

AI in Higher Education

Dr Farhana Ferdousi Liza

Lecturer in Computing Science, University of East Anglia

Twitter: @fferousi

Email: F.Liza@uea.ac.uk

Agenda



Introduction to AI in
Higher Education



Frontier AI – Benefits
and Challenges



A Pilot Study

Introduction to AI in Higher Education



Definition of AI

OECD definition - AI systems vary in their levels of autonomy and adaptiveness after deployment



Brief history of AI in education



Narrow AI vs. Frontier AI

Frontier AI – General Purpose AI model



Frontier AI in education – ChatGPT



Potential Benefits

Personalised Learning Experiences

24/7 Availability

Enhanced Learning Resources

Support for Diverse Learning Needs

Frontier AI – General Purpose AI model (cont.)



Frontier AI in education – ChatGPT



Challenges -

Accuracy and Reliability
Bias and Fairness
Data Privacy and Security
Diverse Ethical Issues

Dependency and Reduced Critical Thinking

Economic Disparities

Integration with Traditional Teaching Methods

Frontier AI – General Purpose AI model – Challenges in HE (1)



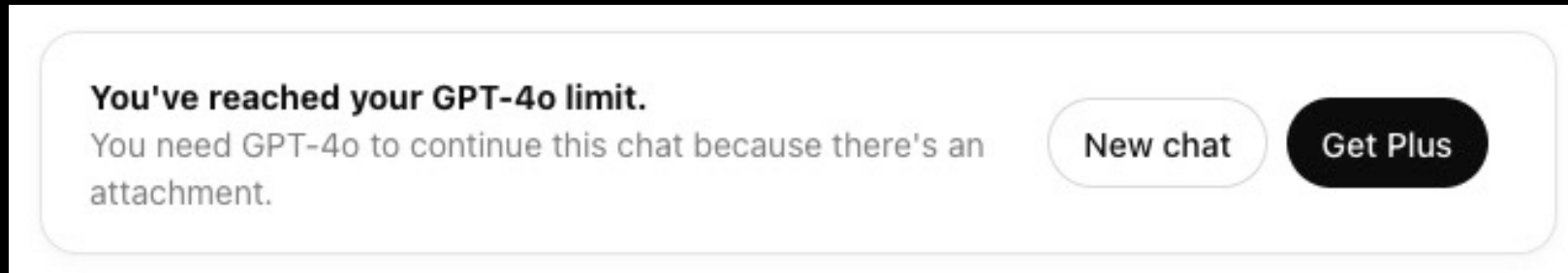
→ **Dependency and Reduced Critical Thinking**

- Psychologist Albert Bandura's social learning theory suggests that people learn new behaviours by observing and imitating others.
- **Dependency on AI:** When students rely heavily on AI for answers, they may model their learning behaviour on the technology, potentially leading to a reduced effort in independent problem-solving and critical thinking.
- **Reduction in Critical Thinking:** The lack of engagement in active learning processes (such as hypothesising, questioning, and reasoning) may diminish students' ability to develop and apply critical thinking skills independently.

Frontier AI – General Purpose AI model – Challenges in HE (2)



- “According to the Financial Times (FT) it is said to be looking at whether to add certain AI-powered search features to its premium subscription services which already offer access to its new AI assistant called Gemini, Google's version of the viral chatbot ChatGPT. " [Source : <https://www.bbc.co.uk/news/business-68727857>]



- **Economic Disparities**
 - The digital divide refers to the gap between individuals who have access to modern information and communication technology and those who do not.
 - **AI in Education:** The digital divide is exacerbated by economic disparities, where students from low-income families have less access to AI technologies and digital learning tools. This limits their educational opportunities and outcomes compared to their more affluent peers.
 - **Equitable Access:** Addressing the digital divide requires **targeted policies and investments** to ensure all students have access to the necessary technology and resources.

Frontier AI – General Purpose AI model – Challenges in HE (3)

