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more about their story**



Home



Reference  
Lists





Mary is a creative writing graduate-turned copywriter working in marketing. She was forced to turn to AI and has since embraced AI as a writing tool.

ChatGPT is replacing jobs in copywriting [1] though for the present the quality of output and lack of rhetorical intelligence [2] still provide opportunity for human writers [3] [4].

AI is rapidly improving with advances in fact checking [5]. Like Mary, our students will navigate a world of AI-generated content.



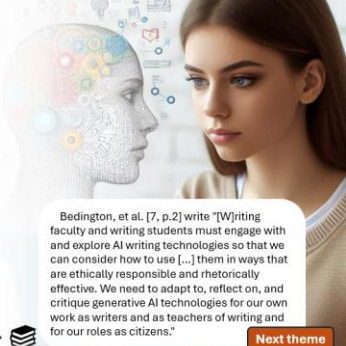
### Learning to use Gen AI

Many find learning to use AI challenging; it adds stress and takes time, decreasing productivity while workers learn to use the technology. Large-scale surveys find that currently skill level of employees is low. While people are teaching themselves, they are not learning how to use AI most effectively [6].

Employees report wanting more gen AI training than is being provided in the workplace [6]

**Are we providing the skills that students will need in the workplace?**

Bedington, et al. [7, p.2] write "[W]riting faculty and writing students must engage with and explore AI writing technologies so that we can consider how to use [...] them in ways that are ethically responsible and rhetorically effective. We need to adapt to, reflect on, and critique generative AI technologies for our own work as writers and as teachers of writing and for our roles as citizens."



Next theme


### AI-mediated interactions

AI will be everywhere. 50% of surveyed CEOs are integrating gen AI into their products [8]. Companies are advised to hyper-personalize offerings and communications to customers [9], potentially increasing social isolation [8]. Consumers report openness to using AI in a range of "human-first" products, such as therapy and medicine, including 20% willing to go on a date with AI partner [8].

Yet several factors contribute to AI generating harmful and offensive content. For example, the process by which the training set is collected and filtered is liable to reinforce dominant hegemonic views and marginalise other views [10]. "White supremacist and misogynistic, ageist, etc. views are overrepresented in the training data" [10, p.613]. Language models are also likely to amplify bias in the training data [10].

**How do we prepare students to navigate an AI-generated media landscape?**

Google's Gemini demonstrates the difficulty of avoiding bias



Previous theme

Next theme

### Using AI Safely

AI models are extraordinarily data-hungry. They demand access to personal data to train, fine tune, and provide accurate and helpful responses. For example, Much of the usefulness of ChatGPT depends on Reinforcement Learning with Human Feedback [11], a method to fine-tune AI models based on user interaction.

Retrieval Augmented Generation (RAG) [12] is a method to optimise the output of a large language model by querying a dataset. In RAG, the prompt is used to query connected data sources; imagine an AI personal assistant which can query your personal emails. RAG helps to address the problem of false information and helps make responses more specific to a particular context.

There are various security threats of large language models, including leaking sensitive information and reproducing memorised training data [13].

