



Compendium of AI Practice

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Introduction

Over the last 32 months since the public launch of ChatGPT3 staff across Kingston University have been developing their practice with generative AI (GAI) and assessing the implications for their discipline and learning, teaching and assessment. This compendium aims to share some of this practice, and hopefully there will be a few more editions to come!

This compendium has 23 examples of practice from across every faculty including learning and teaching activities that can be adapted, discussion of concepts, AI app developments and even the use of AI to support app development.

Although we frequently share practice from across the sector in our webinars and events, it is clear that practice and innovation in this space at KU can stand up with the best.

Thank you to all of our contributors!

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The Technologies and Implications for 2025/6

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Generative AI (GAI) technologies have been developing at what seems like an exponential rate both in the tools available and in their capabilities. In early 2023 there was a handful of GAI tools which all seemed extraordinary in their capability, with ChatGPT3 being dominant and the indication that the other big tech companies had been wrong footed. However, ChatGPT3 was trapped in time isolated from the web, had limited ‘memory’, limited if any mathematical capabilities and was prone to generating inaccurate or false outputs. ChatGPT was text focussed though there were powerful image generating tools available such as Midjourney, but the ability to generate in any other media was limited.

Today there are tens of thousands of GAI tools, able to generate output in almost any media, including voice, music, video, 3D, animation etc. There is significant competition between big tech in terms of the various GAI benchmarks, with ChatGPT vying with Google Gemini, Anthropic’s Claude, Meta’s Llama and X’s Grok for top spot, along with other tools, including opensource, from other parts of the world including DeepSeek & Qwen (Alibaba) from China. Contemporary tools are web-connected, tend to be multi-modal (input and output in different media), and increasingly have agentic (acting autonomously with the ability to work with other tools) and ‘reasoning’ capabilities (spending longer generating higher quality outputs, particularly in scenarios where there is a ‘correct answer’).

At the time of writing ChatGPT 5 has just been generally released (and is also available via CoPilot), and reading initial reviews, to a very mixed reception, though perhaps the disappointments are down to overhyped expectations, with some even expecting Artificial General Intelligence to have been achieved. It also seems, on initial evaluations, that the tool has not jumped significantly ahead of rivals. It is likely that over the 2025/6 academic year there will be many significant updates across the main GAI chat tools with the top spot remaining in flux. The key impact of this heated competition is that overall capabilities will continue to advance throughout the academic year. One capability that has significantly improved over the last few months, but almost under the radar, has been image generation, and this is down to changes in the core models used. This tends to result in better text generation, improvements in accuracy (numbers of fingers, legs and hands etc), and the ability to edit an image using AI rather than regenerate from scratch. The following image was created using Microsoft Copilot using the prompt *“generate an image of new students arriving at university for the beginning of the new academic year”*:



Figure 1: Microsoft Copilot generated image showing students arriving at University

The subsequent prompt stated “could you remove the man on the right of the image who is wearing the red checked shirt” resulting in the revised image below:



Figure 2: Microsoft Copilot edited image

Deep Research and Research tools

Most of the main GAI chat tools added Deep Research capability during the last academic year. A Deep Research tool works basically as a narrowly defined AI agent that is able to autonomously search the web, iteratively refining its' search and analysis to generate a long form report on the topic and criteria provided. These tools are designed as general research tools rather than for academic research, and they are still capable of generating inaccurate references, and in most cases papers behind paywalls are not included. Considering these limitations, they are still powerful tools, but for academic research there are the academic focussed deep research tools such as [Consensus Deep Search](#). These are more specialised, use academic databases and indices, report using a given referencing style and will be less likely to generate false or inaccurate references. Other interesting research assistance tools include: [Perplexity](#) (search focus, summarise web pages, papers, read PDFs, focussed search etc); [Research Rabbit](#) (citation mapping based on source documents); [Elicit](#) (automating literature reviews); [Scite](#) (search and summary, with 'smart citations' tool) and; [AI2 Paper Finder](#). For a good overview of Deep Research and Academic Deep research see Aaron Tay's blog posts on the topic ([2025a](#) and [2025b](#)), and again this is a set of tools that are likely to evolve during the 2025/6 academic year.

AI Agents

The Deep Research tools discussed above are AI agents, and commonly termed narrow (i.e. narrow focus) agents. These tools will work autonomously, iteratively and engage with other tools such as web search. During last year general purpose agents started to emerge including [Manus](#) and in July 2025 the [ChatGPT Agent](#). The tool works with a virtual browser and are able to interact with websites including clicking on buttons etc, create documents and interact with other apps, e.g. an email app. These are probably a work in progress but could significantly develop in their ability to support complex tasks during the academic year.

Data Analysis

Throughout last academic year many GAI chat tools such as Copilot, ChatGPT and Gemini were able to undertake data analysis, allowing for a data file to be uploaded for example and a requested analysis / outcome to be specified. This capability remains. In the case of ChatGPT the LLM will do the planning for the specified task and write computer code (Python) to do the computation, while the Advanced Data Analysis (ADA) tool will run the code and return the output, and this may go through several iterations before the final outputs are presented. Copilot follows a similar process. It might be expected that this capability will become more powerful during 2025/6 particularly combining the latest LLM reasoning models with Advanced Data Analysis or similar. The reasoning models such as ChatGPT5 have been fine-tuned through being

trained on coding and computational problems, or problems with a definitive outcome and so can be very good and solving such problems and may not even need to call on ADA type support.

Vibe Coding

The term ‘vibe coding’ was coined by Andrej Karpathy (a cofounder of OpenAI) via an [X post](#) in February 2025 where he stated *“There’s a new kind of coding I call ‘vibe coding’, where you fully give in to the vibes, embrace exponentials, and forget that the code even exists”*. GAI has been used as a coding assistant for many years such as suggesting snippets of code, autocomplete etc. However, vibe coding represents the ability to create apps or tools with limited or even no coding experience by just providing a high-level description of the app required. This could be considered democratising allowing anyone to generate prototypes and even working tools. However, this is not going to replace the expertise of coders and programmers. Simon Willison, an experienced programmer and developer, provides an overview of the pros and cons of vibe coding ([Willison, March 2025](#)). He states that vibe coding can be valuable to experienced developers, but also identifies the limitations, such as issues of security, data privacy, and being able to explain how the code works.

AI Personal Tutor Tools / Study Support Tools

ChatGPT5, Google Gemini and Anthropic Claude all have a study mode, respectively Study & Learn, Guided Learning and Learning. These tools are designed to support student learning by structuring a topic, asking questions and responding to answers, and setting quizzes etc.

A significant trend with the main GAI Chat tools has been the growing ‘context window’ and this is likely to continue. The larger the context window, the longer the conversation with the chat tool and the more information that can be uploaded with the prompt. For example, the latest version of Google’s Gemini 2.5 Pro has a context window of 1 million tokens, equivalent to around 1,500 pages of text. This content, which could consist of multiple books, 100+ papers or all the notes from a module, can be combined with well-designed prompt to create an ‘on the fly’ tutor tool with a specialist focus. An example ‘personal tutor’ prompt that works with Copilot is provided in Appendix 2.

This can be done more formally through the ability to create customised chat tools (normally with a subscription account) using for example ChatGPT’s My GPTs or Google Gemini’s Gems that require no coding. Also, for the entrepreneurial there are easy to use third party app development environments available.

There are also AI Tutor tools / bots that institutions can license and can integrate with a VLE (KU is currently piloting such a tool). However, there are also many personal tutor tools available that students can access for free or with a personal subscription, e.g. [Penseum](#), [Mindgrasp](#) and [Tutor AI](#). Students (there are staff facing versions as well) can upload their notes and materials to

customise the tool, and some can automatically download all of the learning resources the student has access to from the VLE.

Alongside these tools are suites of study aid type tools such as writing and proof-reading assistants, voice to notes transcribers and organisers, translators etc. See for example [Grammarly](#), [Notion](#) and [Otter.ai \(Education Agent\)](#).

Accuracy and Bias

In conclusion it is important to note that all of the main GAI chat tools are subject to issues of accuracy and bias, primarily reflecting their training datasets and the nature of large language models. This remains true with the latest models, but the companies behind them argue that they are improving. OpenAI argue that the error rate for ChatGPT 5 is significantly lower than previous models (see OpenAI, [2025](#)).

Licensed Tools

The University currently has two licensed Generative AI tools available to all students and staff:

- [Microsoft Copilot](#) – a multimodal chat tool able to generate text and images and undertake data analysis.
- [Adobe Express](#) (embeds Adobe's GAI Firefly tools). Image generating capability including editing uploaded images.

Please ensure that students are logged in to these tools using their university credentials.

All assessments that integrate AI should allow students to succeed at the highest level using licensed tools.

Other GAI Tools

It is important that students are not required to use any other GAI tools, unless the University's Unsupported Third-party Services guidance has been followed. Other tools can be suggested as optional, but it must be made clear to students the risks of using an unlicensed tool and it is the students' choice to use them, and that they should personally assess the terms and conditions and privacy statements before using the tool. To be optional, there must be an alternative activity available to students involving licensed tools. In addition, it must be made clear to students that personal, private and sensitive information should never be submitted to an unlicensed tool. Staff should read the privacy policy of any optional tools they suggest and if there are optional tools that are likely to be used frequently by students then it is recommended that a DPIA is conducted.

Further Support

- GAI support for staff via [Support for Academic Staff](#) on Canvas.
- GAI support for students via [Digital Learning and Tools](#) on Canvas (GAI resource, Academic Integrity guide and Digital skills support including AI, via the JISC Discovery tool).
- [Staff Guide to Generative AI](#)
- [Student Guide to Generative AI](#)

AI-Generated MCQs and Summaries for Data Interpretation in Meta-Analyses

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The Faculty of Health, Science, Social Care and Education

text

assessment and feedback

learning assistant

critique

This example of practice focuses on BSc (Hons) Nutrition students taking a Level 5 30 credit module - Applied Nutrition. One of its learning outcomes is to “Interpret and evaluate nutrition research”. To support them in meeting this learning outcome, we offer six workshops that focus on data analysis. These workshops help them learn how to correctly identify and explain all the key features of the data, draw accurate conclusions supported by data and use clear and understandable language (including technical language). This learning outcome is assessed via a screencast submission, worth 20% of the final module mark, which allows us to evaluate their ability to accurately interpret data and communicate their analysis in a clear, concise, and organised way.

To support the delivery of the workshops, several tools and resources were used:

- Quizizz AI platform (now called Wayground) was used to generate a formative assessment activity (in multiple choice question (MCQ) format) from an existing educational reusable learning object (RLO). Students completed the activity within the Quizizz AI platform (no login required).
- Worksheets with applied exercises (short-answer questions (SAQs), MCQs, fill in the blanks, check accuracy of AI-generated summaries with purposefully included errors), focusing on interpreting meta-analyses, generated using a Large Language Model (LLM) that allows uploading images.

The Quizizz AI platform generates real-time results, which the lecturer can use to tailor feedback during the session (as the system highlights the proportion of students answering the MCQs correctly/incorrectly).

Using GAI to develop workshop materials offers time savings for what is a time-demanding task, while also allowing lecturers to extend the variety of question formats.

The assessment of this LO changed from an examination question to a coursework screencast (from 2023/24), but the questions are the same. With that caveat, the module results for this assessment task improved compared to previous years.

As an extension of the above activities, students can also use an LLM (e.g., Microsoft Copilot) to assess their understanding of images (e.g. forest plots) by asking the LLM to pose questions and provide feedback on their answers.

Generative AI was thus used by me (academic) to create the online activity (using Quizizz AI), to create an assessment rubric for the coursework screencast summative assessment (using Microsoft Copilot), and to create workshop materials/worksheets (using Microsoft Copilot).