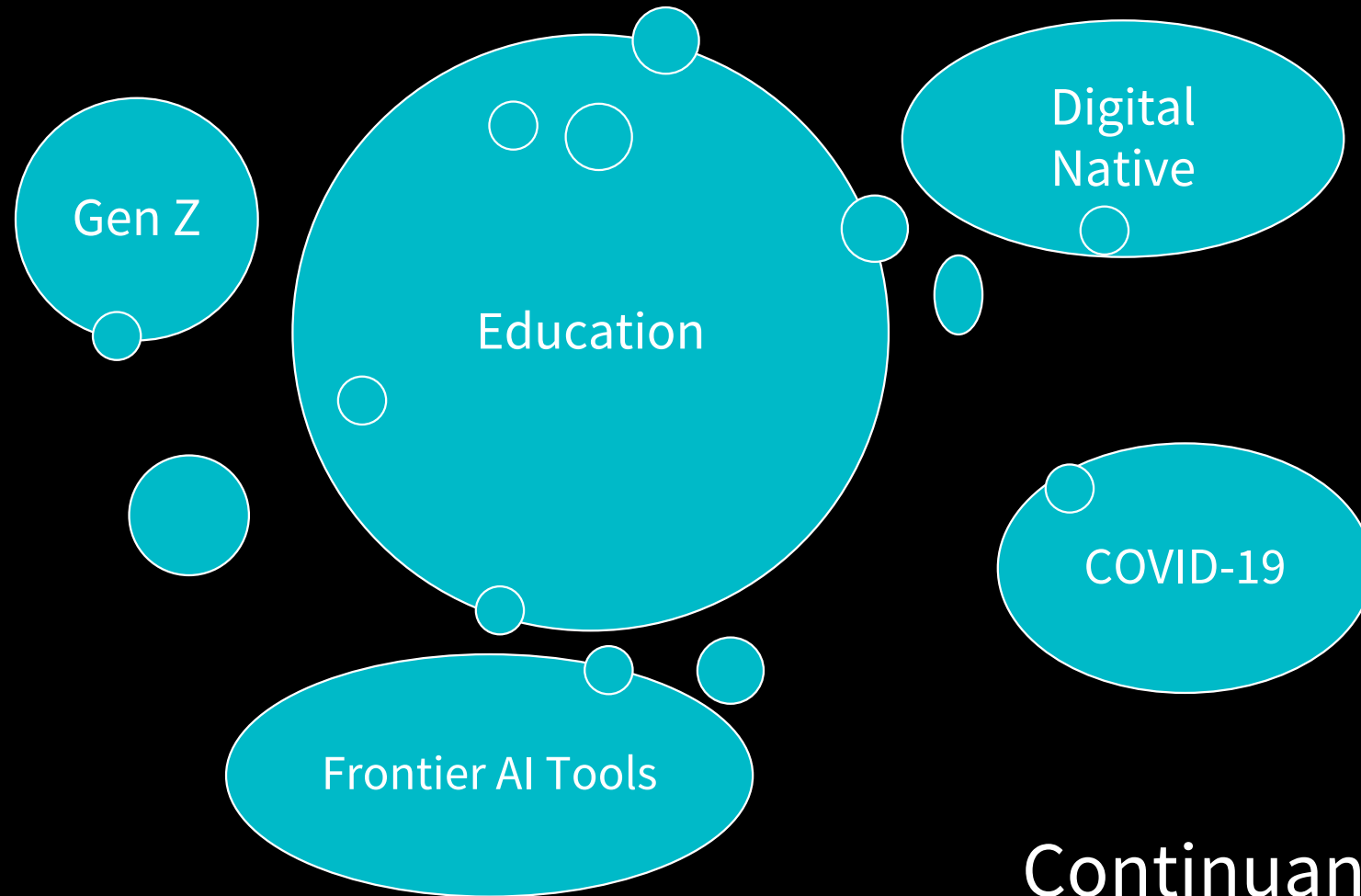
- Integration with Traditional Teaching Methods (**Constructive Alignment**)
- **Integration with Curriculum and Pedagogy:** Aligning AI tools with existing curriculum goals and teaching methods requires careful planning. Teachers need to adapt lessons to effectively incorporate AI without compromising educational objectives.
- **Effectiveness and Evaluation:** Assessing the effectiveness of AI tools in improving learning outcomes requires robust evaluation frameworks. Educators need evidence that AI enhances teaching and student achievement to justify its adoption.



Image Source: <https://educationaltechnology.net/how-can-we-align-learning-objectives-instructional-strategies-and-assessments/>

Accuracy and Reliability
Bias and Fairness
Data Privacy and Security
Diverse Ethical Issues

Frontier AI – General Purpose AI model – Challenges in HE (4)



Continuance Intentions

<https://doi.org/10.29333/ejmste/13839>

A Pilot Study - Artificial Intelligence Enhanced Education



With the current development of AI tools (e.g., ChatGPT), institutions and students' attitude towards learning needs to be adapted digitally and psychologically. We are exploring responsible uses of ChatGPT in higher education.

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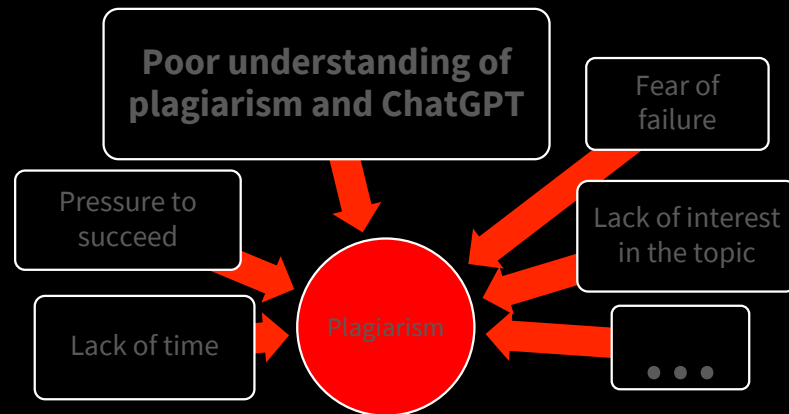


