

SCI-FI 2 SCI- FACT: CAN AI CREATE THE PERFECT TUTOR?

ROB HOWE (UNIVERSITY OF NORTHAMPTON)-
24TH MAY 2023

[HTTPS://TPEA.AC.UK/WEBINARS/](https://tpea.ac.uk/webinars/)



@rjhowe



EXPLOSION OR INEVITABLE PROGRESSION?

- 1950 – Turing Test
- 1956 - John McCarthy coined the term ‘artificial intelligence’
- 1970s onwards – Development of Expert systems
- Late 1980s Natural language processing
- 1997 – Deep Blue defeated world champion chess player
- 2020 - Baidu releases the LinearFold AI algorithm to assist vaccine development
- 2015 – Open Ai founded
- 2021 – DALL-E released
- 2022 (Dec) –ChatGPT released
- 2023 – GPT-4 released

CONCERNS ARE NOT NEW

- Staff IP
- Uploading slides
- Recording lectures
- Automation of work (Autor, 2015)
- 'The Fourth Education Revolution' - the obliteration of the role of the human in teaching as early as 2027 Seldon & Adiboye (2018)

IS THERE A THREAT?

- *“Any teacher who can be replaced by a machine should be”* (Clarke, 1980).

By removing the tedium from the teacher’s work and making learning more like play, electronic tutors will paradoxically humanize education. If a teacher feels threatened by them, he’s surely in the wrong profession” (p.96).

Institutions considering to being an AI-centric university? University of Florida has an [early lead in the space](#).

<https://www.noodlefactory.ai/> “Say **“goodbye”** to teacher burnouts and marking fatigue and **“hello”** to improved productivity, student engagement and better learning outcomes with Noodle Factory's unique conversational AI platform, Walter+.”

<https://www.turnitin.com/videos/meet-gradescope-3> - makes it easier for instructors to quickly grade assignments and gain additional insights about student learning

WHAT ARE THE CHARACTERISTICS OF THE BEST TEACHERS

(ACCORDING TO CHATGPT)

- Expertise
- Passion
- Adaptability
- Clear communication
- High expectations
- Creativity
- Empathy
- Patience

WHAT DO HUMAN TUTORS (HT) DO THAT AI TUTORS DO NOT DO (YET?)

- Human relationships support academic learning and positive future orientation.
- Create, facilitate and manage learning interactions
- Build connections for learners
- Manage the classroom environment
- Teaching socio-emotional skills

*WHAT WOULD AN AI TUTOR HAVE TO
DO TO BE PERFECT?*

Discuss?

A SHARED FUTURE?

- A hybrid model, that which makes best use of the human and technology?
- Going beyond guide on the side?

CONCLUSIONS

- Rapid developments in AI are providing opportunities not present years (or even months) ago.
- We need to get involved to shape the developments to ensure that they are not driven by financial or political pressures.

REFERENCES AND LINKS:

- Autor, D. (2019) 'Why are there still so many jobs? The history and future of workplace automation', *The Journal of Economics Perspectives*, 29(3), pp.3-30.
- Autor, D., Levy, F. & Murnane, R.J. (2003) 'The skill content of recent technological change: An empirical exploration', *The Quarterly Journal of Economics*, 118(4), pp. 1279-1333.
- Clarke, A.C. (1980) 'Electronic Tutors', *Omni Magazine*, June 1980.
- Healey-Benson (2019) 'Taking on the machines – the rise of the educator' [online]. Available: <https://emergenthinkers.com/2019/07/01/taking-on-the-machines-the-rise-of-the-educator/#:~:text=%E2%80%9CAny%20teacher%20who%20can%20be,l%20agree!>
- Lynch, M. (2018) 'Artificial Intelligence will never replace teachers', *The Tech Advocate*, 1st March 2018 [online]. Available:
- <https://www.thetechadvocate.org/artificial-intelligence-will-never-replace-teachers/>
- Seldon, A. & Adiboye, O. (2018) *'The Fourth Education Revolution: Will Artificial Intelligence Liberate or Infantilise Humanity'*, The University of Buckingham Press: UK.
- https://www.ted.com/talks/sal_khan_the_amazing_ai_super_tutor_for_students_and_teachers/c