AI tools used: Microsoft Copilot, Quizizz AI

Beyond One-Size-Fits-All: Reimagining Nutritional Guidance Through AI-Enhanced Cultural Perspectives

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text

image

learning assistant

critique

This practice example focuses on BSc (Hons) Nutrition students taking a Level 4 30 credit module on Introduction to Food and Nutrition. In one of the sessions, I introduce students to the Eatwell Guide (EG), which are the food-based dietary recommendations in the UK and show how much of what we eat overall should come from each food group to achieve a healthy, balanced diet. With the EG as their starting point, I asked students to:

1. Identify its potential limitations from a diversity and inclusivity perspective, i.e., think of groups who might not feel that it works for their food culture (e.g., South Asia OR East Asia OR the Middle East OR Latin America OR Africa OR Caribbean) OR dietary choices (e.g., vegan OR vegetarian OR pescatarian OR plant-based diet);
2. Visualise an updated version that considers diverse cultural/dietary needs; and
3. Propose modifications that improve its inclusivity.

Students had to use an AI bot (e.g., Microsoft Copilot or ChatGPT) to brainstorm ideas using prompts that simulate different cultural/dietary perspectives, thereby highlighting gaps and limitations in the EG and encouraging them to think critically about its inclusivity. To support their work, I provided students with a workshop guide that included a workshop plan with instructions, as well as examples of how to use generative AI with prompts. After prompting GenAI to describe different cultural and dietary perspectives, they had to investigate ways to adapt the EG to represent those diverse dietary patterns better. Finally, they were asked to use a text-to-image AI tool (like DALL-E, via Microsoft's Copilot) to visualise these ideas (i.e., generate an image of an alternative EG adapted to their chosen group (culture/dietary choice)). This activity allowed students to express their ideas creatively, reinforcing the view that visual tools like the EG can be adapted to respect diverse food traditions or dietary choices. The workshop concluded with students being given copies of adaptations of the EG produced by different organisations or health care professionals (nutritionists and dietitians) in the UK (see references) for comparison with their GenAI images.

Generative AI was thus used by me (academic) to ideate the workshop and develop workshop materials, and by students to complete the workshop activities and develop alternative versions of the Eatwell Guide.

AI tools used: Microsoft Copilot, ChatGPT, and Grammarly Pro

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Multimodal Assessment Briefs

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text image audio assessment and feedback

Assessment allows a course team to determine and demonstrate whether students have met the learning outcomes. However, assessment is also the area that consistently attracts lower satisfaction scores from students across both internal (e.g., Module Evaluation Questionnaires (MEQs)) and external assessments (e.g., National Student Survey (NSS)). While multiple factors contribute to these lower satisfaction scores, one possible explanation is how we communicate assessment instructions to students. Traditionally, these instructions are presented solely in written format (either as word documents or Canvas pages).

Multimodal assessment briefs present the same assignment instructions through various formats to improve accessibility and comprehension. Rather than relying on a single, often dense, text-heavy document, this approach recognises that students process information differently and may struggle with traditional lengthy written briefs alone.

Whilst creating assessment briefs in multiple formats would be expected to increase workload (especially if you have multiple assessments across various modules), existing free tools can substantially reduce the workload volume.

Google's Notebook LM is available free to anyone with a Google account via <https://notebooklm.google/>. It allows users to "...upload documents, website URLs, and other materials and then ask questions, generate summaries, and explore connections within the content". Unlike other LLMs (like Microsoft's Copilot), it answers questions based only on the uploaded material. Upload your assessment brief and then ask it to:

- Create a one-page summary
- Generate a project brief
- Create a timeline of activities relevant to your assessment (particularly useful for portfolios with multiple tasks and deadlines)
- Create a Q&A
- Create a study guide including a quiz and a glossary of key terms
- Create an audio podcast

Google Notebook thus transforms your single text-heavy document into various but complementary written resources but also creates audio resources. You can prompt the LLM to provide a condensed version that uses bullet points, clear headings, and plain language, alongside the comprehensive written brief.

You can also use existing tools to generate your audio and video resources, e.g.,:

- You can ask Google Notebook or another LLM to create a slide deck and a script for you (ensuring accurate transcripts) which you can then record yourself presenting using Microsoft MS Teams.
- You can ask Anthropic Claude Sonnet 4 to create an infographic based upon your assessment brief or an AI generated summary.

Multimodal assessment briefs may help enhance accessibility, reduce confusion, improve engagement, and ensure all students have equal access to understanding what is expected of them. This is particularly relevant for neurodivergent students, students with declared disabilities and students with English as a second language. Overall, they may help improve assessment literacy. Audio guides support flexible learning and can be “digested” on the go. The long assessment brief will continue to be the foundation for your assessment, but you will give it some new friends!

AI tools used: Notebook LM and Anthropic’s Claude Sonnet 4

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<https://www.youtube.com/watch?v=RDirm8B5Ti4&list=PLuwlCDd5T-GRfyh3xezI8JkIBjlSHD3sm&index=4> (from 29:40mins to 36:00mins)

A Collaborative Learning Approach to Mapping SDG Connections

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text

learning assistant

critique

This example of practice focuses on BSc (Hons) Nutrition students taking a final year 30 credit module on Public Health Nutrition. One of its learning outcomes is “To discuss the effects of factors that impact upon food security and its relation to nutritional status and health outcomes including reference to the Sustainable Development Goals (SDGs).” As we cover hunger, food security, and health, we touch upon SDG2 (zero hunger), SDG3 (health and wellbeing), and SDG6 (clean water and sanitation).



Figure 3 UN Sustainable Development Goals (2,3 and 6)

Working in groups, I invited each group to choose one SDG and find out how it related to food security, nutrition, and health (specifically, I asked them to identify links to SDG2). I wanted students to understand how progress in one goal can significantly impact other goals and how SDGs should be considered a system of synergistic re-enforcements. Students were asked to consider connections at both the goal and target levels using GAI tools.

In order to support the workshop, I provided them with two documents:

1. Workshop Plan with Instructions
2. Guide on using generative AI with example prompts.

Students used example prompts to generate ideas and explore potential connections between SDG targets they might have missed. Students were asked to create visual maps on physical A3 sheets showing these connections, using arrows/lines to illustrate relationships between their chosen SDG and the central SDG2. They considered both uni-directional and bi-directional relationships, adding explanatory notes. Finally, each group presented their findings to the class.

Generative AI was thus used by me (academic) to ideate the workshop and develop workshop materials, and by students to complete the workshop activities, inform the group discussion, and develop the visual map.

AI tools used: Microsoft Copilot

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Using Generative AI to Support Critical and Design Thinking in Aerospace Education

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image

learning assistant

design

This case study describes how generative AI (Copilot) was integrated into teaching within the Aerospace & Aircraft Engineering department. The focus was on using AI not to replace creativity, but to support and inspire critical and design thinking among students.

This initiative was embedded within the Navigate module and centred around designing the “Aircraft Cabin of the Future”. Students were encouraged to explore how AI could enhance their ideation and problem-solving processes.

A previous session introduced students to academic integrity and responsible AI use, including Kingston University’s guidance on the dos and don’ts of AI in education. Students then engaged in practical exercises to look at how GAI could assist them, such as analysing assignment briefs, drafting student group contracts, and summarising meeting discussions. These activities aimed to broaden their understanding of AI’s potential beyond simple content generation.

The core of this session focused on design thinking and the students (in groups) were tasked with designing an aircraft cabin for the future, while being reminded of the importance of developing higher order thinking skills, particularly in the context of GAI. Students were asked to identify a target market, and then empathise with that market, identifying issues, needs, etc. From this they were then asked to define the problem/task and then ideate, focussing on using their discussions for the first 3 elements of the design thinking process. Then they could use GAI for the final 2 stages of the design thinking process, namely prototyping and testing.

Students identified several target markets including tourists, business travellers, families, and disabled passengers. For example, one group designed a cabin for space tourism (Figure 4), focusing on comfort and panoramic views. Another group created a business-class layout (Fig. 5) with face-to-face seating and integrated technology for in-flight meetings. Some of prototypes illustrated the weaknesses of GAI which promoted further discussion, e.g. consoles embedded in the front facing part of headrests.



Figure 4 Design of the cabin for space tourism



Figure 5 Design of the business-class cabin layout with face-to-face seating and integrated technology for in-flight meetings

The classroom atmosphere was dynamic and highly engaged, with students actively discussing and working on their ideas. Although the session was somewhat improvised, the outcomes were

promising. Students were not only creative but also enthusiastic about developing their concepts further.

In summary, this approach encouraged students to use their own critical thinking in the early stages of design, empathising, defining, and ideating, while utilising AI in the later stages to refine and visualise their ideas.

Looking ahead, I hope to integrate these AI-supported activities more systematically across modules, enabling students to carry their learning into other areas.

AI tools used: Microsoft Copilot

The Goldilocks Principle: When to Use AI in the Creative Process

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text critique

This contribution offers a strategy for WHEN to use generative AI (GAI) in teaching and learning, rather than HOW. Drawing on MIT's recent study "Your Brain on ChatGPT," which examines GAI's impact on creative work, we propose that timing is crucial for effective AI integration [1].

The study reveals a "Goldilocks moment" in the creative process where GAI provides maximum benefit—not too early, not too late, but just right. When introduced too early, creators conform to GAI's initial suggestions, producing work that lacks depth and original thinking. For example, a student who begins an essay by prompting ChatGPT for a thesis statement may find themselves constrained by the AI's framing, unable to develop their own critical perspective.

Conversely, introducing AI too late can inject noise into refined work, forcing creators to spend time filtering unhelpful suggestions rather than enhancing their output. Imagine a researcher who has completed their analysis asking AI for insights—new perspectives might emerge but integrating them risks disrupting carefully constructed arguments.

The optimal moment arrives after initial ideation, when creators have developed their core concepts but remain open to enhancement. At this stage, they can critically evaluate AI suggestions, incorporating valuable insights while maintaining their authentic voice. For instance, a student who has drafted their main arguments might use AI to identify counterarguments, strengthen transitions, or suggest supporting evidence—actively curating rather than passively accepting AI output.

For educators, this principle suggests practical strategies:

- Encourage students to submit initial drafts or concept maps before GAI consultation
- Design assignments with explicit "GAI checkpoints" during the revision phase
- Teach students to document their pre-GAI thinking to maintain intellectual ownership
- Create rubrics that assess not just output quality but the thoughtfulness of GAI integration

Kosmyna et al. warn that while GAI "undeniably reduced the friction involved in answering participants' questions," this "convenience came at a cognitive cost, diminishing users' inclination to critically evaluate the LLM's output" [1]. The implications for cognitive

development and critical thinking are profound. As these tools democratise creativity, we must teach students not just to use AI, but to time its use strategically.

By embracing the Goldilocks principle, we can harness GAI's power while preserving the cognitive processes essential for deep learning. The goal isn't to avoid GAI, but to ensure it enhances rather than replaces human creativity and critical thinking.

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AI Text-to-Image Generation as an Aide in Theatrical Production Design

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image

learning assistant

design

Within the process of theatrical production design, the use of text-to-image AI can assist the student designer who is less confident in conventional sketching, realize a design that more specifically touches on their creative intentions, and which then can be referenced for the build in physical space. It is important to note that within the context of a theatrical production this element does not represent the final outcome, rather it is one step within the many disparate elements that constitute a live performance. With this example the specific consideration is for the costume design for Tatania from Shakespeare's *A Midsummer Night's Dream*. AI can also help to create images for the set design that can be projection mapped within the theatrical space. Using AI in this manner can potentially give an outcome which more precisely represents the creative choices of the designer and can supplement more generic indicative online image searches, used in a collage or mood board. Beginning with as precise a description as possible of the creative intentions is the first step. A creative collaborative conversation between the designer and the AI engine can lead to the development of additional ideas that weren't initially considered.

