and reflection:** Incorporate opportunities for students to reflect on their learning and performance. This can be done through journals, reflective essays, or structured reflection activities to help students develop metacognitive skills and take ownership of their education.



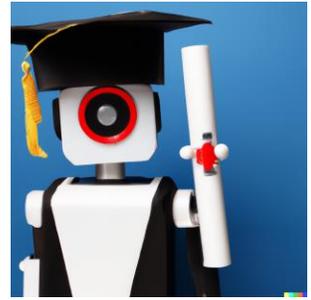
6. Wrap Up



Summary of key points

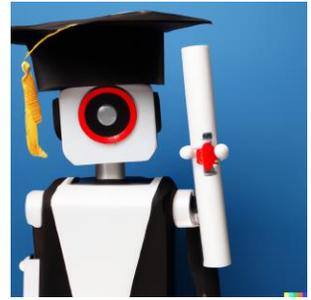


Decide on **one** action that you will take away from this discussion



See you again soon





Any further questions?
Please email me – james.goodman@uwl.ac.uk

