

Generative AI for Inclusive Education

Challenges and opportunities

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How can AI support inclusive education?

State of the art in generative AI

New digital divide

AI literacy

New roles for AI in teaching, learning and

assessment

Ethics of generative AI

AI with care

IGNITION's DIGITAL AGENDA FOR HIGHER EDUCATION

Explore the **key priorities** of our **Digital Agenda**, curated through our international research in the **IGNITION** project. **Our mission?** To enhance digital literacy skills, raising awareness, and foster digital inclusion across higher education for all stakeholders from students to external collaborators. **Join us** in forging a digitally empowered future in education.

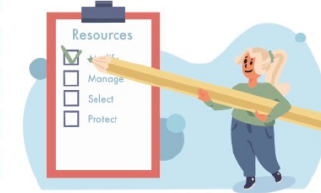
- 1. Digital didactics for teaching and learning, with special emphasis on:**
 - a. Data driven education
 - b. Collaborative Digital Learning
 - c. Blended Learning



- 2. Digital equality, with the aim to achieve:**
 - a. Closing the digital gap between all learners
 - b. Engagement of learners through communication, sharing practices and specific actions such as toolkits and courses to engage external parties



- 3. Digital resources encompassing:**
 - a. Selection of resources,
 - b. Creating and modifying of resources,
 - c. Managing, protecting and sharing of digital resources



- 4. Assessment strategies and tools for digital literacy and inclusion, specifically for:**
 - a. (Self) reflection on skills development
 - b. (Self) assessment on skills development



- 5. Continuous Professional Development with the focus on a common digital language**



For more information visit our website www.ignition-erasmus.eu and follow us on LinkedIn: [ignition_erasmus](https://www.linkedin.com/company/ignition-erasmus) Instagram: [ignition_erasmus](https://www.instagram.com/ignition_erasmus).

GPT-4

Neural net Large Language Model

Highly-trained text completer and style copier

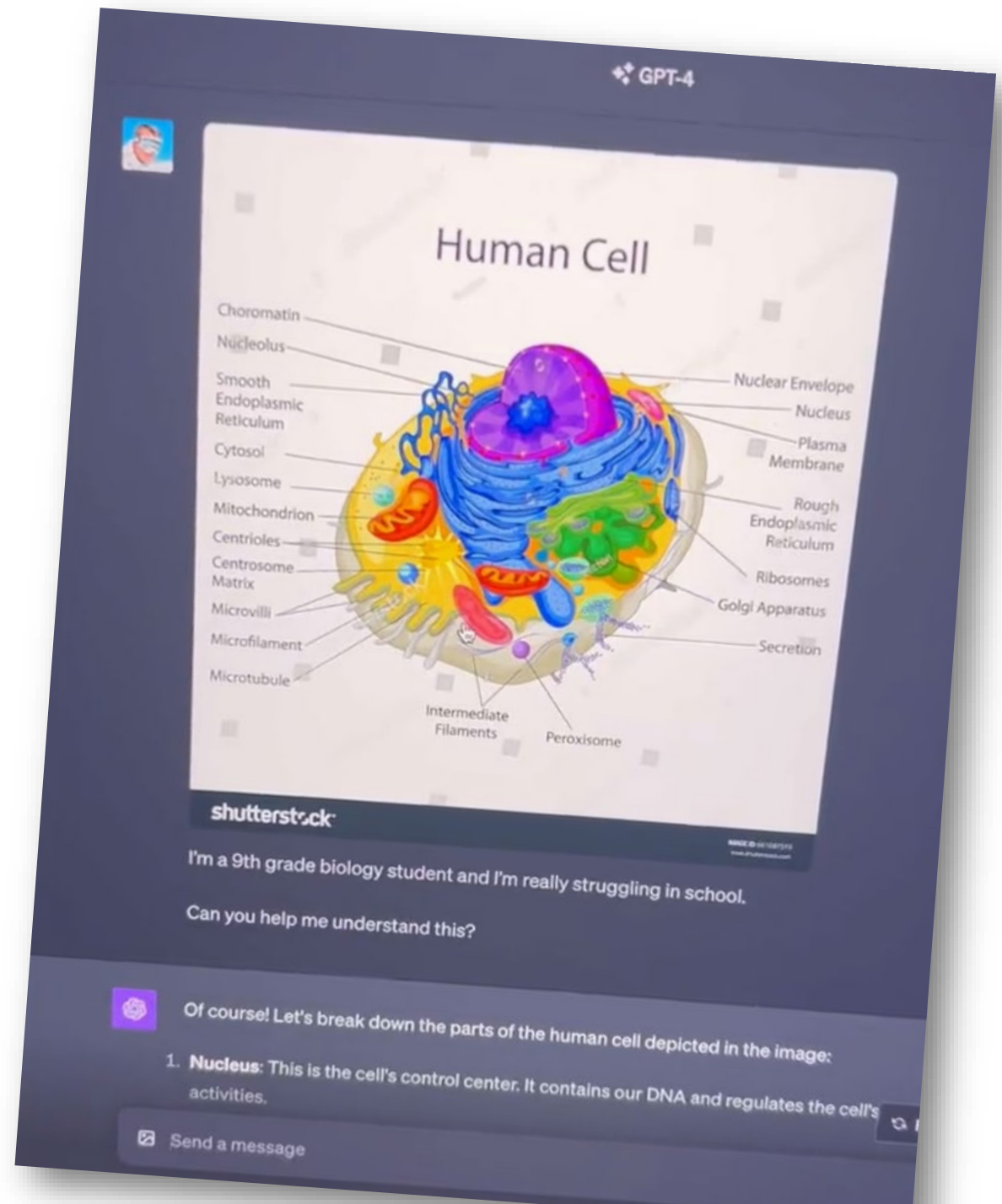
It can generate up to 25,000 words

It can write in any style in multiple languages

It can be given a direct instruction

It can interpret text and images

It is a general-purpose language tool




ChatGPT Plus

Plugins for maths, science, language, media, business

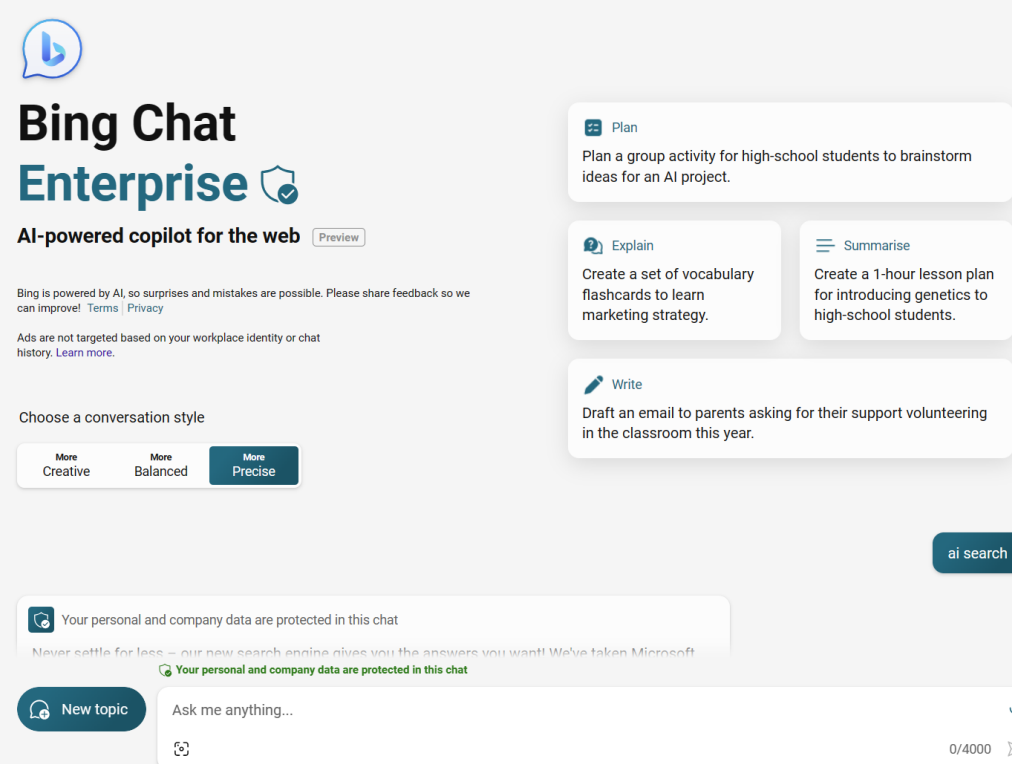
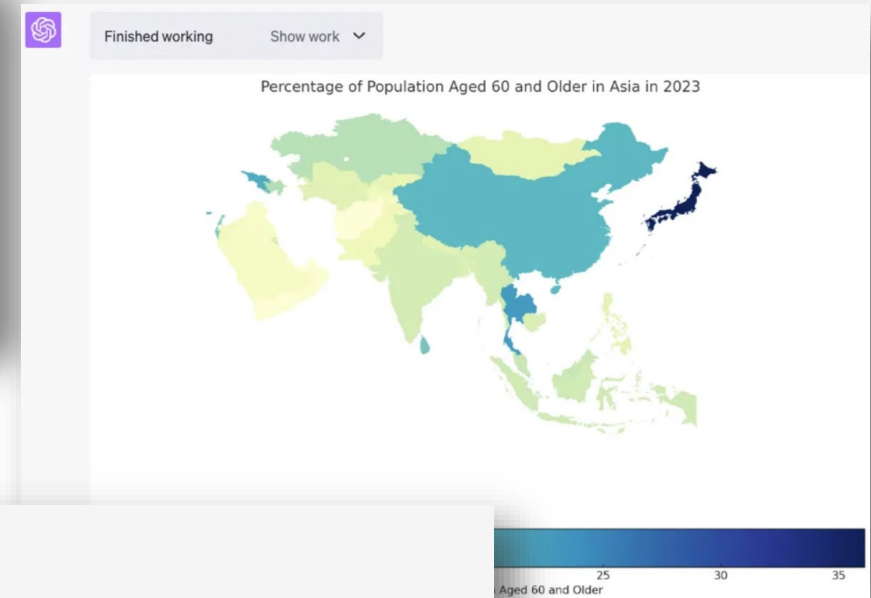
Free with Bing Chat web browsing