Prompt A

a water color and ink theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She is wearing a purple corset, has bare feet, and has a simple gold crown.

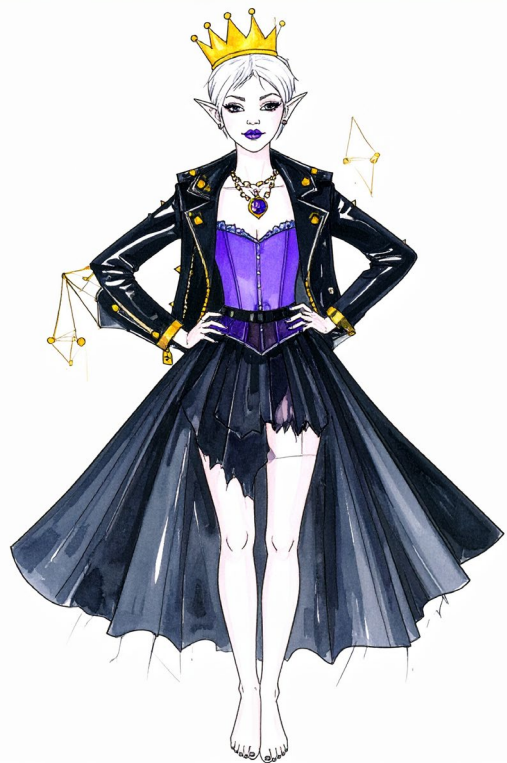


Figure 6 a water color and ink theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She is wearing a purple corset, has bare feet, and has a simple gold crown.



Figure 7 a pen and ink theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She is wearing a leather jacket, a torn black skirt, a purple corset, has bare feet, tattoos, a gold crown and very small wings.

Prompt C

a pen, ink and water color theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She has short blue hair, is wearing a leather jacket, a torn black skirt, a purple corset, has bare feet, tattoos, a short brutalist gold crown and small wings.

Slight changes and additions to the prompts has led to this final image which most accurately represents the creative intentions of the costume designer.

This same process can be used to create a representation of a set design, projection design and lighting design.

Prompt B

a pen and ink theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She is wearing a leather jacket, a torn black skirt, a purple corset, has bare feet, tattoos, a gold crown and very small wings.



Figure 8 a pen, ink and water color theatrical costume design sketch of a contemporary urban fairy queen in a graffiti art style. She has short blue hair, is wearing a leather jacket, a torn black skirt, a purple corset, has bare feet, tattoos, a short brutalist

In practice, this past year, a student as part of their capstone performance project, used this process to create both a costume design and an indicative projection of the windows of a cruise ship. They then traced this AI image with markers making hand drawn additions to complete the work. This was then scanned and used with digital video as a six-metre projected primary background for the staged play.

AI tools used: Adobe Firefly

Problem Based Learning (PBL) for Level 4 Digital Media Technology Students

Sunil Chhatralia

Department of Networks & Digital Media

The Faculty of Engineering, Computing and the Environment

image

learning assistant

design

After about 4 weeks of weekly 4-hour workshops on core tools in Photoshop, students are set the clock tower challenge. Students are supplied with an sub-optimal image of the Surbiton clock tower and are asked to edit the image using any tools in Photoshop (including AI), with the aim of achieving an image that is as close as possible to a teacher supplied enhanced version of the image.

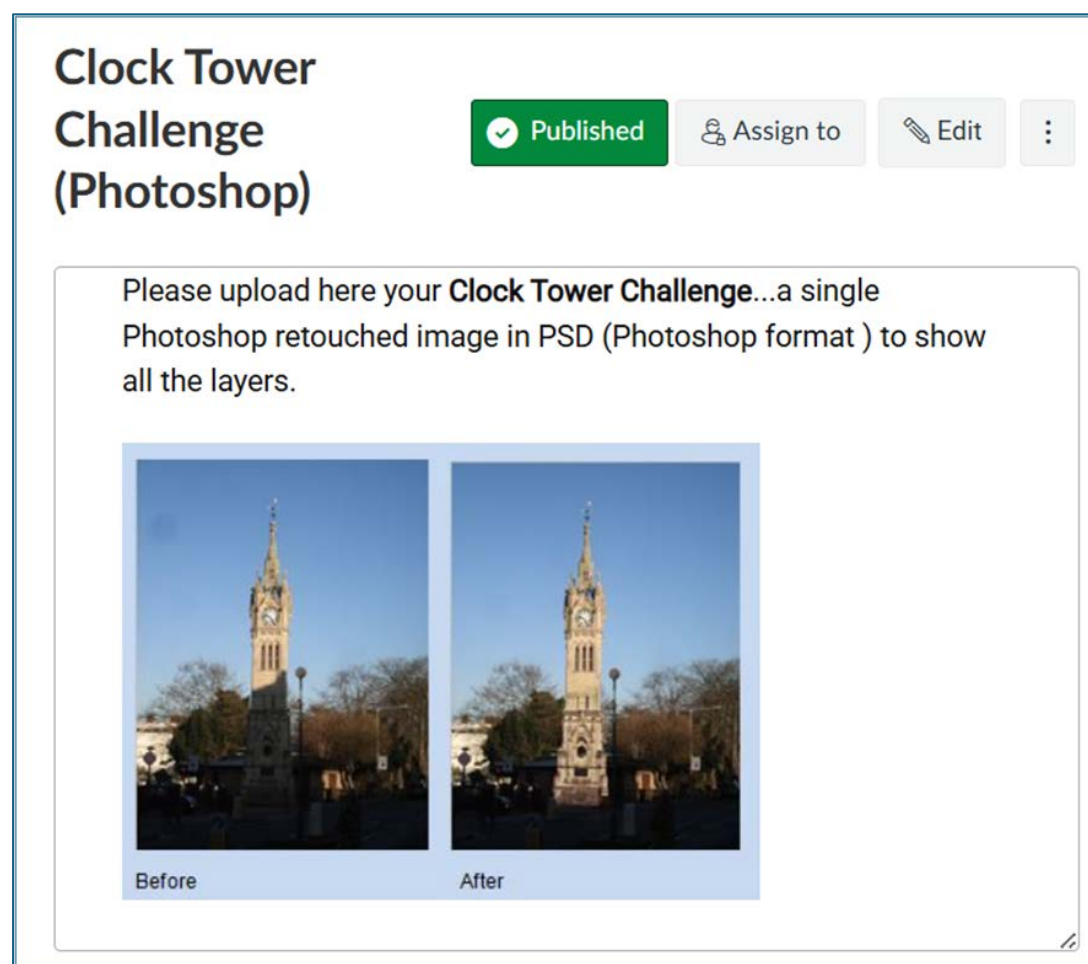


Figure 9 Clock Tower Challenge: original image (left) and enhanced image (right)

The aim was for students to explore the many ways to solve a real-world problem, and one where GAI might not provide a ready solution. The clock tower challenge seemed to be such as task

using the GAI tools embedded within Photoshop. Students were free to use the GAI capabilities, but it was expected that students would need to draw on their knowledge, skills and patience to achieve the outcome illustrated above.

Many students stated that they enjoyed the challenge but felt frustrated as there were no simple or quick operations to achieve this. A few students resolved the problem, but through detailed knowledge learnt in the workshops. Some gave up. About 5 days were allowed for completion of the task so they could explore at their own pace.

Students who found a solution were asked to submit or discuss in class their method(s). Tutor demonstrated one or two methods and why it's important to have multiple ways to resolve problems. (Creativity).

Questions to open up a discussion during the feedback session

What skills would you have missed out on if GAI was able to complete this task for you?

Students were asked a subset of questions using Mentimeter to get whole class feedback including:

- what knowledge or skill(s) did you gain or become aware of?
- what problem-solving abilities were gained? (Future skills agenda)
- If you were an employer, what would you look for in an applicant? (employability)
- are there just technical or other kinds of skills you are aware of? (perceptual as well as the ability to interpret client's ideas imaginatively)

Photoshop 2025 - GAI prompts used by students

What it is good at:

1. draw rectangle around the tower and "remove tower from the building" – worked very well.
2. draw rectangle around the trees on the right and ask it to add a tower behind the trees.
Worked well - including size, lighting and colour.

NOT good at:

1. "make the shadow part of this image like the lighter part" - takes away the whole clocktower!
2. "make the shadows lighter" - replaces the tower with another tower
3. isolate area with a mask
4. "make the whole tower evenly coloured" - replaces the tower with yet another tower!
5. "match this to the top part of the tower" - odd colour matched, but places the tower behind another building, and keeps adds some shadows.
6. "lighten the colour of the wall as if in strong sunlight" - partially successful, but fills with different window or arch!
7. rectangle masked area
8. "match bottom half of tower to top half" - replaces it with a new and very different tower, highly distorted.



Figure 10 The original image students needed to work with

AI tools used: Adobe Photoshop

Using Co-Pilot to Create Quizzes

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text assessment and feedback

After attending the AI sessions that the University ran last year, I decided to use AI to create quizzes for students to complete after each lecture. Deeply embedded in academic theory these are useful for many reasons: for the lecturers to identify gaps in student knowledge in order to reteach certain areas; for the students to identify gaps in their own knowledge, encouraging them to be responsible for their own education; as a retrieval practice for students to counteract the forgetting curve.

So, what did I do?

I entered simple prompts, for example, “write 10 mcqs for a final year undergraduate course about working capital management”. From that I would get about 7 questions that were suitable. I always had to add more prompts. For example, if there were no calculation questions, I would ask for those specifically, often giving the formula. Or if I wanted questions on certain theories, for example dividend theories, I would ask for those specifically. The initial prompt was just a starting point. I would have my PowerPoints and worksheets open next to Copilot to ensure that all learning objectives were covered.

Good news

It was far faster than creating a quiz by myself. Copilot creates a 10 MCQ quiz with the correct answers and explanations of answers in seconds. Creating my own quiz took hours. It is also the case that the questions were well written, with generally good explanations and always at the right level. In fact, the questions and answers were generally simpler and easier and better for students than the MCQs I create. It was a better quiz.

But, there are downsides

Check the maths! As I teach accounting and finance this is a serious issue! Out of a 10 MCQ quiz on calculating net present value, 4 of them had the wrong answers! This was a quiz created in September 2024 and so I would hope AI would have improved by now. But it was still a shock.

Check the terminology. Sometimes the words used in the quiz were American terms and not British terms and so that needed changing (for example Net income rather than Post tax profit).

Occasionally the answers include an answer that we have not covered in the lesson and so that had to be changed (for example, for the dividend theory question, one answer given was not covered in the lecture materials and so it needed removing)

Occasionally, the formula was quoted differently to how it is taught in class and so that had to be changed so that students recognized the formula.

Depending on the type of question, the explanation was too brief and just repeated the question with the correct answer. For the explanation to be useful I had to add more and expand why that answer was correct.

Copilot creates the quiz, but you still have to copy and paste it into Canvas – annoyingly.

There is still the issue of actually getting students to do the quiz. Engagement with students starts off at 30% but sadly as the year goes on, it falls dramatically. The slight upside is that students use the quizzes for revision.

My advice?

Use AI to create your quizzes but you will need to spend at least half an hour tweaking, editing and checking what Copilot has produced.

AI tools used: Microsoft Copilot

GAI as a Team Member for a Live-Brief Assignment

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Department of Geography, Geology and the Environment

The Faculty of Engineering, Computing and the Environment

text assessment and feedback future skills

The Level 5 *Explore* module in GGE (for all Geography and Environmental Science students) developed a live brief assessment with Waitrose whereby students were asked to find solutions relating to climate change challenges impacting the sustainability of agricultural practices at the Waitrose Leckford Estate in Hampshire. Students were divided into teams of four and had an 8-week period in which to scope ideas, visit the Leckford estate, ask questions, and develop a pitch for their solution to a 'Dragon's Den' comprising staff from Gradcore, Kingston university and Waitrose.