**How are we equipping students with knowledge to make informed decisions about the safe use of AI?**



Previous theme

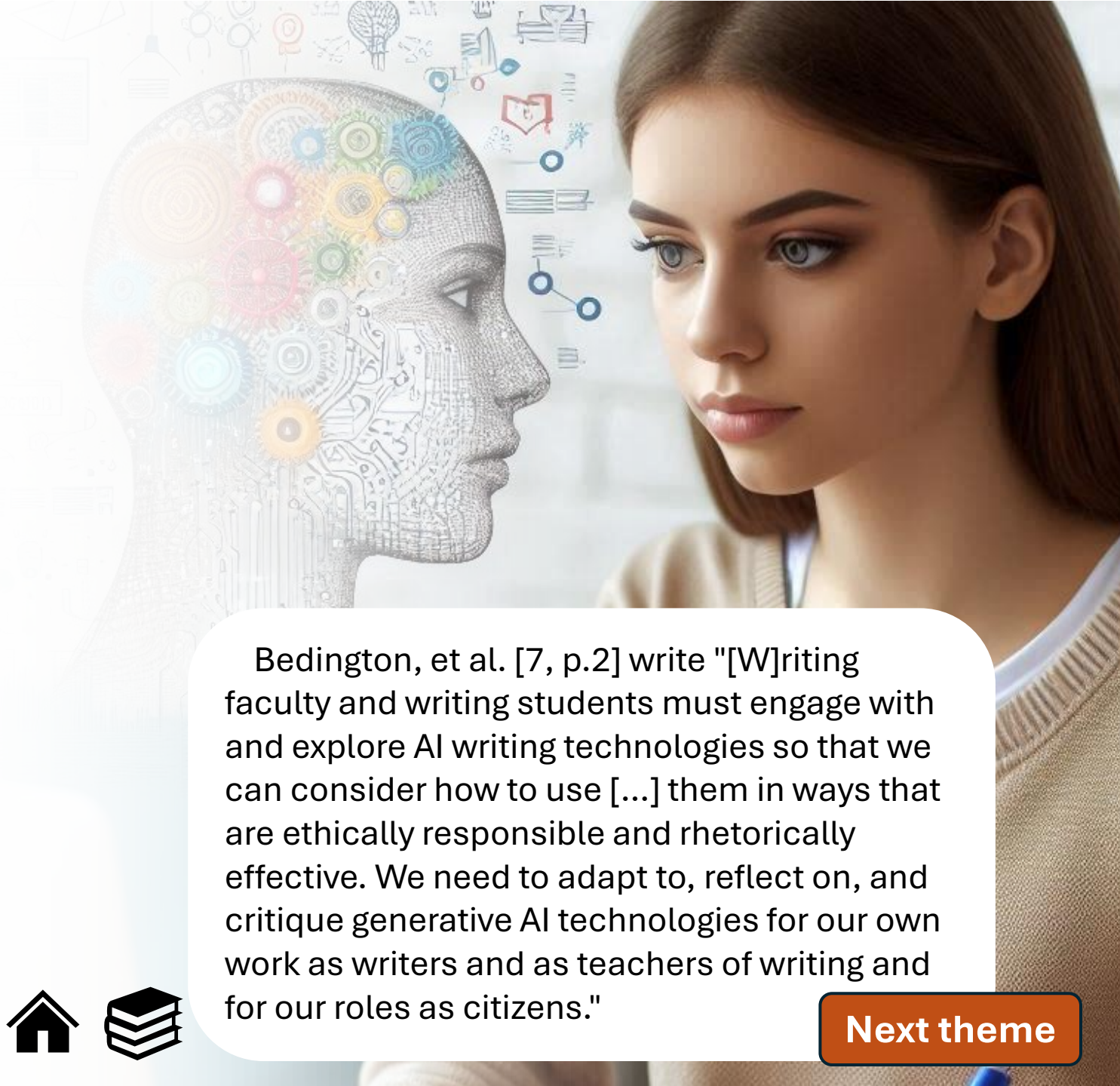


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**Are we providing the skills that students will need in the workplace?**

A woman with long brown hair and blue eyes is shown in profile, looking thoughtfully to the right. Overlaid on the left side of the image is a stylized, wireframe human head in profile, facing right. The interior of this head is filled with colorful gears and circuitry, symbolizing artificial intelligence or cognitive processes. The background is a soft-focus office or study environment with various icons and diagrams floating in the air.

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[Next theme](#)

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[Previous theme](#)



Certainly! Here is a portrait of a Founding Father of America:



Google's Gemini demonstrates the difficulty of avoiding bias

[Next theme](#)





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[Previous theme](#)





In Megan's story, she talks about how she is challenged by the new and unfamiliar technology around Environmental Impact studies [14,15,16].

She is frustrated by the unnecessary of these challenges. These cause her to doubt herself and diminish her confidence.

But by applying the skills and behaviours she learned during her degree she was able to adapt and critical reflect on her relationship with the AI.



## GenAI and EIA

The processes and algorithms of determining the potential environmental impact as an analytical system is relatively straightforward to be made into a generative artificial intelligence (GenAI). Even by 2022, the use of GenAI in predicting the environmental impact of products over a life cycle was very accurate (68-81%) [7]. Naturally, the accuracy of these systems continued to be increased as well as the sophistication of the algorithms to include even more data, variables and scenarios.

Conducting an impact assessment has always been a high skill task, previously restricted to the work of a human mind to seek out and recognise seemingly obscure data and creative responses.

**If professional graduates lose touch with the specialist knowledge, skills and behaviours of their discipline, does (Gen)AI risk being an inferior replacement to those humans?**



Next theme



## Humans and Machines

AI has the potential to automate tasks and augment human abilities. However, humans remain invaluable for their creativity, emotional intelligence, and ability to provide contextual understanding. While AI excels at data processing and rule-following, humans excel at abstract thinking, empathy, and making subjective judgments.