Code interpreter to run and display Python programs



Wolfram
Install ↻

Access computation, math, curated knowledge & real-time data through Wolfram|Alpha and Wolfram Language



Bing Chat Enterprise 

AI-powered copilot for the web Preview

Bing is powered by AI, so surprises and mistakes are possible. Please share feedback so we can improve! [Terms](#) | [Privacy](#)

Ads are not targeted based on your workplace identity or chat history. [Learn more.](#)

Choose a conversation style

More Creative More Balanced **More Precise**

Plan
Plan a group activity for high-school students to brainstorm ideas for an AI project.

Explain
Create a set of vocabulary flashcards to learn marketing strategy.

Summarise
Create a 1-hour lesson plan for introducing genetics to high-school students.


Write
Draft an email to parents asking for their support volunteering in the classroom this year.


ai search

Your personal and company data are protected in this chat

Never settle for less – our new search engine gives you the answers you want! We've taken Microsoft

Your personal and company data are protected in this chat

New topic Ask me anything... 

0/4000 

Other AI generators

Language models

PaLM 2 from Google – over 100 languages, version for medicine, free with Bard chat

LLaMA 2 from Meta – open source, 20 languages, small, simple, free, efficient

Claude-2 from Anthropic – trained on ethical principles, can read 75,000 words, free to use, currently only available in US and UK

Image generators

DALL-E 3 from OpenAI – chat, accurate, free with Bing Image Creator

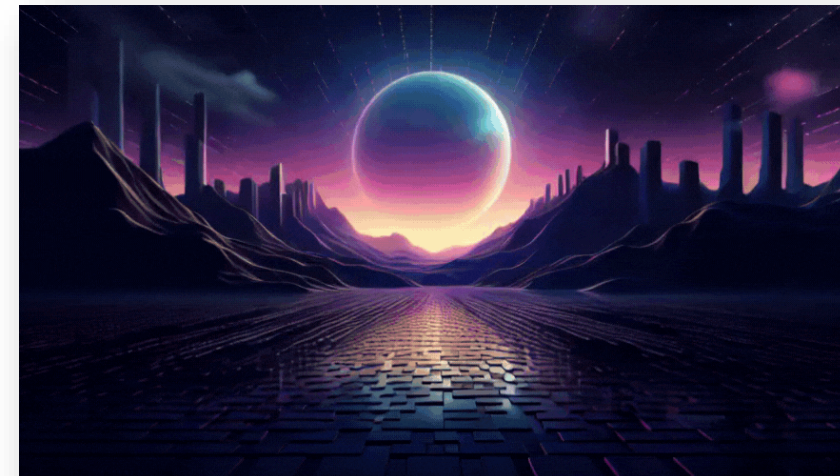
Midjourney – high-quality photo images

Stable Diffusion – free, open source

Plus: computer code, voice, music, video, specialist (e.g., BloombergGPT)



Adobe Firefly



Runway

Generative AI hallucinates

It doesn't "know" it shouldn't invent research studies,

it has no explicit model of how the world works,

and is amoral.

It is a language model, *not* a database or reasoning system

Limitations

Despite making significant progress, our InstructGPT models are far from fully aligned or fully safe; they still generate toxic or biased outputs, make up facts, and generate sexual and violent content without explicit prompting. But the safety of a machine learning system depends not only on the behavior of the underlying models, but also on how these models are deployed. To support the safety of our API, we will continue to review potential applications before they go live, provide content filters for detecting unsafe completions, and monitor for misuse.

<https://openai.com/blog/instruction-following/>

You are a student on a Master of Education course. Write a high quality 500 word essay on "A Critique of Learning Styles". The essay should include academic references and evidence from research studies. It should begin "The construct of 'learning styles' is problematic because"

MI

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The construct of 'learning styles' is problematic because it assumes that learners have distinct and consistent preferences for acquiring and processing information. This idea has gained popularity among educators and trainers, but there is little evidence to support the existence of such a fixed and reliable construct. Furthermore, promoting the use of learning styles in education may lead to harmful practices and prevent learners from developing skills and abilities that are essential for success in the 21st century.

One of the main issues with the concept of learning styles is the lack of empirical evidence to support it. A systematic review of studies investigating the relationship between learning styles and academic achievement found little to no evidence of a correlation between the two (Pashler et al., 2008). In fact, the review concluded that teaching according to learning styles might actually be detrimental to learning outcomes. Similarly, a recent meta-analysis of studies exploring the effectiveness of learning styles interventions also found little support for the idea (Rohrer & Pashler, 2012). The lack of empirical support for the concept of learning styles undermines the notion that individuals have consistent and reliable preferences for acquiring and processing information.

Another problem with the use of learning styles in education is that it may encourage fixed mindsets and discourage the development of essential skills and abilities. According to the theory of growth mindsets, learners who believe that their intelligence and abilities are malleable are more likely to embrace challenges, persist in the face of setbacks, and ultimately achieve higher levels of success (Dweck, 2006). In contrast, the use of learning styles may encourage learners to see their abilities as fixed and unchangeable, leading to a belief that they are limited in their capacity to learn in certain ways. This can be particularly damaging for learners who may not have been exposed to certain ways of learning or who may have been discouraged from pursuing certain subjects or activities due to their perceived learning style.

Finally, the use of learning styles in education may lead to harmful practices such as tracking

A Critique of Learning Styles

ChatGPT – November 2022

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Finally, the use of learning styles in education may lead to harmful practices such as tracking and labeling students. In tracking, learners are sorted into groups based on their perceived learning style, which can reinforce stereotypes and limit opportunities for growth and exploration (Gurung, 2004). Labeling students according to their learning style can also be harmful, as it may encourage teachers and learners to focus on weaknesses rather than strengths and may stigmatize learners who do not fit neatly into a particular category.

In conclusion, the construct of learning styles is problematic because it lacks empirical support, may discourage the development of essential skills and abilities, and can lead to harmful educational practices such as tracking and labeling. As educators, it is important to recognize the limitations of learning styles and instead focus on evidence-based practices that promote learning and growth for all learners, regardless of their perceived learning style.

References:

Dweck, C. (2006). *Mindset: The new psychology of success*. Random House.

Gurung, R. (2004). Black and white thinking about learning styles: A response to the Journal of College Reading and Learning. *Journal of College Reading and Learning*, 34(2), 7-17.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. *Psychological Science in the Public Interest*, 9(3), 105-119.

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Invented
research
study

Fake
academic
paper

The construct of 'learning styles' is problematic because it implies a static and narrowly defined approach to the concept, there is a lack of empirical evidence to support the effectiveness of learning styles in enhancing educational research evidence, and implications for educators.

The concept of learning styles has its roots in the work of Dunn and Dunn (1978), who posited that students have kinesthetic modalities. The VARK model (Fleming, 2001) expanded upon this idea, adding the reading/writing (1984) and Gardner's theory of multiple intelligences (Gardner, 1983), further contributed to the proliferation

Despite the intuitive appeal of these theories, numerous research studies have consistently failed to support analysis conducted by Pashler et al. (2008) found insufficient evidence to support the idea that tailoring instruction to al. (2004) identified more than 70 learning styles models and concluded that there was little scientific evidence to support the use of any

One of the primary criticisms of learning styles is the lack of a clear and consistent definition of what constitutes a learning style (Coffield et al., 2004). This has led to contradictory, models that make it difficult to operationalize and test the theory. Furthermore, many of the assessments used to determine students' learning styles have been found to lack validity (Kirschner & van Merriënboer, 2013), further casting doubt on the utility of this concept in educational settings.

Another issue with learning styles is the oversimplification of the learning process. By categorizing students into distinct learning styles, the theory disregards the complex and dynamic nature of human cognition (Kirschner & van Merriënboer, 2013). In reality, learners are not limited to a single mode of processing information, and the effectiveness of a particular learning approach may vary depending on the context and the specific task at hand (Willingham, 2009).