The assignment integrated three learning opportunities: the development and reflection of student's professional competences the team-based challenge, dialogic process-based assessment and, to explicitly integrate generative AI as the fifth team member, to assist the student teams in the development of their solution.

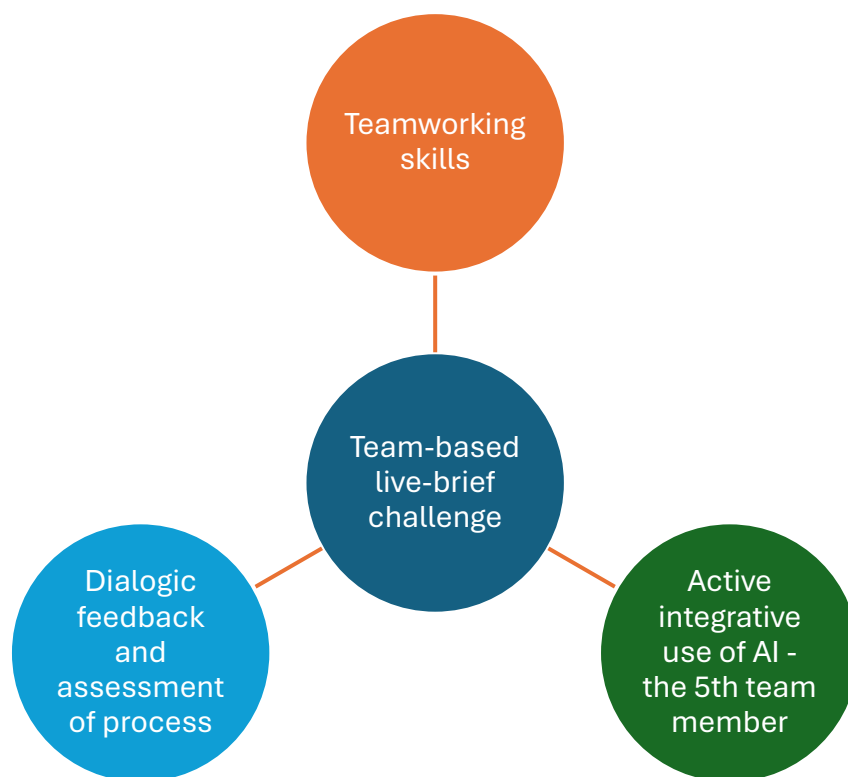


Figure 11 Learning opportunities of the team-based live-brief challenge

Students were introduced to Copilot. We demonstrated how copilot can be used in a *conversational* way, to develop ideas, particularly at the scoping phase of the project when students are grappling new terms and new concepts. We explained how the GAI outputs can provide a springboard to unlock new ideas and avenues that can be explored and discussed further by the team. We also demonstrated how students can use the Keenious AI research assistant tool to discover and prioritise papers to read on emergent topics. We placed emphasis on the stance that, as a fifth team member, the ideas and recommendations generated by AI should be *debated* and *critically evaluated* in the same way as any other team member.

On this occasion (the first year of the new Explore module) it was not a requirement to use AI. However, we were encouraged to learn that the teams that did informed us (when asked in a post Dragon's Den debrief) had found the dialogic use of AI to be beneficial, particularly in the formative stages of their project designs. Encouraged, next year the teaching team intends to make this an example of *Explicit* use of AI and students will demonstrate their critical a valuation of the outputs of AI through their process logs.

Top tips:

- Demonstrate how Copilot and Keenious can be used to support this activity – place emphasis on the conversational approach to using Copilot.
- Create space in-session to reflect upon the experiences of using GIA with through cohort-based discussion of experiences to date. Place emphasis on critical evaluation – what are the perceived positives and limitations.
- Provide an opportunity for the students use Microsoft Teams to post and reflect on their findings through Teams-based progress logs.
- At the end of the assignment, provide an opportunity to reflect on person perceptions of learning gains and their perceived transferability of the experiences.

AI tools used: Microsoft Copilot, Keenious

GenAI Rockstars? Exploring the Limits of GenAI via Tour Posters

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The Faculty of Business and Social Sciences

image

critique

The idea of this activity is to use the hook of discussing music and concerts to illustrate that students should be wary of relying on GenAI tools such as ChatGPT/DALL•E, and should never engage with such tools uncritically.

The activity

1. Ask students to shout out their favourite band or artist.
2. Select one as a collective. In this example we will use the punk band 'Green Day'.
3. Start entering prompts into ChatGPT/DALL•E along the lines of 'Create a concert poster for the band Green Day'.
4. You will likely then be given questions that require you to input more information or provide more prompts. These questions or prompts might oscillate around specific years, concert venues, albums, or the general look of the poster.
5. After a number of prompts/questions, ChatGPT/DALL•E will generate an image for you such as Image 12.
6. As seen in Image 12, such posters can, at least at first glance, look relatively good. However, upon inspection, they generally have errors, text that is not actually text, and incomplete information. As such, they would be pretty pointless as a concert poster.



Image 12: Green Day Concert Poster generated by DALL•E 4o

Reflecting on GenAI tools

A simple way of framing the message of the activity is to get students to reflect on whether they should use GenAI tools in their academic work if such tools are seemingly unable to create a concert poster even when given specific information. As with creating a concert poster, it is possible to frame academic writing as a skill that can be replaced with GenAI tools. However, such a framing would miss the complexity and creativity required for both activities.

This activity was used in two modules on 2024-25, but was part of a broader strand of messaging on both modules aimed at highlighting the dangers of engaging with GenAI tools without critically reflecting on doing so. Students on both modules seemed to enjoy the activity, and the dangers of engaging with GenAI tools uncritically appeared to come across well.

AI tools used: ChatGPT, Dall.E

Further reading

1. Bender, E.; Hanna, A. (2025) *The AI Con: How to Fight Big Tech's Hype and Create the Future We Want*. London: Penguin.
2. Finn, P.; Bell, L. C.; Tatum, A.; Leicht, C. V. (2024). Assessing ChatGPT as a Tool for Research on US State and Territory Politics. *Political Studies Review*. DOI: <https://doi.org/10.1177/14789299241268652>

Game Design Advisor

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The Faculty of Engineering, Computing and the Environment

text

image

learning assistant

coding / app development

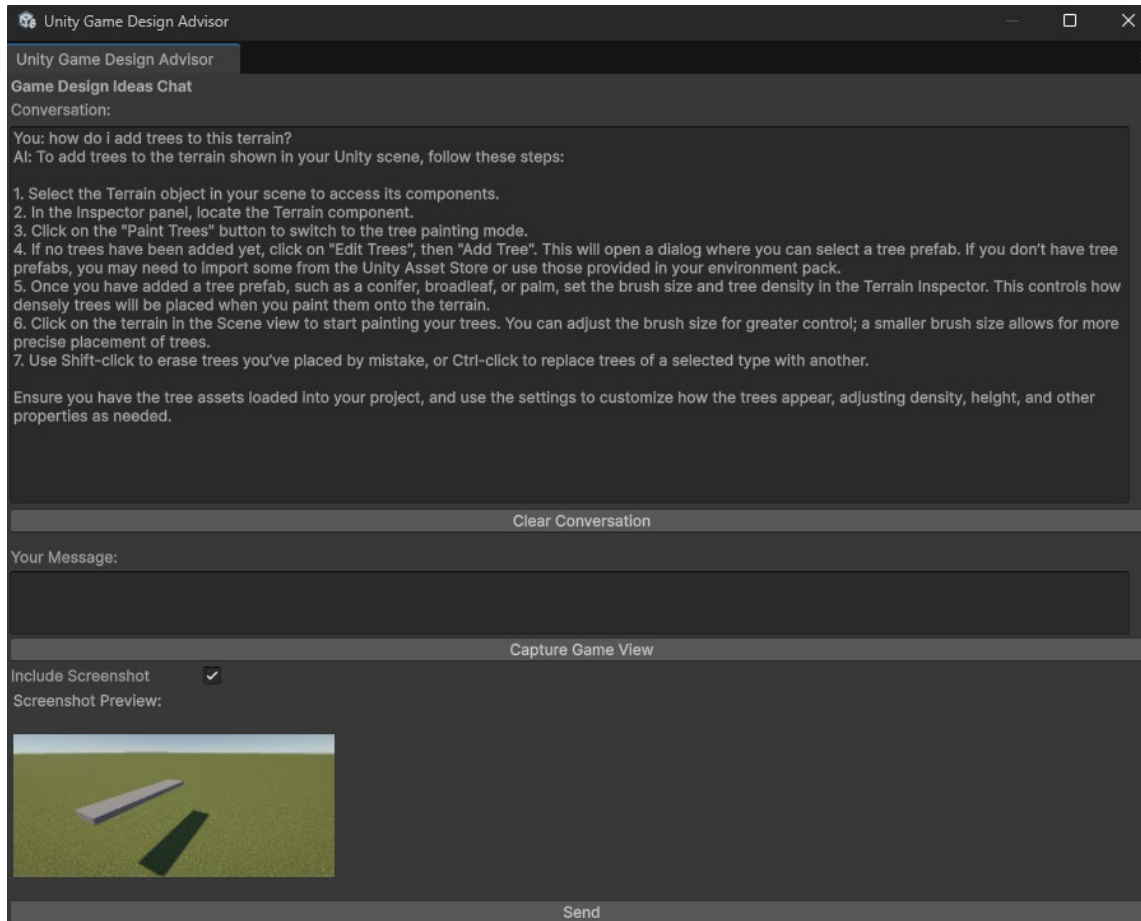


Figure 13 Unity Game Design Advisor

The aim of this work is to investigate how generative artificial intelligence (GenAI) can be used to support undergraduate game programming students in the process of designing and developing their own games. This is being explored through the development of a custom plugin for Unity, which is one of the two principal commercial game engines taught on the Games courses. The plugin appears as an additional window within the Unity editor, presenting itself as a game design advisor. This tool is designed to support students in tasks such as brainstorming game concepts, refining mechanics, generating narrative ideas, and suggesting code snippets or debugging strategies.

An extended version of the plugin is under development using the OpenAI API. The plugin converts PowerPoint slides from teaching sessions into text along with generating visual descriptions. This information is then used by the plugin to inform the answers it provides to students.

When a student asks the plugin a question, it first checks the lecture materials for an answer. If no relevant lecture slide is found the LLM uses its wider knowledge of Unity and game development to find an answer if this is requested. The plugin also features a “Capture Game View” button which captures an image of the game under development and sends it to the AI along with the question. This helps the AI to provide more tailored advice on the design, visuals and coding of the game.

The plugin is being piloted within the Level 5 Professional Game Development Environments module where students design and implement a game in Unity. As part of this module students are developing skills in AI for games, so will be able to not just use the plugin for their own projects but will also have the ability to extend the functionality of the tool themselves.

The technical details: Custom Python code is used to convert the PowerPoint slides, combined with a vision API to generate visual descriptions. The output is converted into a structured JSON file and using a technique called retrieval-augmented generation (RAG) the Unity plugin can search and retrieve relevant content to inform its answers.