The true potential lies in synergistic human-AI collaboration. AI can handle data-intensive tasks, freeing humans to focus on strategic decision-making, innovation, and building interpersonal relationships. Humans provide the ethical framework, emotional intelligence, and creative spark that AI currently lacks.

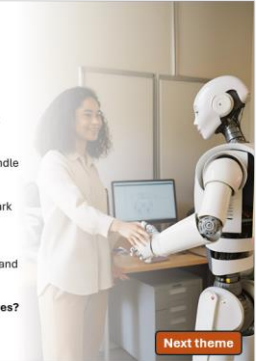
By leveraging AI as a powerful tool while recognizing the irreplaceable value of the human mind, we can achieve unprecedented productivity and breakthroughs.

**Do our students use AI to replace themselves or enhance themselves?**



Previous theme

Next theme



## The Value of a Graduate Degree

The skills and behaviours that Megan learned from her degree has allowed her to critically reflect on her situation and adapt by learning new skills. In this way, she exhibits some of the most desirable qualities of a graduate: autonomy, curiosity, open-mindedness, resilience and a commitment to learning.

Where she has felt that she lacked specific knowledge or skills, her behaviours developed during her studies allowed her to regain her confidence and adapt as a professional learner to an unforeseen future.

**How do we promote these values in our students' education to ensure lifelong success?**



Previous theme





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Next theme



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[Previous theme](#)



[Next theme](#)





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[Previous theme](#)





Bob is a keen but frustrated user of AI. They are trying to set themselves up as a peripatetic music teacher but despite their musical talent they are struggling to get business.

They've been directly affected by industries outsourcing work to AI systems, and yet they are struggling to outsource their own workloads to an AI system.

They also refer to data privacy issues and the resultant fraud which impacted their family. As well as a global climate emergency which has had a severe impact on many other countries.



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### Job Displacement

It is predicted that the growing development of artificial intelligence will increase productivity (by 0.5-0.9 percentage points for the US) and create new job opportunities (estimated at 12 million job shifts in the US). These will be concurrent with up to 30% of work hours being done by AI (in the US) and between 20-85 million jobs being displaced globally (displaced being a nicer word for lost) [17][18][21].

Bob highlights how their peers are benefiting from this by shifting to these new roles (the AI bot manager) [19] and utilising AI systems to improve their productivity (automated personalised communications)[17][18][20]. But these benefits are only available to those that can use and work with the technology.

What are the potential changes that will impact our students?  
How do we prepare them with the skills and behaviours to meet these changes?


[Next theme](#)

### Data Privacy and Fraud

Bob briefly alludes to an event in 2027 in which private firms were feeding training sets for Large Language Models. These businesses were unregulated often exploiting the global south to process the data. In 2027, it was discovered that these firms had gained access to private data such as names, addresses, phone numbers, credit card details and social security/national insurance numbers.

This data was fed into the LLMs and either in the process of or as a result, scammers obtained this data. Tens of thousands of people in Europe and the US were victims of fraud. The total cost to these victims is still unconfirmed but many speculate it is into the millions. Investigations and court cases remain ongoing.

Information-, Data-, Digital-, and AI-literacies may feel like buzz word terminology, but their importance should not be underestimated. How can we promote and develop these as part of the curricular at YS?

[Previous theme](#)[Next theme](#)

### Global Climate Emergency



Bob refers to climate change disasters, including flooding India, and wildfires in Australia. In 2028, the global carbon budget was exceeded. [23][24] This has resulted in a 1.5°C increase over preindustrial levels [25].

The results of this global increase has resulted in heatwaves, wildfires, floods, tropical storms and hurricanes, both in frequency and intensity [26].

While many industries share the blame for this, AI has taken a lot of the heat on this. As a newer industry it's contribution to CO<sub>2</sub> emissions was not as thoroughly considered in the global carbon budget. It was known that ChatGPT created 2,200 tons of CO<sub>2</sub> just in its training of the LLM. Chat-GPT 4 and 4+ increased this to 22,000 tons [22].

Further to this, the increase in data centers throughout the world has seen their energy consumption increase from 17 gigawatts (2022) to 35 gigawatts (2030) [22]. As well as the increased demand for semiconductors which are highly intensive users of electricity and water in their manufacture [22].

Dammed if you do, dammed if you don't. In our other provocations, we encourage you to think about how we can encourage and support students to use AI, but here we ask you to consider how we use this ethically?

[Previous theme](#)





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[Next theme](#)

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[Previous theme](#)



[Next theme](#)





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[Previous theme](#)



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