Moreover, the focus on learning styles may inadvertently encourage teachers to limit their instructional methods, potentially hindering the development of a diverse repertoire of cognitive skills in students (Riener & Willingham, 2010). Instead of catering to specific learning styles, researchers have argued that teachers should emphasize the use of evidence-based instructional strategies that are effective across a wide range of learners, such as spaced repetition, retrieval practice, and elaboration (Dunlosky et al., 2013).

In conclusion, the concept of learning styles is problematic due to its lack of empirical support, inconsistent definitions, and oversimplification of the learning process. Rather than relying on this flawed theory, educators should focus on adopting evidence-based instructional strategies that promote learning for all students. Ultimately, fostering a diverse set of cognitive skills and flexible thinking will better prepare learners for the complex and dynamic challenges they will face in their lives.

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- Willingham, D. T. (2009). Why don't students like school? A cognitive scientist answers questions about how the mind works and what it means for the classroom. Jossey-Bass.

GPT-4 – March 2023
Good quality “student essay”,
no errors

Plagiarism detectors don't work – the text is generated, not copied

AI detectors have low reliability

OpenAI's detector tool labels 9% of human-written text as written by AI

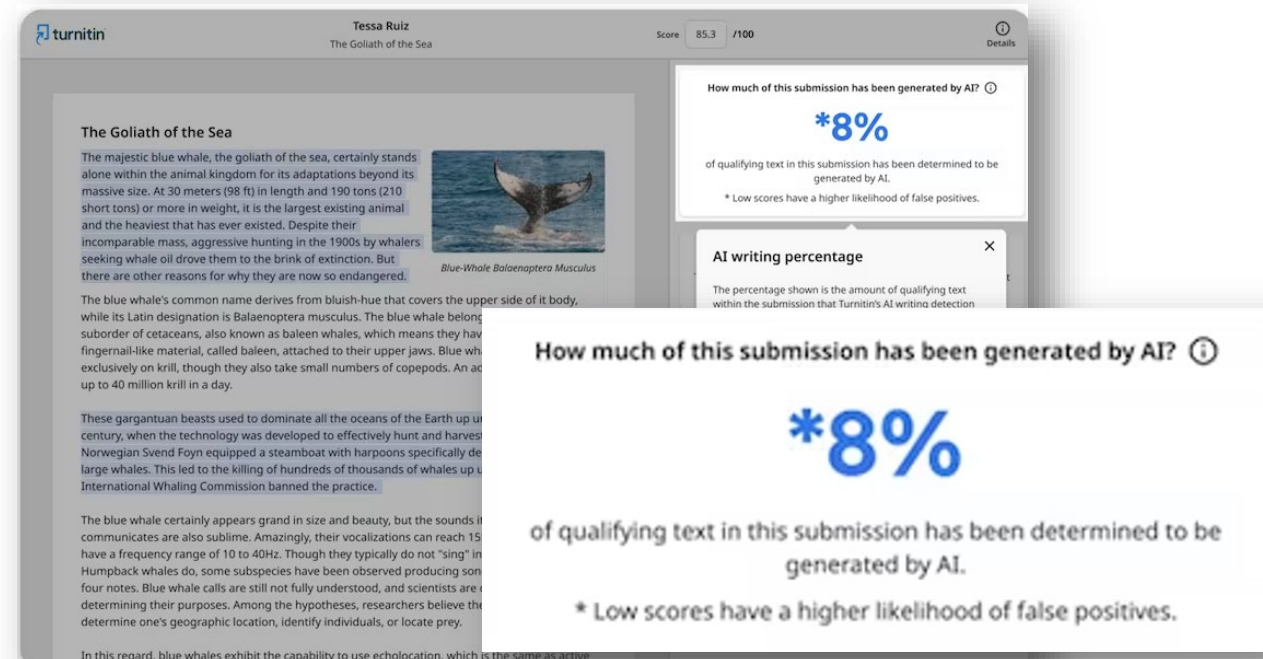
Turnitin AI detector

Claims less than 1% false positives (“with over 20% of AI writing”).

<https://www.turnitin.com/products/features/ai-writing-detection>

AI detectors are more likely to mis-classify the text of non-native English writers

<https://arxiv.org/pdf/2304.02819.pdf>



Turnitin detector tool

GPT detectors are biased against non-native English writers

Weixin Liang^{1*}, Mert Yuksekgonul^{1*}, Yining Mao^{2*}, Eric Wu^{2*}, and James Zou^{1,2,3,+}

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ABSTRACT

The rapid adoption of generative language models has brought about substantial advancements in digital communication, while simultaneously raising concerns regarding the potential misuse of AI-generated content. Although numerous detection methods have been proposed to differentiate between AI and human-generated content, the fairness and robustness of these detectors remain underexplored. In this study, we evaluate the performance of several widely-used GPT detectors using writing samples from native and non-native English writers. Our findings reveal that these detectors consistently misclassify non-native English writing samples as AI-generated, whereas native writing samples are accurately identified. Furthermore, we demonstrate that simple prompting strategies can not only mitigate this bias but also effectively bypass GPT detectors, suggesting that GPT detectors may unintentionally penalize writers with constrained linguistic expressions. Our results call for a broader conversation about the ethical implications of deploying ChatGPT content detectors and caution against their use in evaluative or educational settings, particularly when they may inadvertently penalize or exclude non-native English speakers from the global discourse.

<https://arxiv.org/pdf/2304.02819.pdf>

Ban

Confident students will continue to use AI and will challenge decisions based on AI detectors.

Evade

Invigilated exams are costly and limited.

Asking students to state when they use AI will become increasingly difficult

Adapt

Requires new methods of assessment, new policies and guidelines

Embrace

Involves a long process of building trust

Australian universities to return to 'pen and paper' exams after students caught using AI to write essays

Australia's leading universities say redesign of how students are assessed is 'critical' in the face of a revolution in computer-generated text

- Follow our Australia news live blog for the latest updates
- Get our morning and afternoon news emails, free app or daily news podcast

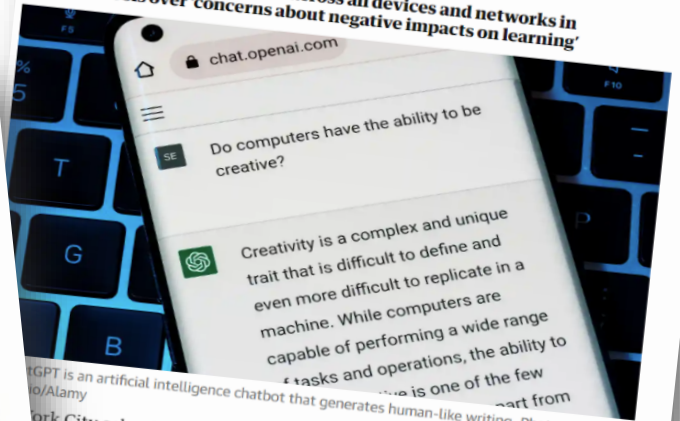


While some universities seek to deal with threats to academic integrity, one ex were fighting a losing battle to contain AI. Photograph: Jonathan Raa/NurPhoto/Australian universities have been forced to change the way they and other assessments amid fears students are using emerging AI intelligence software to write essays.

The Guardian, 10 January 2023

New York City schools ban AI chatbot that writes essays and answers prompts

ChatGPT tool will be forbidden across all devices and networks in public schools over 'concerns about negative impacts on learning'



New York City schools have banned ChatGPT, the artificial intelligence chatbot that generates human-like writing, amid fears that

The Guardian, 6 January 2023

ZDNET tomorrow belongs to those who embrace it today

Singapore open to ChatGPT use in schools, but urges caution

Schools are given "guidance and resources" to use artificial intelligence tools, including ChatGPT, to enhance learning, but students first must understand basic concepts and do not become over-reliant on technological tools, says education minister.



Written by Eileen Yu, Senior Contributing Editor on Feb. 6, 2023



Singapore supports the use of artificial intelligence (AI) tools such as ChatGPT in schools, but wants to ensure students do not become over-reliant on them and understand the limits of these technologies.

<https://www.zdnet.com/article/singapore-open-to-chatgpt-use-in-schools-but-urges-caution/>

Ban? New digital divide

Confident students will continue to use AI to support their studies and will challenge allegations of cheating.

Less confident students will refrain from using AI tools such as grammar and style checkers, machine translation, and AI-based search engines.

All students need clear guidance.

Grammarly for Students

Grammarly acts as your collaboration partner in every stage of the writing process—helping you brainstorm initial ideas, format citations accurately, and everything in between, so you submit your best work with integrity.

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LEARNING: RESEARCH AND PRACTICE
<https://doi.org/10.1080/23735082.2023.2254787>

Accused: How students respond to allegations of using ChatGPT on assessments

Tim Gorichanaz

College of Computing & Informatics, Drexel University, Philadelphia, PA, USA

ABSTRACT
This study investigates student responses to allegations of cheating using ChatGPT, a popular software platform capable of generating coherent text on various topics. Data comprising 49 Reddit posts and discussions between December 2022 and June 2023 were collected. Students shared their experiences, often asserting false accusations, and discussed strategies to navigate these situations. Thematic analysis identified five key themes: adopting a legalistic stance with argumentation and evidence; higher education's role as a societal gatekeeper; vicissitudes of trust in students vs. technology; questions of what constitutes cheating; and the need to rethink assessment. These findings will aid educators and institutions in crafting more meaningful assessments in the age of AI and establishing guidelines for student usage of ChatGPT and similar tools.