AI tools used: OpenAI API, Ollama, Anaconda AI Navigator

Generative AI as an Interactive Learning Assistant in Game Development

Dr. Andreas Hoppe and Dr. Darrel Greenhill

Department of Networks & Digital Media

The Faculty of Engineering, Computing and the Environment

text learning assistant coding / app development

The following presents how Generative AI can be used as an effective learning assistant, based on a pilot study conducted with level 4 game development students. The aim was to investigate the role Generative AI can play to empower level 4 students in their independent learning in game development versus traditional learning resources such as lecture notes, books and published online materials. Students were asked to develop a small game in Unity 3D in which a player is traversing a parkour course in a 3D game environment and interacting with various game objects. After completing a set of prescribed tasks, students were free to add additional game features which required consulting external resources such as online game engine documentation, video tutorials, guides and Generative AI tools.

Students were taught basic prompt-engineering skills to explore the use of generative AI tools to support them with this task. Students then had to evaluate and reflect on the usefulness of these various forms of resources and how they best supported their learning.

The graph shows which resource or combination of resources students found useful.

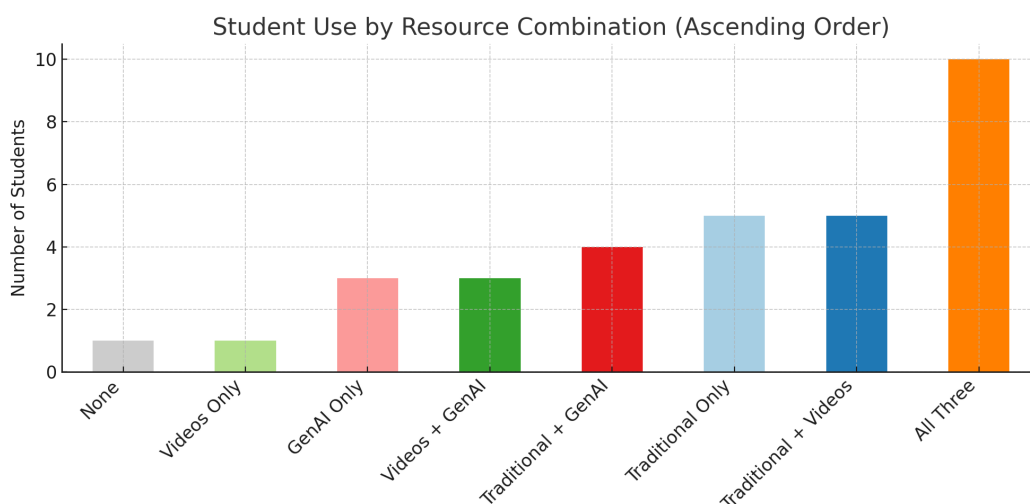


Figure 14 Student Use by Resource Combination (Ascending Order)

The majority of students used traditional learning resources as their primary source, while treating tools such as video tutorials and generative AI as complementary but important learning aids. Generative AI was found to help with specific tasks and as additional support enabling

them to move forward when stuck. Students commented that using generative AI effectively required a base-level understanding of the subject area which was best obtained through traditional resources.

Students were reminded not to ask the GAI tool for a complete solution but rather break up tasks into smaller steps through a more iterative dialogue to provide avenues to explore and hints on how particular game features might be implemented.

Large Language Models are inherently costly to train regularly and may produce out of date answers, for example, by suggesting deprecated functionality in game engines. It is important to manage students' expectations and clearly explain the limitations of Generative AI tools and to use them as one of several learning tools alongside traditional materials.

The use of Generative AI was found to support students in their independent learning, and to help personalise their learning. It was particularly good for coding-related tasks and idea generation, and to enable students to learn at their own pace. The tools were found to be most effective when used alongside traditional methods. This approach seems to improve both student problem-solving ability and confidence.

AI tools used: Microsoft Copilot

Art, Identity, and AI: Navigating Authenticity in Creative Practice

Dr. Makayla Lewis

Department of Networks & Digital Media

The Faculty of Engineering, Computing and the Environment

text

image

research

design

This contribution draws from Dr Lewis's (specialising in Sketching in Human Computer Interaction (e.g., Lewis, 2024) and Design Thinking (e.g., Kimbell, et al., 2021)) recent pictorial paper titled "Art, Identity, and AI: Navigating Authenticity in Creative Practice" (Lewis, 2025), presented at the ACM of Creativity and Cognition conference, which delves into the intersection of art practice and generative artificial intelligence (GAI) through a personal perspective. The paper explores how GAI can assist artists in overcoming creative block while I was teaching the Design Thinking module (outlined here, Lewis and Sturdee, 2022) at Kingston University London from March 2023 to January 2025.

As mentioned in the paper, Dr Lewis highlights the stress and overwhelm experienced during the second semester, particularly from mid-January to the end of March. This period involves teaching, supervising projects, meeting publication deadlines, and submitting funding bids, often leading to creative blocks. This creative block prevents ideas from flowing as naturally as usual. They find it frustrating to have so many creative tools but cannot use them in favour of less creative or demanding tasks. These creative blocks can persist throughout the semester and negatively impact working practices, research, and relationships. Moreover, escaping from a creative block at the end of the semester becomes more challenging than being in it. The fear of failure is the primary obstacle to overcoming this block.

The paper presents extracts from Dr Lewis's two-year digital sketchbook illustrating how GAI can support lecturers who teach creativity and artist practice during challenging times and contribute to broader discussions about GAI's role in art practice. This process of self-reflection led to creating a self-portrait that bridges the gap between personal and research experiences (see Figure 15). While GAI ignited creativity, it also brought authenticity, originality, and ethical dilemmas to the forefront. The paper cautiously explores introspection and a unique style that emerged from the gentle prompts provided by GAI, which poses a thought-provoking question: *"How can artists interact with generative AI while navigating the complexities of this timeless tradition, integrity, and authenticity?"* These concerns extend to the following:

Transparency of Attribution: GAI tools study and synthesise contributions from countless artists across the internet. This raises questions: Who are the contributors? Why were they selected? Were permissions obtained? This lack of transparency could impact trust in the

responses and negatively affect the arts community. Addressing these issues is crucial to building trust between GAI and artists.

Understanding the Creation Process: Studying others' work—whether human or GAI—requires clarity in understanding how and why specific outputs are constructed. The researcher observed that GAI inspirations often lacked an accessible narrative about their creative process. Reflecting on this, the Explainable Artificial Intelligence for the Arts (XAIxArts) community, e.g. Bryan-Kinns et al (2025), has highlighted the importance of embedding explainability into AI tools for art to ensure that artists can understand and critique the rationale behind GAI.

Ethics of Asking: Seeking quick, non-human solutions to creative problems warrants scrutiny. Would engagement with the physical world, such as nature or human interaction, provide a more meaningful way to rekindle creativity? While GAI offers an efficient and quick fix, I wonder if this could inadvertently deprive artists of the more affluent, nuanced inspirations available through real-world experiences.

Inspiration vs. Copying: Art practice and personal art production play different creative roles. Ensuring that GAI outputs inspire rather than mimic or plagiarise is essential for maintaining ethical boundaries. I consider that *“GAI should only serve as a support for ‘pushing’ mark making, not a replacement, in the creative process.”* This aligns with recent discussions that advocate for GAI and other emerging technologies' role as a supportive, non-intrusive tool.

While some work exists (examples provided in the paper), deeper engagement with real-world artists and their practices is needed for grounded insights. The paper emphasises the need for discussions and actionable steps within the creativity and arts community. It encourages readers (you) to reflect on their interpretations of the art and consider GAI's implications for their research and artistic practice.

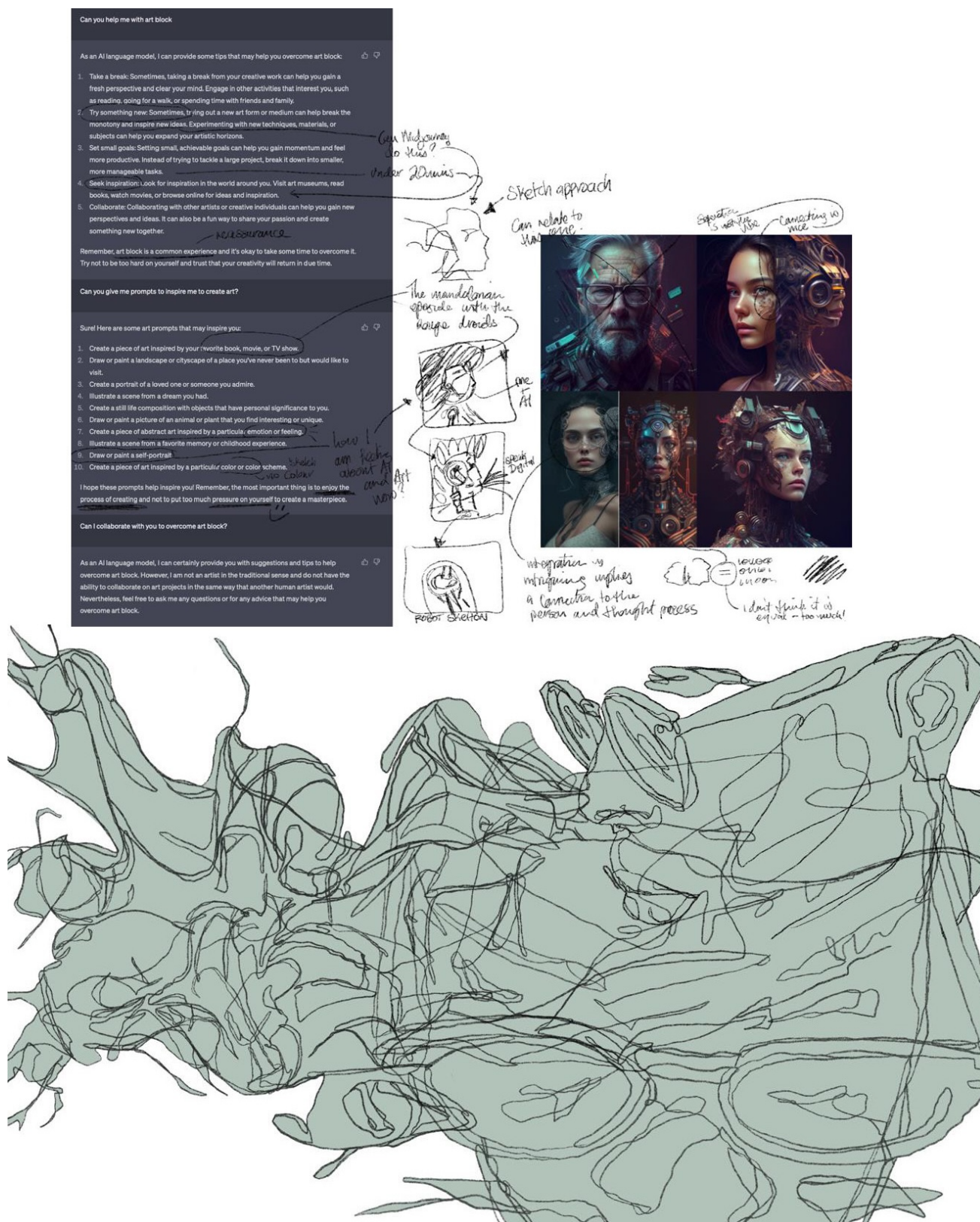


Figure 15 (Top Image) ChatGPT responses, MidJourney /imagine prompts to inspire, and rough sketches with annotations. (Bottom Image) Digital Sketchbook Entry: Trusting "Nature" by Dr Makayla Lewis, Apple Pencil on iPad Pro 11 using Procreate.