Figure 1: The factors involved in the plagiarism

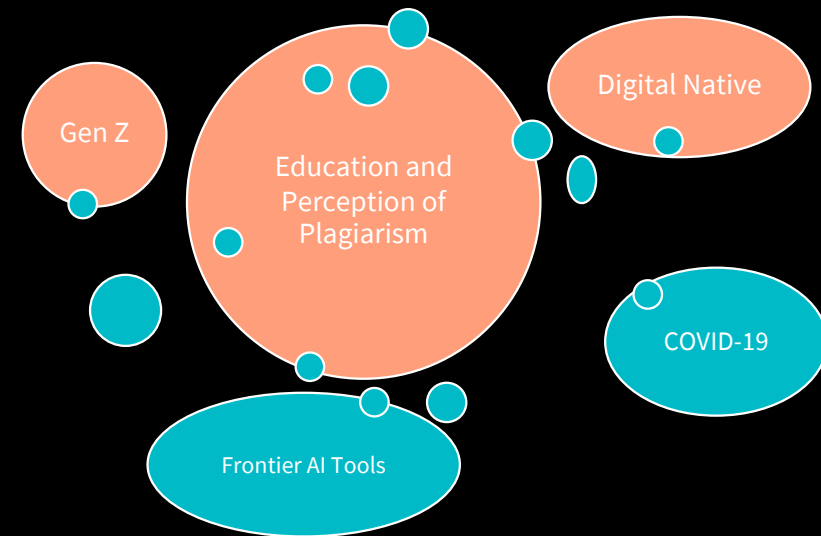
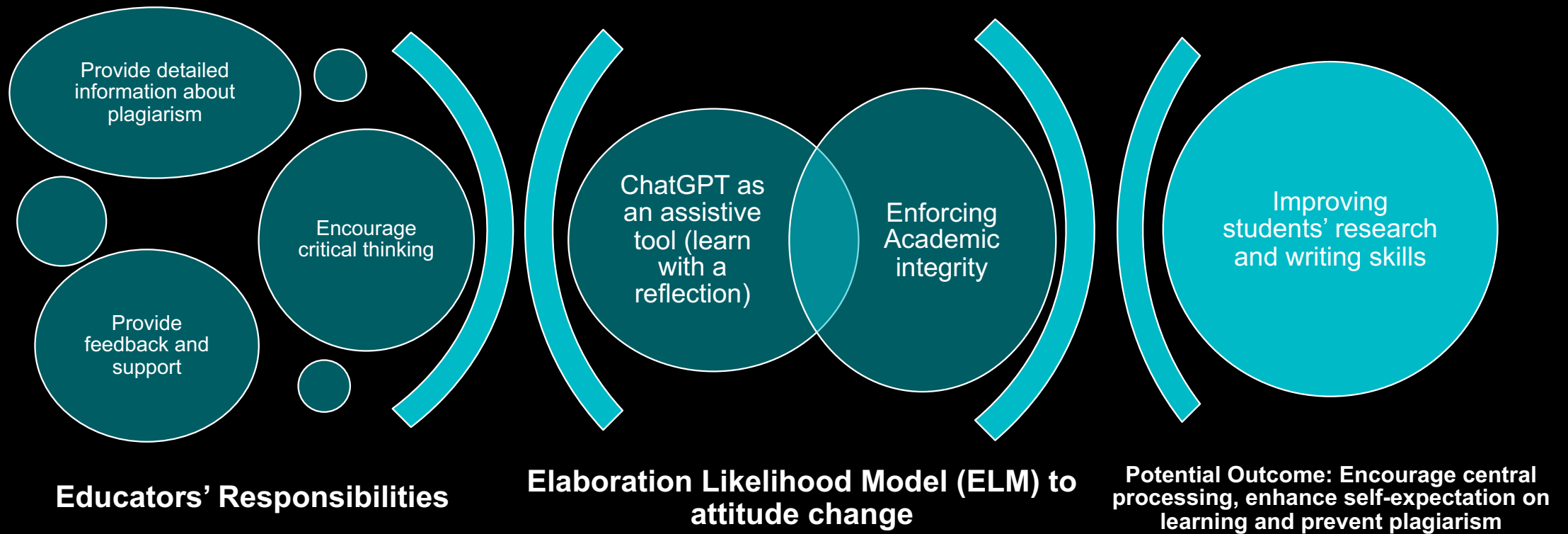


Figure 2: Perception of Gen Z on Plagiarism

A Pilot Study - Artificial Intelligence Enhanced Education



Framework for attitude change to enhance T&L



→ Thank you

Q&A