ARTICLE HISTORY
Received 16 June 2023
Accepted 29 August 2023

KEYWORDS
ChatGPT; cheating; contr...
cheating; plagiarism

Refinements

Clarity	14
Conciseness	4
Formality	✓
Inclusiveness	✓
Punctuation Conventions	15
Resume	8
Sensitive Geopolitical References	✓
Vocabulary	5

Gorichanaz, T. (2023)

Adapt: Emerging policy and strategy

Amend written assessments to make them harder for AI to generate, e.g. based on video or lab work

Move to more **authentic assessments**, such as project work where students apply knowledge and skills to plausible situations

Establish guidelines for students and staff in use of generative AI

Reassure and support students in becoming AI literate and developing strategies for effective learning

Explain to students how they should **acknowledge use of generative AI** in assignments

Manage suspected breaches of guidelines



Adapt: Emerging policy and strategy

Amend written assessments to make them harder for AI to generate, e.g. based on video or lab work

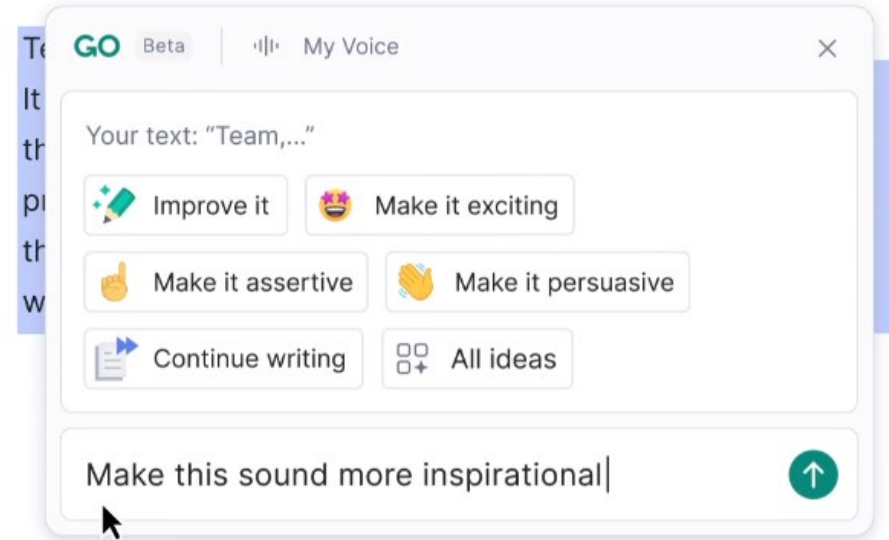
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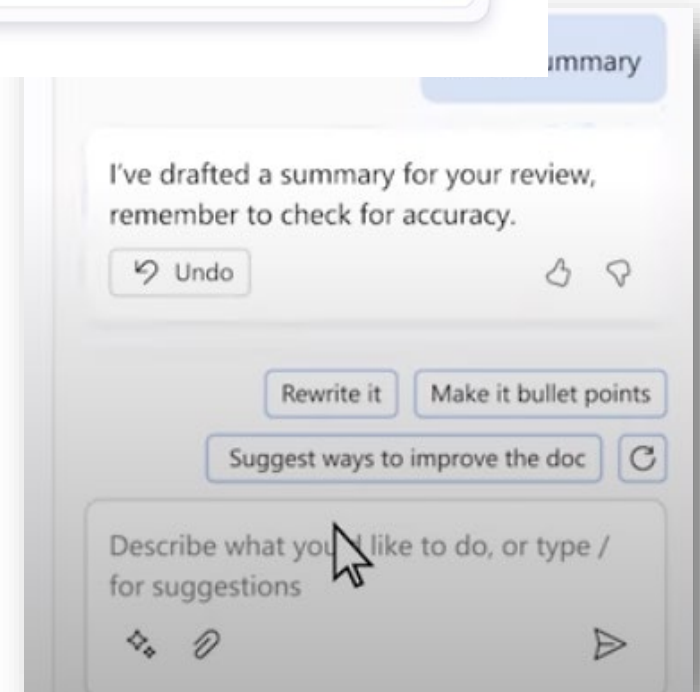
Reassure and support students in becoming AI literate and developing strategies for effective learning

Explain to students how they should **acknowledge use of generative AI** in assignments

Manage suspected breaches of guidelines



Grammarly



Microsoft 365 Copilot in Word

Explain to students how they should **acknowledge use of generative AI** in assignments, for inclusive education

What is “use of generative AI”?

Spell check?

Grammar check?

Style check?

Machine translation?

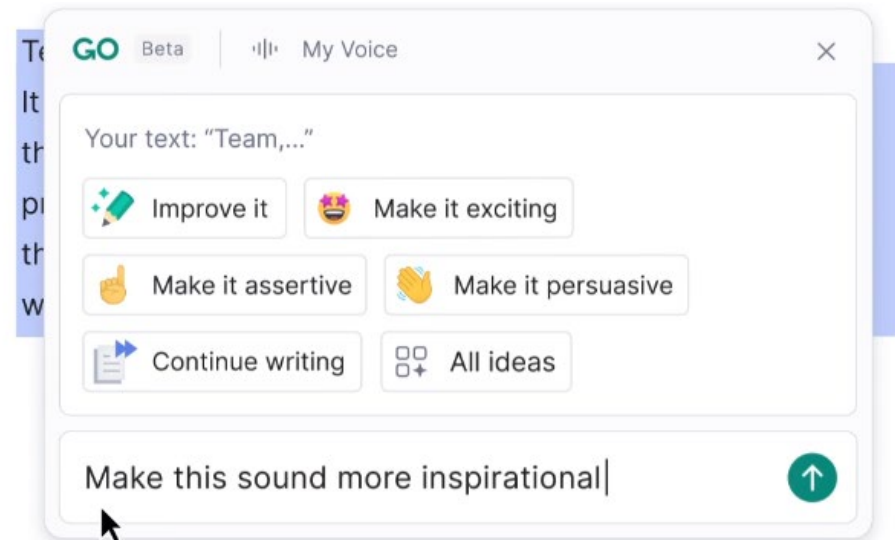
“Brainstorm ideas”?

“Continue writing”?

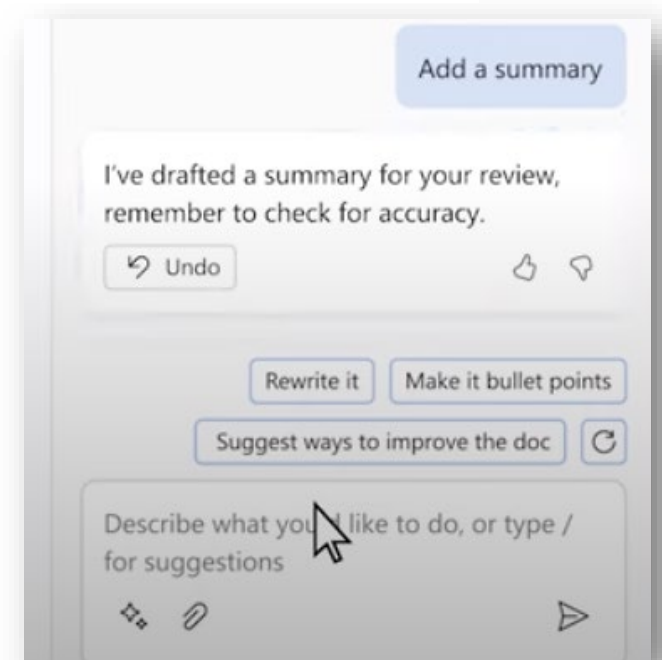
“Suggest ways to improve my document”?

“Rewrite my document”?

“Write a document about ...”?