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2. Lucy Kimbell, Ezri Carlebach, Hilary Smyth-Allen, Cristian Gherhes, **Makayla Lewis**, and Tim Vorley. 2021. [*AI Readiness: A collaborative design toolkit for professional service firms*](#). Oxford Brookes University, Oxford, Practice Management International LLP, Little Berkhamsted.
3. **Makayla Lewis**. 2025. Art, Identity, and AI: Navigating Authenticity in Creative Practice. In Proceedings of Creativity and Cognition (C&C '25). Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3698061.3726959>
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Scratching the Generative AI Itch in User Experience and Game Design Education: A ‘Self → Users → GAI → Reflection’ Ideation Workshop

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text image learning assistant critique design

Generative Artificial Intelligence (GAI) tools, such as ChatGPT, Co-Pilot, and Canva AI, are increasingly influencing students' creative practice. For Master's students in User Experience (UX) and Game Design at Kingston University London (precisely during the 2024/2025 academic year), there is a strong fondness for applying AI at every stage of the design process. This recurring tendency, which we could call the “GAI itch,” manifests as persistent questions: “*Can we use GAI for every phrase of the process?*” While this curiosity is valuable, it poses a risk of diverting attention away from the fundamental principle of design thinking: maintaining the user as the central focus of the process. The challenge for Dr. Lewis is not to suppress this inclination but rather to provide structured opportunities for students to engage with it—enabling them to experiment with GAI while simultaneously acknowledging its limitations critically. Dr. Lewis suggests that ideation presents an ideal juncture for such exploration. At this stage, “*no idea is inherently flawed*”, and the objective is not perfection but breadth. When judiciously framed, GAI can augment speculative thinking without supplanting insights gained from user research.

‘Self → Users → GAI → Reflection’ ideation workshop

Materials Required: laptop, tablet, or smartphone; paper; sketching tools; and ChatGPT/Co-Pilot/ Canva GAI. The pre-workshop lecture introduces ideation theory, methods, examples (e.g., Dave Grey et al, 2010; Lucy Kimbell, 2014; Nielsen Norman Group, 2017; and Lucy Kimbell et al, 2021), and a live demonstration by Dr. Lewis (Figure 16). Following the lecture where Dr. Lewis demonstrates ‘Self’, ‘GAI’, and ‘Reflection’ (see figure in the middle and bottom), students are subsequently required to read the final chapter of Lewis and Sturdee (2024) and Lewis (2025). Additionally, they are provided with two examples of ideation involving ‘Users’ prior to the workshop. This sequencing introduces GAI after ‘self’ and ‘users’ ideation, enabling students to experiment while maintaining a user-centric focus. The following three-hour workshop provides structured time for students to engage in their ideas actively. Working in groups of four to five, guided by a design challenge, workbook, and sequence diagram, students can apply various

ideation techniques from the lecture, select and refine their ideas, and critically evaluate the advantages and disadvantages of GAI compared to self- and user-based ideation.

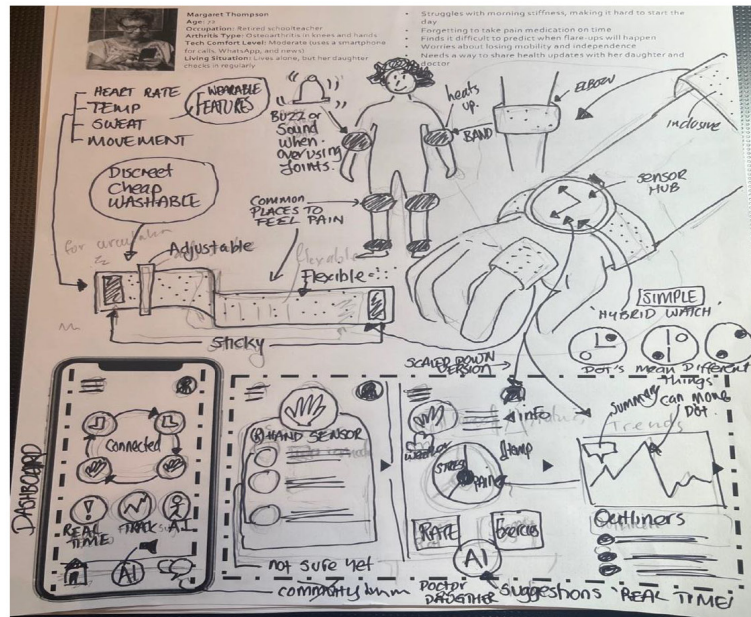
Design challenge

- Enhancing Accessibility in Public Transportation
- Simplistic Personas Notes: Sara (65, Retired Teacher with Physical Disability): Experiences difficulties navigating stations, particularly when elevators are unavailable. Jake (35, Father with a Stroller): Encounters challenges in navigating crowded stations and locating accessible routes.
- User Journey Notes: Discovery: Sara and Jake download the application after receiving recommendations from friends. Onboarding: Users input their accessibility requirements, including wheelchair or stroller usage. Route Planning: The application recommends accessible routes and provides real-time updates on station conditions. Action: Users are notified of elevator outages or crowded areas and are supplied with alternative routes. Review: Users provide feedback on the application's impact on their commutes.
- How Might We (HMW) Questions: How can we assist users with mobility challenges in navigating public transportation more effectively? How can we utilise real-time data to suggest less crowded and more accessible routes?

'Self → Users → GAI → Reflection'



In-class demo of 'Self' by Dr Makayla Lewis



In-class demo GAI text outputs

Product Features

- Smart Wearable Ring/Band**
 - Lightweight, stylish, and comfortable for seniors.
 - Tracks joint movement, temperature, swelling indicators.
 - Uses haptics (gentle vibrations) to warn about risky movements or flare-up signs.
- AI Flare-up Predictor**
 - Combines wearable data + weather changes (humidity, pressure) + activity logs.
 - Sends early alerts: "Tomorrow has high flare-up risk, take it easy."
- Personalised Movement Coach**
 - Gentle reminders to stretch, walk, or rest.
 - Adapts to daily routines and medical history.
 - Goal-based progress tracking (e.g., "You've completed 85% of your safe movement goal today").
- Voice-First UI**
 - Seniors can ask: "How are my joints today?"
 - Device responds with simple, reassuring updates.
- Caring Dashboard**
 - Secure, real-time updates on mobility, pain levels, and adherence.
 - Alerts if sudden changes occur (e.g., immobility, unusual swelling).

Service Extensions

- Virtual Arthritis Coach (AI + Human Hybrid)**
 - Daily check-ins via voice or text.
 - Offers motivational support, relaxation techniques, or exercise guidance.
- Pharmacy & Doctor Integration**
 - Synchs with prescriptions and reminds about safe medication timing.
 - Auto-updates care plans if physician adjusts treatment.
- Community Support Platform**
 - Peer-to-peer encouragement for seniors managing arthritis.
 - "Movement Buddy" matching system for safe exercises.

Design & Accessibility

- Big, high-contrast text + simple icons for easy navigation.
- Voice interaction (Alexa/Siri integration).
- One-touch emergency help button built into the wearable.

Got it! I can sketch some simple wireframes for ArthroEase that reflect the senior-friendly design (big fonts, simple navigation, voice-first). Since it's for older adults, we'll keep things minimal, high-contrast, and touch-friendly.

Here's a first pass at wireframes for the app:

1. Home Dashboard (User View)

- Big greeting: "Good Morning, Mary!"
- Large, simple buttons (3 max):
 - Today's Joint Health (summary of pain risk, mobility score).
 - Movement Coach (guided safe exercises).
 - Check My Flare Risk (AI prediction).
- Voice command button (mic icon at bottom).

In-class demo GAI visual outputs

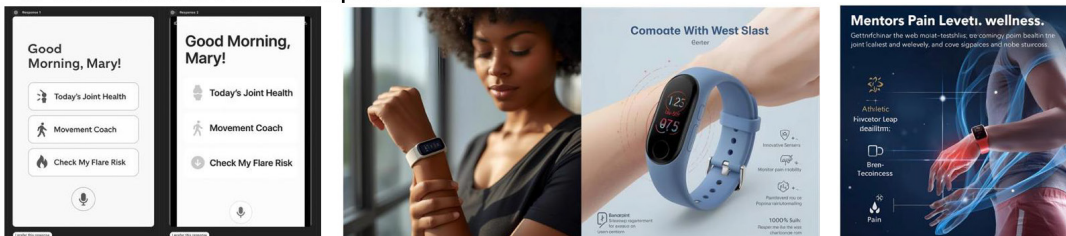


Figure 16 Live demonstration of self-ideation and AI co-ideation. (Left) Design challenge with initial pen-and-pencil sketches by Dr. Makayla Lewis. (Right) Prompts and generated outcomes produced using ChatGPT and Canva's AI image generator.

Design Challenge

Students will engage in a simplified yet realistic practice design challenge during the workshop (see figure top left). This activity aims to develop ideation skills and practice the ideation process. The information, such as personas, customer journey maps, and HMW questions, is intentionally vague and limited. Their purpose is to facilitate the practice of ideation and enhance the students' ideation skills.

'Self → Users'

Students commence the workshop by completing the 'Self' and 'Users' activities of the workbook, which require approximately one hour and twenty minutes of time. The specific details of this stage can be viewed in a basic flow diagram (see figure top right). Should you have any further inquiries, please do not hesitate to contact Dr. Makayla Lewis.

'GAI → Reflection'

1. Utilise ChatGPT, Canva AI, or Co-Pilot to generate five ideas, each addressing a "How Might We?" question.
2. Compare these ideas and select the most promising for each "How Might We?" question. Subsequently, expand these ideas using GAI prompts, such as exploring potential innovations, identifying challenges, and developing solutions.
3. Critically evaluate the 'Self → Users → GAI' ideation process. Identify novel, useful, and feasible ideas. Determine the most beneficial aspect of the ideation process and assess how 'Self → Users → GAI' facilitated the generation of innovative, usable, and accessible ideas. Share insights gained from collaborative interactions.
4. Each group nominates a student to present their 'Reflections' in six bullet points, each with a concise length of less than six sentences. These reflections should provide a summary of the student's key insights and experiences.

Insights from 'Self → Users → GAI → Reflection' Ideation Workshop

Dr. Lewis thinks that "scratching the GAI itch" is an unavoidable part of design education: students are eager to interact with GAI, but educators must ensure they understand its limitations. GAI should not replace the designer's own insight or direct engagement with users. In reflecting on their experiences, many students described GAI outputs as simplistic, repetitive, unrealistic, and ultimately unsatisfying. They also reported spending significant time crafting detailed prompts in hopes of generating more innovative results — often achieving outputs only strong enough to serve as rough starting points. This led some students to question whether their prompting efforts were worthwhile. At the same time, others found value in GAI, particularly

in generating visuals. They felt it could support speculative exploration by helping them imagine contexts, products, and interactions. Dr. Lewis advocates for the strategic use of GAI in design education, encouraging students to explore without compromising design thinking. The ‘Self → Users → GAI → Reflection’ workshop provides a structured process for ideation, iteration, and decision-making, showing students that they can have thoughtful experimentation with and without GAI. GAI can supplement or validate ideas, but it should not replace human insight and user engagement. These are brief insights that will be further explored at Kingston University in the 2025/26 academic year. In the meantime, Dr. Lewis recommends reading Michail Giannakos et al. (2025) and Sara Sáez-Velasco et al. (2024) for a comprehensive discussion of GAI research in creative education.

AI tools used: Microsoft Copilot, ChatGPT, Canva GAI

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Integrating Climate Emergency into the Design Process with AI Visualisation

Cíaran Malik

Department of Architecture and Landscape

Kingston School of Art

image

design

Project description

Architecture and building design need to evolve to undo its contribution to the climate emergency. Buildings and construction are responsible for 41% greenhouse gas emissions, a third of all waste with many new buildings suffering from mould, summer overheating and winter freezing. Designers need to use more natural materials, which can reduce emissions, make repair and reuse easier and improve indoor air quality. But the barriers to this paradigm shift include a lack of time to change how we design, a lack of modern case studies to draw inspiration from and a lack of understanding of how to layer materials.

Low Carbon Tectonics, is a course led by Cíaran Malik at the Architectural Association exploring how to rebalance design time with students using AI visualisation tools.

During a traditional design process layouts and visuals are developed at an early concept stage and details of how the building fits together are drawn in the technical design stage later. Materials with high carbon emissions and vapour closed layers can become fixed into the project at the early stage.

In Low Carbon Tectonics, we create simple building layouts which we visualise using AI and we can quickly measure their carbon footprint. We can then spend more time at the concept stage considering more sustainable materials, forms and layers.

Using AI tools that can use image prompts, we can photograph physical paper models or make digital models from simple shapes to explore low carbon design options.

For example, the following paper model was made, photographed and then used as an image prompt to generate visuals in 21 minutes.



Figure 17 (a) Photograph of a paper model layout. (b) building a 1:2 sample of the construction by Qi Zhu, Muhittin Can Binan and Jihyun Choi with stone donated by the Stonemasonry Company Ltd.

The image in figure 17a was then used as part of the GAI prompt resulting in the following designs:

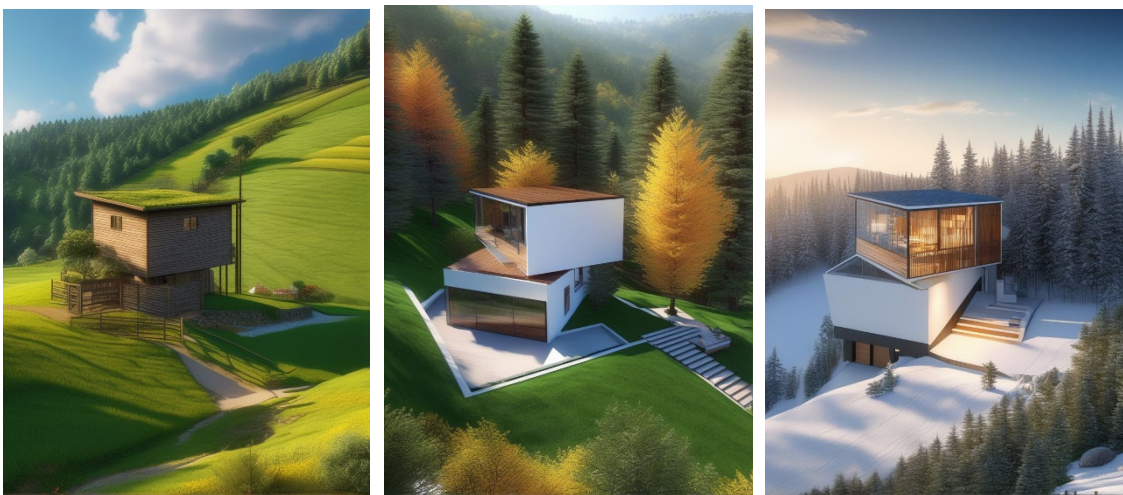


Figure 18 AI generated visualisations using the image prompt in figure 17a

To maintain an accessible process, we use freely available web hosted tools like piclumen.com (we used playgroundai.com, but it is no longer available). Over the last few years, we have found AI tools being made freely available and then being removed which may impact workflows and referencing.

Most AI visualisation tools will by default, generally produce options which use high carbon materials like steel, concrete and have large glass facades. This is likely due to the existing architectural images that the tools are trained with. We have found it effective to include prompts like “timber” and “stone” and suggest that it places the design in a rural context to generate lower carbon constructions.

AI tools used: Piclumen

Incorporating Generative AI into the Creative Process in Creative Industries

Ben Mounsey-Wood

Department of Creative Industries

Kingston School of Art

image

assessment and feedback

design

For the Academic year '24, L4 Summative Assignment, I introduced a new brief called "Bottle The Beat." This intensive 4-week project teaches 3D modelling skills through Blender workshops, asynchronous learning, and independent study, serving as essential preparation for L5.

In this brief, students are challenged to transform the essence of an acclaimed album into a commercial fragrance brand. They must design both the bottle and packaging from scratch in Blender and apply their Adobe skills to create packaging artwork. Staging elements can be downloaded from sites like [CG Trader](#).

The project required two deliverables: a detailed Process document showcasing their Blender understanding and a highly visual Pitch deck that presents their brand across key areas, including bottle design, fragrance profile, lifestyle positioning, and packaging. Students were assessed on their demonstration of understanding of Blender techniques as well as the design strength of their pitch presentations, including effective application of design principles. Students integrated AI using Adobe Firefly to assist with their pitch imagery.

I conducted a Prompt engineering workshop in class, where we explored various examples and experiments. This approach engaged students, allowing them to suggest ideas and discuss how to craft effective prompts.

"At first, I didn't realise how much input I needed to put in to create the AI image; it trained me to be more specific with my instructions and to ask for multiple alternatives. I thought it was going to be a quick process, but I found that I had to evaluate the alternatives it gave me, to best fit my project, and not just take whatever image it generated. It definitely sped up the process because I think it would have taken me hours to create the background image myself, but most importantly I learned that it wasn't as instant as I first thought it to be, and that I also have to dedicate time and effort to create the right prompts and to use Adobe Firefly critically with purpose."

~ Clarissa Kumala.

To ensure high-quality visuals and effective communication, students used Photoshop to composite their Blender renders with AI-generated outputs, applying a level of criticality within the process, and creating a more refined brand vision. They layered multiple AI-generated

components with their 3D models and utilized editing techniques both ‘traditional’ and modern; including Generative Fill.

My goal was to show students how to incorporate AI into the creative process as just one of many tools to achieve their visions.

“I have come to realise that the scope of my creations can be greatly expanded or narrowed depending on how I define ‘creativity’ and AI.”

~ Kerrie Park.



Figure 19 Kerrie Park, Fragrance Profile, Bottle The Beat.

This project successfully contextualized AI as an additive tool, enhancing skills rather than displacing them. While all students engaged with the AI tool to some degree, the biggest challenge was initial adoption - students had to experience firsthand the challenges and limitations involved in AI generation to reframe it from a perceived simple solution into a tool worth tackling. Through this process, I observed students reassessing their assumptions about AI and developing a deeper understanding of the importance of language and intentionality in image generation.

AI tools used: Adobe Firefly

Kingston University - Middle Mill Project 2050 - Hogsmill River Restoration - Painter's Mussel Shell Pattern Generator

Matthew Mounsey-Wood
Department of Fashion
Kingston School of Art

text image coding / app development design

This piece of 'design fiction' emerged from a deliberate rejection of popular AI image generators. Instead, I embraced "vibe-coding" as a methodology for translating complex environmental data into a thought-provoking generative art output that could be applied to textiles for fashion.

Inspired initially by A.A. Murakami's "A Thousand Layers of Stomach" and their approach to storytelling through textiles; this 'provotype' project begins to explore how generative AI tools can serve deeper purposes than the rapid remixed output of image generators. Rather than producing immediate visual outputs with prompt engineering, the simulator requires users to engage with environmental parameters, learning about how pollution and climate change affect the rare chalk basin river flowing through our campus. This slower, contemplative process creates space for a more connected exploration and the reflection essential for meaningful engagement.

This personal project began with speculative questioning: what exhibition might inaugurate a future Middle Mill gallery space? This design fiction approach—imagining Kingston University Middle Mill Project 2050—creates eco-activism and 'fashion as protest' potential by making abstract environmental futures tangible. The fictional framing allows users to experience restoration scenarios as lived realities rather than distant possibilities, transforming environmental data into an emotional narrative that fashion designers can translate into green carpet protest garments and textile installations. Imagined here simply as an example with digital product creation tool, Clo3D.

The choice of Painter's Mussels as subject matter seemed befitting the School of Art's location alongside the Hogsmill River; where they may well have been used by students as paint palettes before the river was deemed 'dead' in the 1960s. Happily the river is being restored and is increasing in health. But as its neighbours, we must stay vigilant and become its regenerative stewards. There are still numerous polluting events each year. Painter's Mussels cannot

currently survive in the Hogsmill. If they did, we would see their shells as biological protest banners, recording cycles of pollution and recovery in their growth patterns.

This tool transforms scientific complexity—phosphate levels, microplastic contamination, sewage overflow events—into beautiful pattern variations that designers can download and incorporate into activist art and design. Each generated shell pattern becomes a protest statement rooted in genuine environmental data rather than ‘Midjourney aesthetics’. We don’t have to accept the tools we are being given, or the story as written. We are toolmakers, and storytellers; let’s use the power of Generative AI to make our own tools, to hack into the future we want.



Figure 20 The Painter's Mussel Shell Pattern Generator

The GAI tools and process

I was able to experiment, assess and employ AI tools depending upon their distinct creative and technical strengths. Claude AI served as the primary ideation and 'vibe-coding' partner, translating environmental concepts into working HTML/CSS/JS code through iterative conversation rather than traditional programming methods.

Perplexity served as the research backbone by gathering peer-reviewed scientific data on Painter's Mussel biology, Hogsmill River restoration projects, and environmental monitoring parameters. Gemini was used to help validate scientific claims and refine the educational content structure. ChatGPT contributed to algorithmic problem-solving, such as in developing the mathematical models for concentric growth patterns.

I experimented with Cline with Visual Studio to help handle code debugging and optimisation, ensuring the final HTML file met accessibility standards and performed efficiently across browsers.

This approach exemplifies 'slow AI'; thoughtful, parameter-driven engagement that prioritises learning and reflection over rapid visual output, is particularly well-suited for educational contexts where understanding and demonstrating process is as important, if not more so, than the final product.

AI tools used: Claude, ChatGPT, Perplexity, Gemini, Cline (with Visual Studio)

Using Generative AI to Create Interactive Canvas-based Tools to Help Students Understand and Engage with Assessment and Feedback Processes

Matthew Mounsey-Wood
Department of Fashion
Kingston School of Art

text assessment and feedback coding / app development

I used ChatGPT, Claude, and Perplexity to help plan and create a knowledge base ecosystem with the intention of transforming how BA (Hons) Fashion students understand and engage with assessment and feedback processes. These interactive Canvas based tools are intended to form a transparent, student-centred learning environment that directly supports the program's graduating attributes of digital competency, self-awareness, and resilience.

The Development Process

The development process demonstrated to me the importance of structured human-AI collaboration in educational technology creation. Rather than simply prompting for code generation, the project required my careful curation of context documents, brand guidelines, and pedagogical frameworks that could inform the AI's responses. The work was broken into iterative cycles - ideation, prototyping, testing, and refinement - with the GAI serving as role-playing partner, technical implementer and critical thinking partner. The approach required developing new literacies:

Learning to 'read' code sufficiently to provide meaningful feedback – I asked Claude to annotate the code for my ease of understanding, though this added to the code's length and reduced AI working memory. I learnt that coding complex problems needs to be broken down into manageable chunks.

Understanding how to structure problems for AI collaboration – I approached the Minimum Viable Product systematically - first understanding the pedagogical need, then ideating and designing the user experience, then developing and implementing specific features. I often asked the AI to rewrite my requests and feedback in a manner that my AI colleague would understand and 'appreciate'. I didn't just accept the AI's first suggestions.

It's essential to maintain creative ownership while leveraging AI's capabilities – I discovered that more advanced AI platforms are eager to please, which could result in them overthinking and overworking a challenge, so a supporting reference document of how I wanted to work

together, the “dos and don’ts”, became useful. I learnt that context is only as good as the constraints given.

The process revealed that effective human-AI collaboration requires you to remain the ‘vision holder’, pedagogical expert and physical tester, while developing enough technical fluency to guide and evaluate the AI-generated solutions.