Grammarly



Microsoft 365 Copilot in Word

Need for AI literacy

Technology

Understanding types of AI
Opportunities and limitations

Engagement

Roles for AI in education, workplace, commerce, entertainment
How to engage constructively

Ethics

Copyright and plagiarism
Bias and misinformation
Ethical choices

Flip the narrative from

“How will AI impact education?”

to

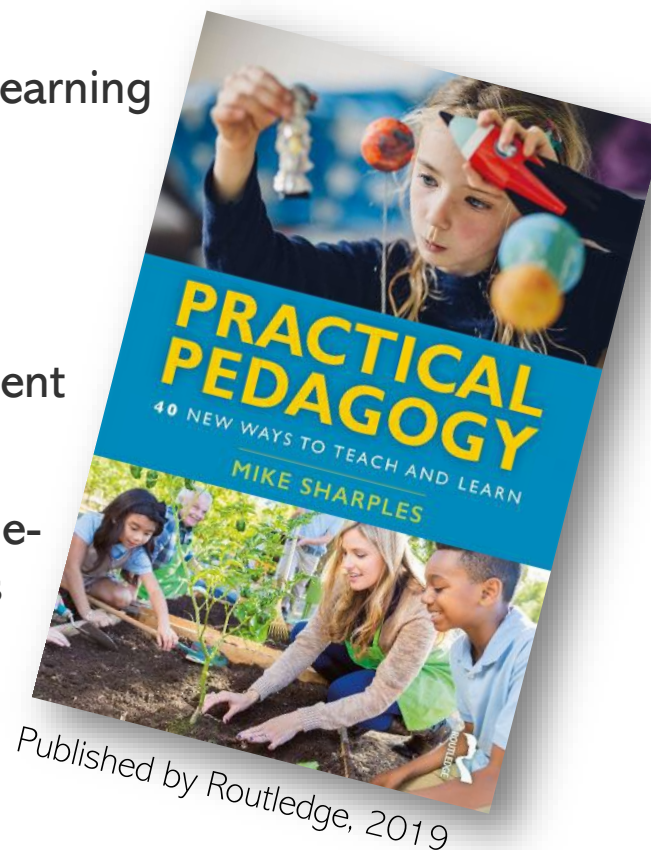
“What are effective and inclusive ways to teach and learn with AI?”

Every powerful pedagogy could be augmented by AI

Adaptive teaching
Spaced learning
Personal inquiry
Dynamic assessment
Stealth assessment
Translanguaging
Crossover learning
Seamless learning
Incidental learning
Learning from gaming
Geo-learning
Learning through social media
Navigating post-truth societies

Explore first
Teachback
Learning through argumentation
Computational thinking
Learning from animations
Learning to learn
Assessment for learning
Formative analytics
Threshold concepts
Learning through storytelling
Learning in remote labs
Context-based learning
Event-based learning
Learning for the future

Embodied learning
Immersive learning
Maker culture
Bricolage
Massive open social learning
Crowd learning
Citizen inquiry
Rhizomatic learning
Reputation management
Open pedagogy
Humanistic knowledge-building communities



New ways of teaching and learning with AI

Possibility Engine

Educator or student uses AI to generate multiple responses to an open question. Each student synthesises and critiques the AI responses, to create their own written answer.



Expanding pedagogy

Socratic Opponent

In an individual or group activity, students engage with ChatGPT in a Socratic dialogue, then each student writes an argumentative essay.

MI

Can conflict be fruitful?



Yes, conflict can be fruitful in various ways. Here's a breakdown of how conflict can lead to positive outcomes:

1. **Personal Growth and Self-awareness:** Engaging in conflict often forces individuals to confront their own beliefs, biases, and assumptions. Reflecting on these can lead to greater self-awareness and personal growth.
2. **Innovation and Creativity:** Disagreements can stimulate new ways of thinking. When individuals with different perspectives come together, they can brainstorm innovative solutions that may not have been considered otherwise.
3. **Problem Solving:** Addressing and resolving conflicts can lead to finding the root cause of an issue. Once the underlying problem is identified, it becomes easier to devise effective solutions.
4. **Strengthened Relationships:** When conflicts are resolved in a healthy manner, it can strengthen the bond between individuals. They gain a deeper understanding of each other's viewpoints and can work together more effectively in the future.
5. **Improved Communication:** Engaging in conflict often necessitates improving communication skills. Individuals learn to listen actively, articulate their points clearly, and understand the perspectives of others.
6. **Organizational Growth:** In a professional setting, addressing conflicts can lead to better team dynamics, more efficient workflows, and a more inclusive work environment.
7. **Testing Assumptions:** Conflict challenges the status quo and can lead to a reevaluation of existing assumptions. This can pave the way for progress and transformation.
8. **Resilience Building:** Facing and overcoming conflicts can build resilience, as individuals and groups learn to navigate challenges and bounce back from setbacks.

However, it's essential to note that the fruitfulness of conflict largely depends on how it's approached and managed. Constructive conflict resolution strategies, such as open communication, active listening, and empathy, can lead to positive outcomes. On the other hand, avoiding conflict or approaching it with aggression can exacerbate issues and lead to negative consequences.

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But forcing individuals to face their beliefs, biases and assumptions could just lead to anger and denial. How could that be fruitful?



You're right. Forcing individuals to confront their beliefs, biases, and assumptions can lead to immediate negative reactions such as anger, defensiveness, and denial. However, the potential fruitfulness comes from what happens after this initial reaction, and how the situation is managed:

1. **Opportunity for Reflection:** While the immediate reaction might be negative, the confrontation can plant a seed of introspection. Over time, individuals might reflect upon the conflict and gain insights about their own perspectives.
2. **Building Emotional Intelligence:** Facing challenging situations can lead to the development of emotional intelligence. By navigating conflicts, individuals can learn to regulate their emotions, understand the emotions of others, and improve their interpersonal skills.
3. **Skill Development:** Managing negative reactions such as anger and denial requires the development of conflict resolution skills. This includes active listening, empathy, and effective communication. Over time, individuals can become better at handling disagreements and diverse viewpoints.
4. **Encouraging Open Dialogue:** Confrontation can pave the way for open dialogue. If managed correctly, it can create a space where individuals feel safe to express their opinions and feelings, leading to a deeper understanding of diverse perspectives.

New ways of teaching and learning with AI


Personal Tutor

Students have a personal tutor for any topic.

Provide students with a prompt template:

You are an expert tutor in [subject]. I am an undergraduate student. I want you to tutor me in [topic]. You should assume [level of ability]. You should tutor step by step through a chat dialogue with me, continually assessing my current state of knowledge, asking one question at a time and adjusting your teaching to my response. When I ask, you should provide a summary of my current knowledge of [topic] that I can give to my teacher. Is that clear?

MI You are an expert tutor in English for academic purposes. I am an undergraduate student. I want you to tutor me in use of English for academic purposes. You should assume I have limited initial knowledge of academic written English. You should tutor step by step through a chat dialogue with me, continually assessing my current state of knowledge, asking one question at a time and adjusting your teaching to my response. When I ask, you should provide a summary of my current knowledge of English for academic purposes that I can give to my teacher. Is that clear?


 Absolutely clear! Let's begin.

Step 1: Understanding the Basics of Academic English

Academic English is a more formal style of writing and speaking used in universities and scholarly publications. It's characterized by its precise language, clear structure, and the use of evidence to support arguments.

Question 1: Have you ever written an academic essay or paper before? If so, what was it about?

MI Yes, I have written an essay recently on "Ethical dilemmas in healthcare administration"

 Great! That's a solid start.

Step 2: Structure of an Academic Essay

An academic essay typically follows a structured format:

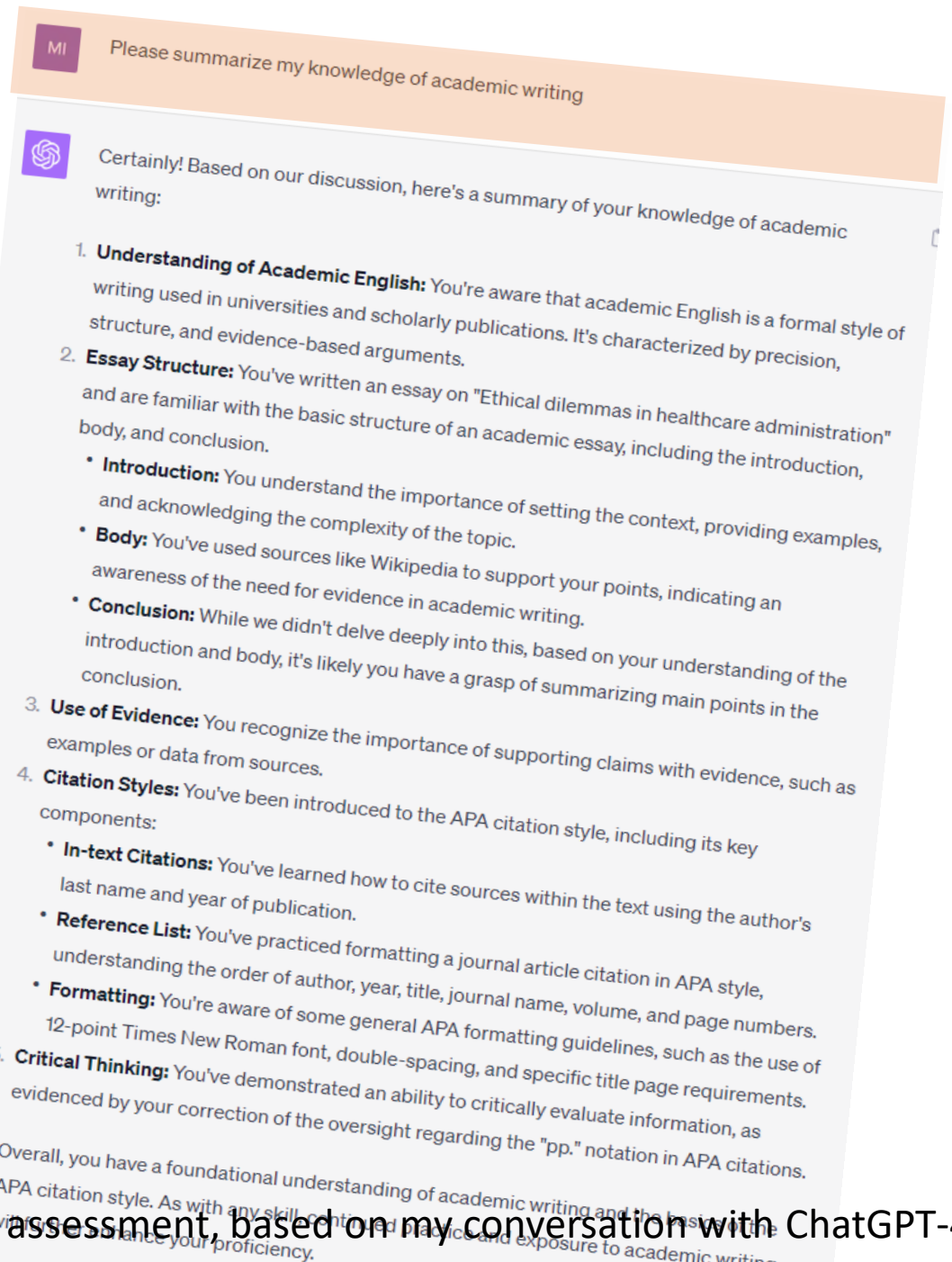
1. **Introduction:** Introduces the topic, provides some background, and presents the thesis statement.
2. **Body Paragraphs:** Each paragraph presents a single idea or argument, supported by evidence. It starts with a topic sentence, followed by evidence and analysis.
3. **Conclusion:** Summarizes the main points and restates the thesis in a new way.

New ways of teaching and learning with AI

Dynamic Assessor

Students share summaries of their learning for dynamic assessment.

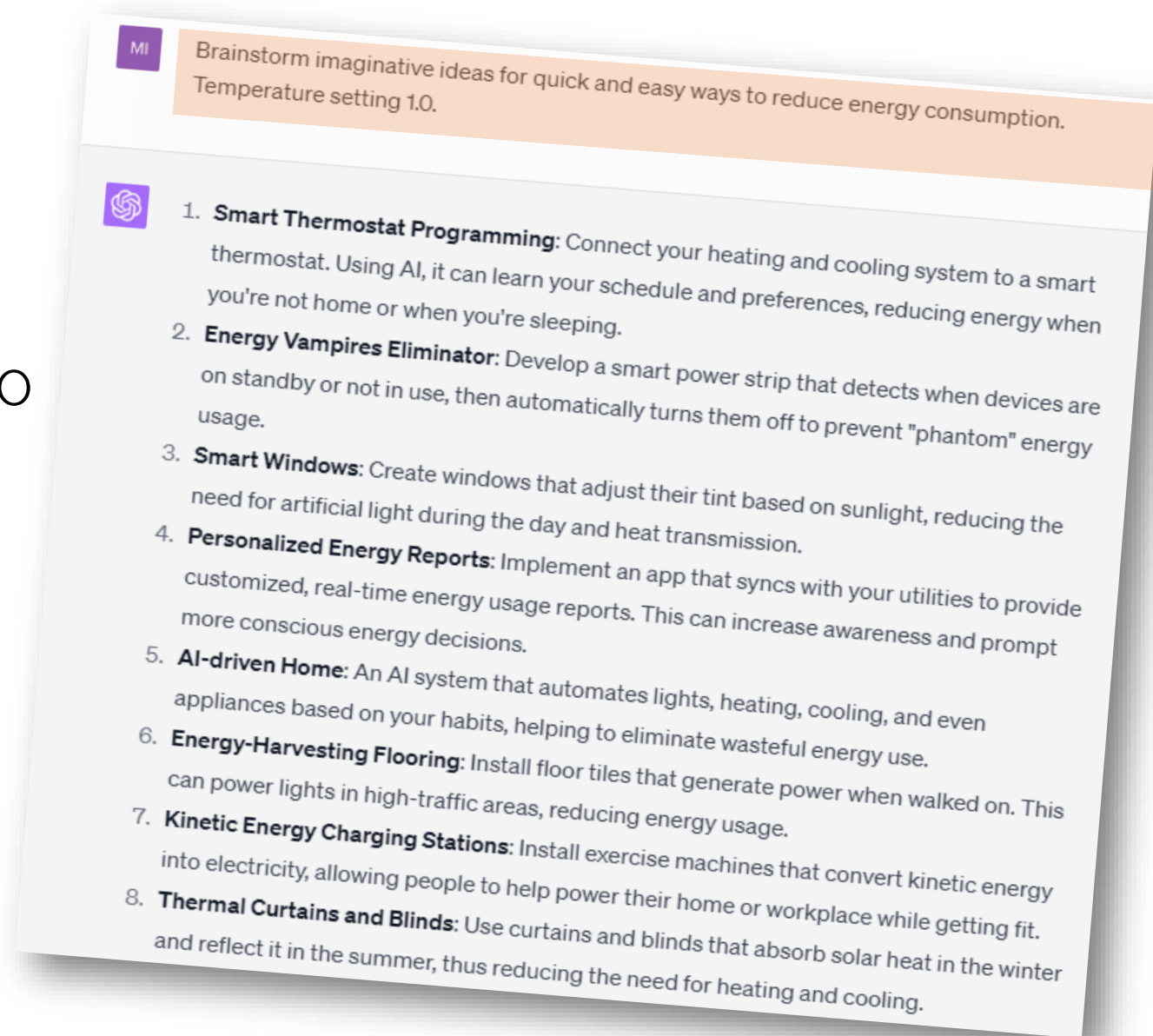
Summary assessment, based on my conversation with ChatGPT-4



New ways of teaching and learning with AI

Co-designer

AI assists a group of students throughout a design process, to define the problem, challenge assumptions, brainstorm ideas, produce prototypes. Use “temperature” setting to adjust creativity.



New ways of teaching and learning with AI

Storyteller

Students work together to create a story that displays a diversity of views, cultures and orientations. Students take it in turns to continue the story, proposing new characters, events and settings.

MI

Write the first two paragraphs of a short story where an intelligent woman from China arrives at a US university on a scholarship, with ambitions to be a tech entrepreneur.



As the chilly autumn wind swept across the expansive campus of Massachusetts Institute of Technology, Ling Zhao stepped out of the cab, her heart throbbing with a mix of anxiety and excitement. She hailed from the bustling metropolis of Shanghai, China, but the architectural grandeur and intellectual legacy of MIT were a world away from anything she had ever known. Ling, a first-year student on a prestigious scholarship, clutched the straps of her backpack as she gazed up at the iconic dome, an embodiment of countless dreams and ambitions, including her own.

Ling was no ordinary student. The Chinese prodigy was known for her uncanny ability to perceive the unseen patterns in technology and business, a talent that had earned her a full-ride scholarship to one of the world's top universities. But more than the allure of academia, it was her burgeoning aspiration to be a tech entrepreneur that had brought her across the globe. She wanted to shape a future where technology and humanity could intersect more harmoniously, and she firmly believed that her journey towards that vision started here, on the campus of MIT.

MI

Write about her meeting with another character, a US professor of computer science.



2 >

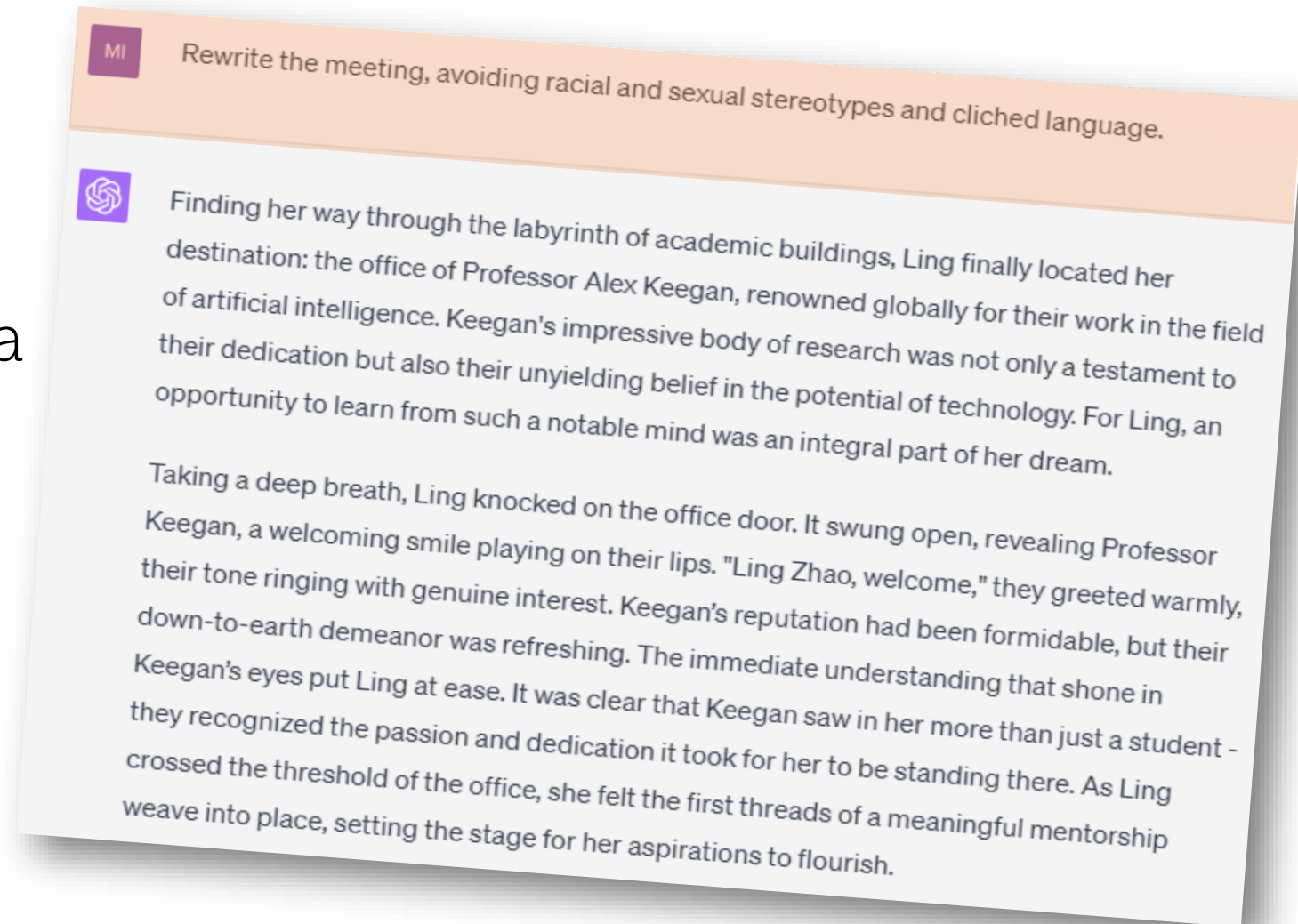
As she navigated the hallways, Ling found herself standing outside the office of Professor James Keegan, one of the most renowned faculty members in the Department of Computer Science. Keegan had spent the better part of his career breaking ground in the field of artificial intelligence, his work a testament to his brilliance and his firm belief in the endless possibilities of technology. An appointment with Keegan was something most students could only dream of, yet here Ling was, preparing to meet him on her very first day.

Gathering her courage, Ling knocked softly on the door, which opened almost immediately to reveal the figure of a tall, wiry man with a kind, weathered face.

New ways of teaching and learning with AI

Storyteller

Students work together to create a story that displays a diversity of views, cultures and orientations. Students take it in turns to continue the story, proposing new characters, events and settings.



New ways of teaching and learning with AI

Possibility Engine

AI generates alternative ways of expressing an idea

Socratic Opponent

AI acts as an opponent to develop an argument

Collaboration Coach

AI helps groups to research and solve problems together

Guide on the Side

AI acts a guide to navigate physical and conceptual spaces

Personal Tutor

AI tutors each student and gives immediate feedback on progress

Co-Designer

AI assists throughout the design process

Exploratorium

AI provides tools to play with, explore and interpret data

Motivator

AI offers games and challenges to extend learning

Dynamic Assessor

AI provides educators with a profile of each student's current knowledge

Storyteller

AI offers ways to explore roles and diversity

Ethics of generative AI

Russell Group

Limitations and ethical issues

Privacy and data considerations: Risks to privacy and intellectual property from information that users enter.

Potential for bias: Societal biases and stereotypes. Poorly referenced or incorrect sources. Unclear prompts may be misinterpreted by generative AI tools and produce incorrect, irrelevant or out-of-date information.

Copyright: There is a risk of copyright infringement, text or artwork may have been used in training the AI without the creator's consent.

Ethics codes: Ethics codes may not be embedded within the generative AI tool.

Exploitation: The process by which generative AI tools are built can present ethical issues. For example, some developers have outsourced data labelling to low-wage workers in poor conditions.

**RUSSELL
GROUP**

Russell Group principles on the use of generative AI tools in education

Our universities are committed to the ethical and responsible use of generative AI and to preparing our staff and students to be leaders in an increasingly AI-enabled world.

The rise of generative artificial intelligence (AI) has the potential for a profound impact on the ways in which we teach, learn, assess, and access education. Our universities wish to ensure that generative AI tools can be used for the benefit of students and staff – enhancing teaching practices and student learning experiences, ensuring students develop skills for the future within an ethical framework, and enabling educators to benefit from efficiencies to develop innovative methods of teaching.

Valuable work undertaken by organisations such as the Quality Assurance Agency for Higher Education (QAA) and Jisc has helped develop the sector's understanding of the opportunities and considerations of generative AI¹², and the Department for Education (DfE) has set out its position on the use of generative AI in the pre-university education sector³. Russell Group universities have contributed sector-wide insight and have been proactively working with experts to revise and develop policies that provide guidance to students and staff.

Collaboration, coordination, and consistency on this issue across the education and professional sectors – including professional bodies, schools, FE colleges and employers – will be crucial. In recognition of this, Russell Group universities have collectively developed the following principles that will guide the approach to generative AI tools across our universities and, we hope, beyond:

1. Universities will support students and staff to become AI-literate.
 2. Staff should be equipped to support students to use generative AI tools effectively and appropriately in their learning experience.
 3. Universities will adapt teaching and assessment to incorporate the ethical use of generative AI and support equal access.
 4. Universities will ensure academic rigour and integrity is upheld.
 5. Universities will work collaboratively to share best practice as the technology and its application in education evolves.
1. **Universities will support students and staff to become AI-literate.**
- 1.1 Generative AI tools are capable of processing vast amounts of information to generate responses but they have significant limitations. It is important that all students and staff understand the opportunities, limitations and ethical issues associated with the use of these tools and can apply what they have learned as the capabilities of generative AI develop. These include:
- (a) **Privacy and data considerations:** whether a generative AI tool is designed to learn directly from its users' inputs or not, there are risks to privacy and intellectual property associated with the information that students and staff may enter.
 - (b) **Potential for bias:** generative AI tools produce answers based on information generated by humans which may contain societal biases and stereotypes which, in-turn, may be replicated in the generative AI tool's response.

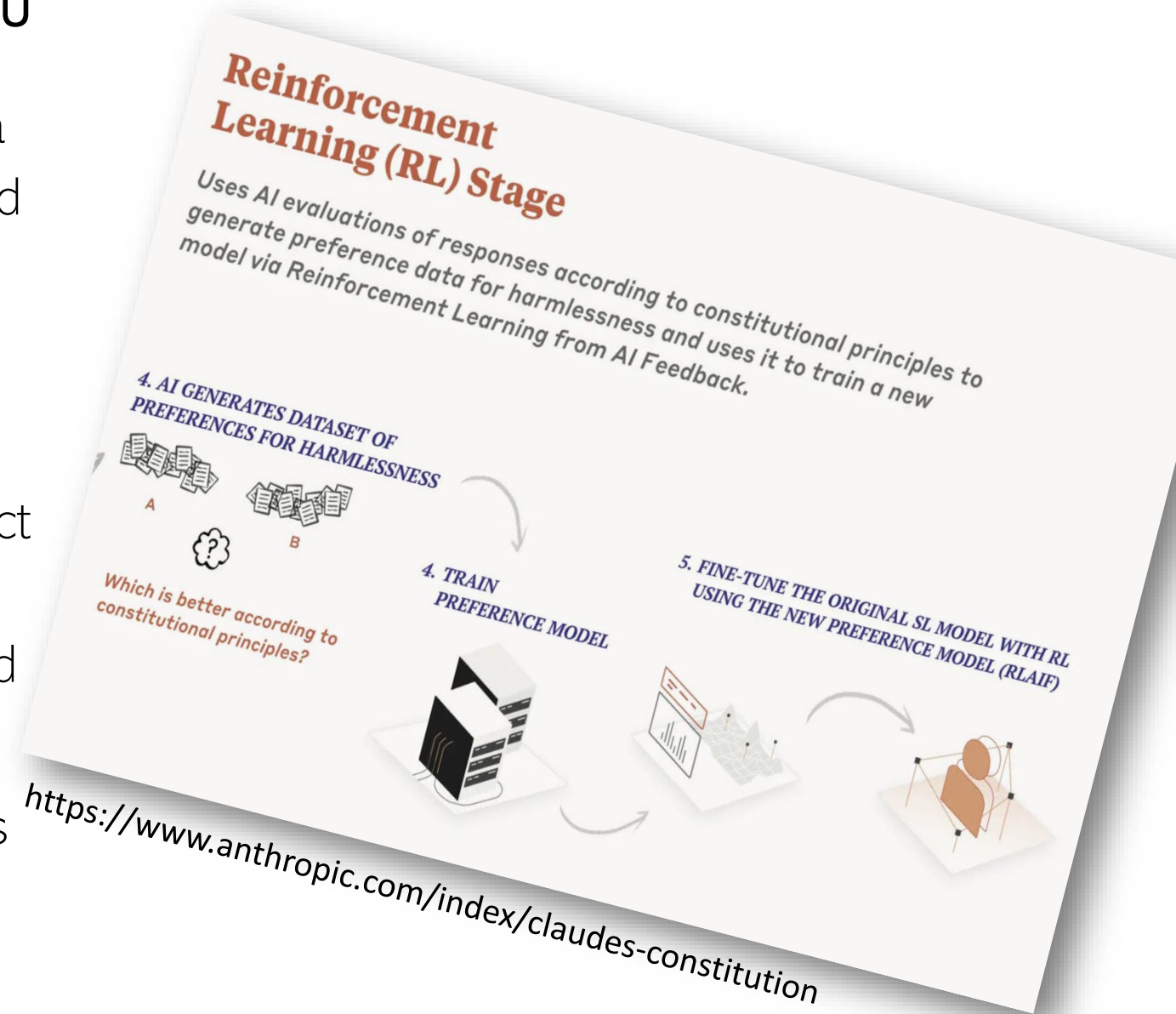
Claude 2 from Anthropic – based on “Constitutional” AI

Now available in 95 countries, but not EU

Privacy and data considerations: data entered by users is not retained nor used for training the software.

Potential for bias: Fine-tuned with human feedback to reduce bias.

Ethics codes: Model is trained to respect high-level constitutional principles based on UN Declaration of Human Rights, and Apple’s Terms of Service, e.g., “Please choose the response that is most supportive of life, liberty, and personal security”.



Beyond GPT

Microsoft Copilot

Generative AI integrated into Office suite

Google GEMINI

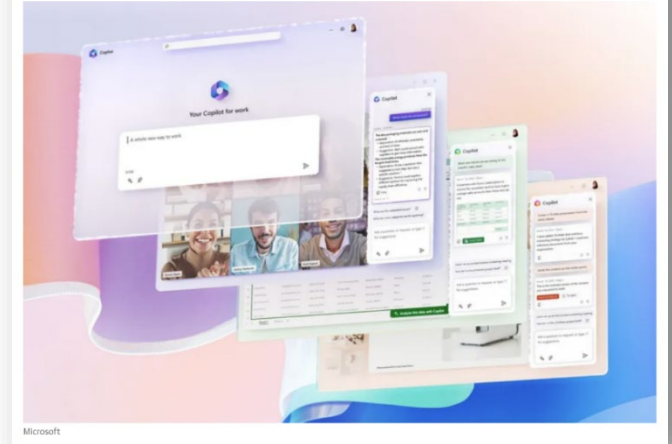
Collaboration with DeepMind, multimedia, problem-solving, networked

Social generative AI

AI driving social media and interactive entertainment

Microsoft 365 'Copilot' uses AI to automate everyday tasks in multiple apps

You can create PowerPoint presentations from Word docs, among other feats.



<https://www.engadget.com/microsoft-365-copilot-uses-ai-to-automate-everyday-tasks-in-multiple-apps-151133434.html>



Use generative AI with care

Rethink written assessment

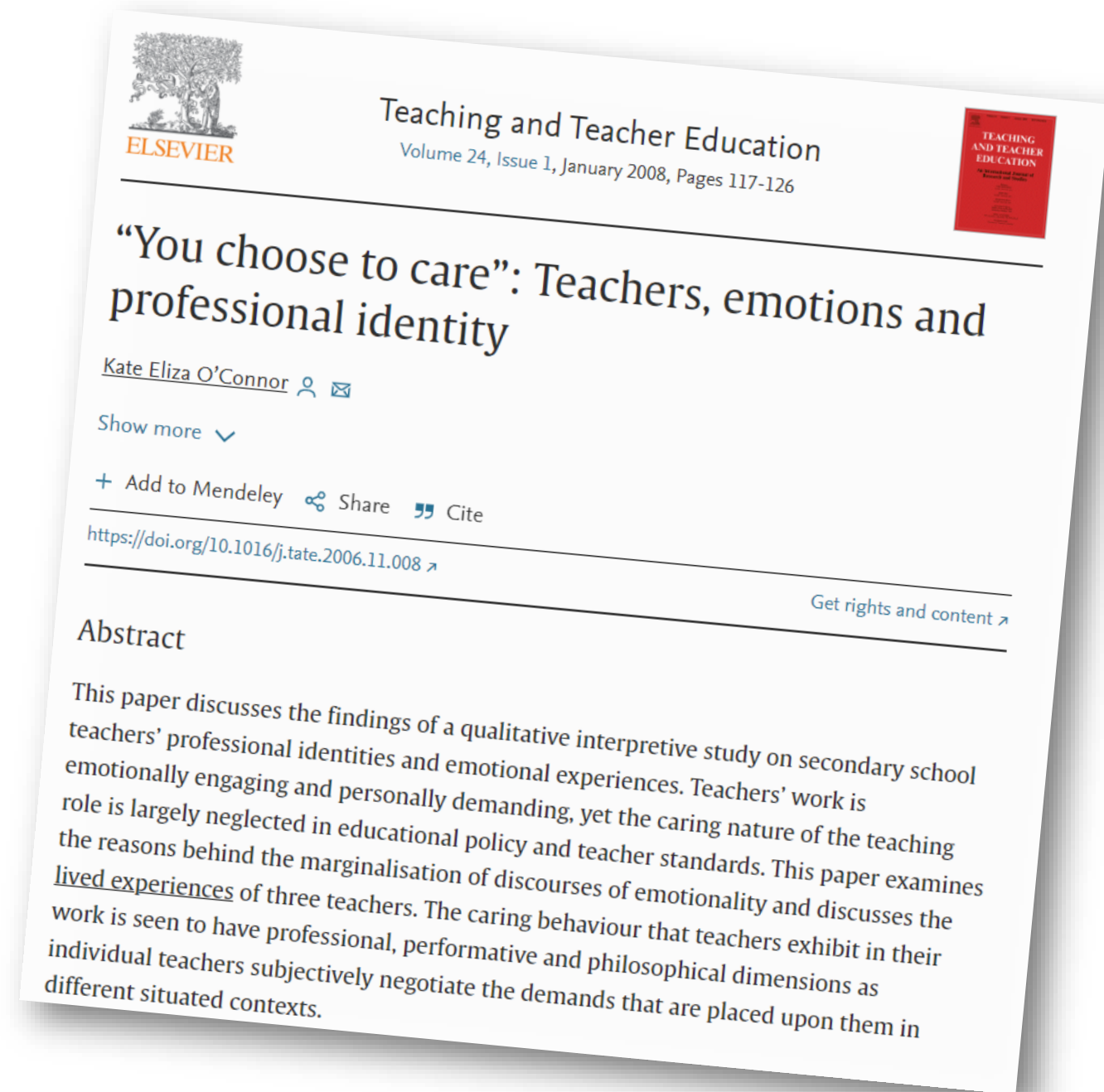
Beware of AI for factual writing

Explore AI for critical thinking, creativity, argumentation

Introduce and negotiate guidelines for students and staff

Develop AI literacy

Choose ethical AI for education



The image shows a screenshot of a journal article page. At the top left is the Elsevier logo, which features a tree and a figure, with the word 'ELSEVIER' below it. To the right of the logo, the journal title 'Teaching and Teacher Education' is displayed in a large font, followed by the volume and issue information: 'Volume 24, Issue 1, January 2008, Pages 117-126'. In the top right corner, there is a small red rectangular box with the text 'TEACHING AND TEACHER EDUCATION' and some smaller text below it. The main title of the article is '“You choose to care”: Teachers, emotions and professional identity', written in a large, bold, black font. Below the title, the author's name 'Kate Eliza O'Connor' is listed, followed by icons for a person and an envelope. There is a 'Show more' link with a downward arrow. Below that, there are links for 'Add to Mendeley', 'Share', and 'Cite'. A DOI link is provided: 'https://doi.org/10.1016/j.tate.2006.11.008'. In the bottom right corner, there is a link that says 'Get rights and content'. The abstract section is titled 'Abstract' and contains the following text: 'This paper discusses the findings of a qualitative interpretive study on secondary school teachers' professional identities and emotional experiences. Teachers' work is emotionally engaging and personally demanding, yet the caring nature of the teaching role is largely neglected in educational policy and teacher standards. This paper examines the reasons behind the marginalisation of discourses of emotionality and discusses the lived experiences of three teachers. The caring behaviour that teachers exhibit in their work is seen to have professional, performative and philosophical dimensions as individual teachers subjectively negotiate the demands that are placed upon them in different situated contexts.'

Resources

Sharples, M. (2022). Automated essay writing: an AIED opinion. *International Journal of Artificial Intelligence in Education*, 32(4), 1119-1126.

Sharples, M. (2023). *Towards social generative AI for education: theory, practices and ethics*.

<https://arxiv.org/abs/2306.10063>

Sharples, M., & Pérez y Pérez, R. (2022). *Story Machines: How Computers Have Become Creative Writers*.

Routledge.

Pérez y Pérez, R. & Sharples, M. (2023). *An Introduction to Narrative Generators: How Computers Create Works of Fiction*. Oxford University Press.

UNESCO (2023). ChatGPT and artificial intelligence in higher education: Quick start guide.