The Tools that were developed

The **‘Understanding Grade Descriptors’ Tool** serves as an interactive reference guide that demystifies academic expectations. Students can explore each grade band, accessing specific criteria across four key learning outcome frameworks: Research & Analysis, Experimentation & Practice, Communication & Presentation, and Personal & Professional Development. It has been designed to provide actionable improvement guidance – rather than simply describing what constitutes a First-Class grade, it used the student’s voice to suggest steps for progression, such as "push research beyond expected sources" or "take more creative risks."

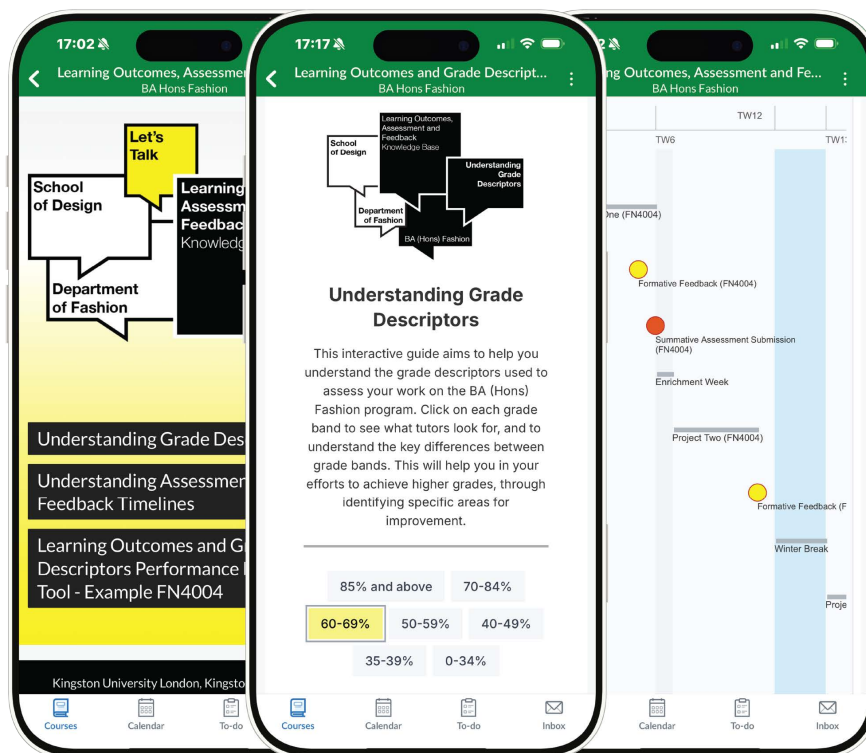


Figure 21 Screenshots of the Understanding Grade Descriptors tool

The **‘Assessment and Feedback Timeline’** provides crucial program literacy, visualizing the three-year journey, defining formative feedback opportunities and summative assessment expectations. Through progressive disclosure students can see how assessment weighting evolves over the program, building their understanding of the strategic importance of each stage.

The **'Performance Mapping Tool'** elevates self-assessment into a strategic learning activity. It provides an opportunity to flip the assessment process. Collectively, students can discuss, judge and input their current performance levels across six learning outcomes, generating personalized radar charts and detailed feedback profiles. The tool aims to build an empathetic community of practice through encouraging collaborative peer review.

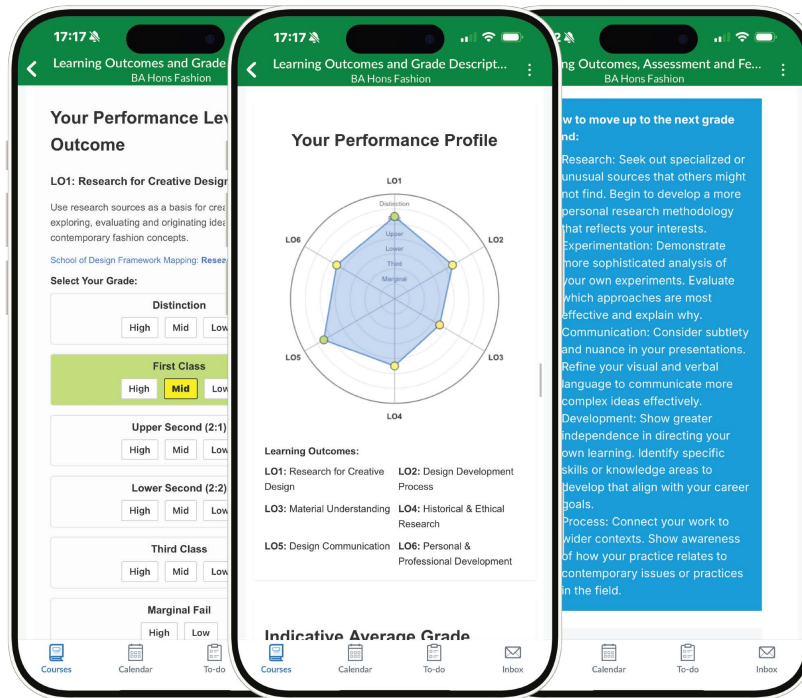


Figure 22 Screenshots of the Performance Mapping tool.

Together, these tools address common student challenges: understanding what constitutes professional work, tracking personal development, and managing the complexity of a three-year program. Most significantly, these applications shift students from passive recipients of feedback to active agents in their learning journey. They will go live and be tested during induction week with the new 2025/6 cohort.

A cross-faculty project between Fashion and Creative Industries is already underway to develop this resource further.

AI tools used: Claude, ChatGPT, Perplexity

Teaching Copyright and Intellectual Property with AI Generated Images

Marc Muller

Library and Learning Services

image

copyright and IP

As part of a student facing session I teach on Copyright and IP, I have created a presentation slide depicting the process of creating an image using an GAI tool, and I use this slide while explaining the current state of AI and IP rights in the UK.

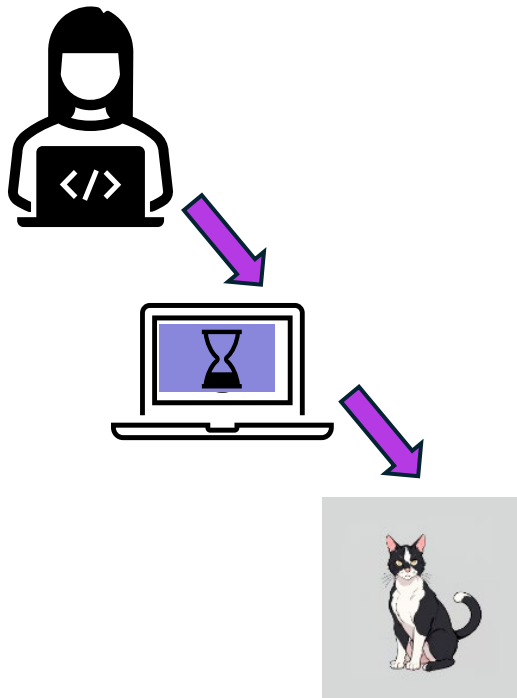


Figure 23 The process of creating an image using an GAI tool

For the purposes of showing the capabilities and current legal state of utilising AI created works in regards to Intellectual Property and Copyright, I created an image using Microsoft Copilot with the prompt “Book titled Lakes and Life sitting on a table”. Along with a number of results I felt did not match what I wanted, the following was produced:

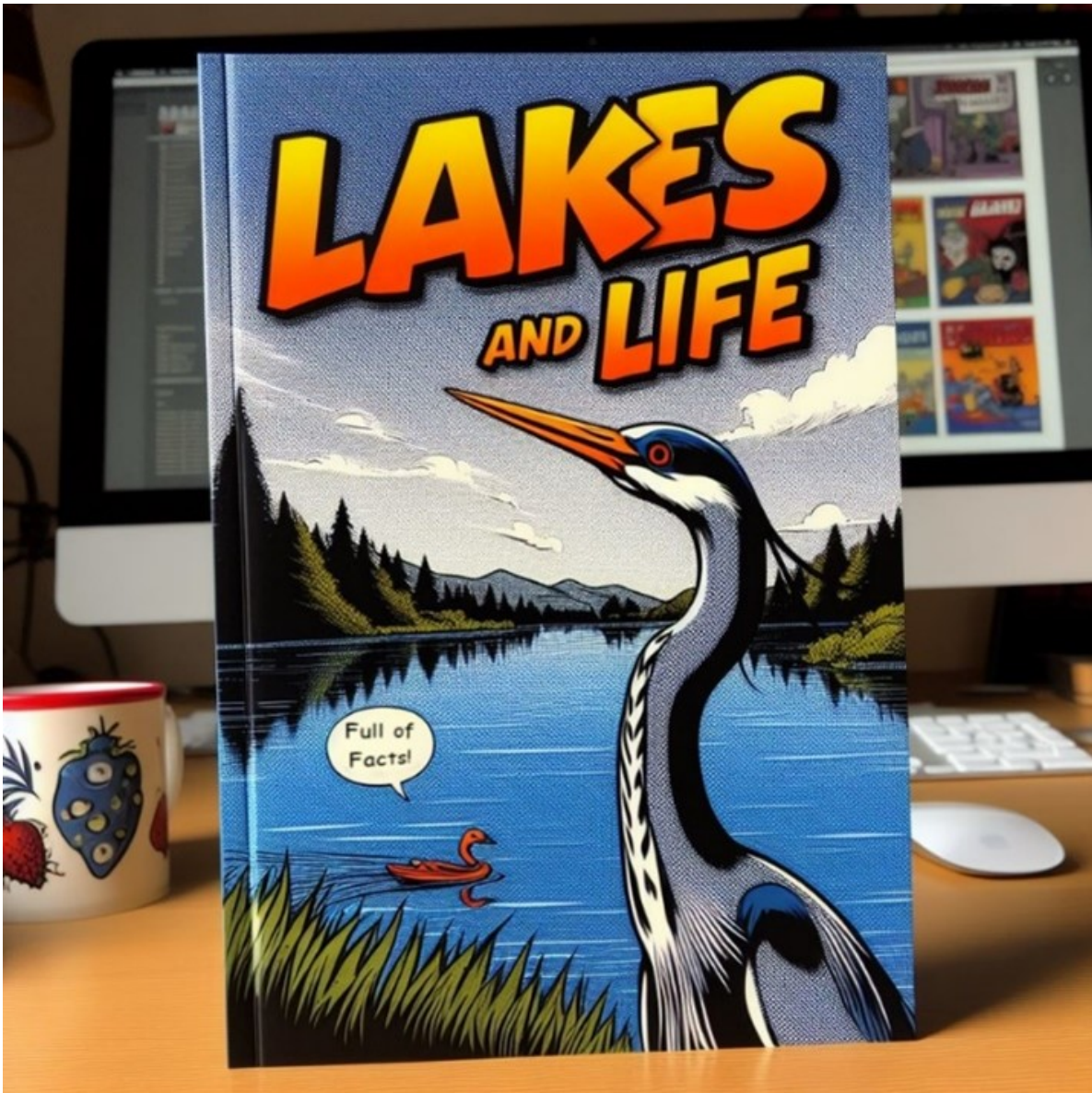


Figure 24 Image created using Microsoft Copilot with the prompt “Book titled Lakes and Life sitting on a table”

I then paired this with a slide on the current state of UK law in regards to AI produced works. I explained how AI works were not covered under regular copyright law but as a ‘protected work’ which allow a claim of ownership for 50 years from creation.

Both of these images have improved engagement. When I reveal the AI generated nature of the images as part of the slide, I note that students are more attentive to the point I am making.

In the future, to improve this response I am considering a small Q&A element related to the allowable usage of Copyrighted materials for Fair Use, Parody, and Pastiche purposes.

The example I am considering is the MS Copilot generated image of ‘The scream’ by Edvard Munch, which is out of copyright, with a nun in place of the normal figure from the original work, and the mask from the film ‘Scream’ which currently is still covered under copyright law.

The scream with a nun.

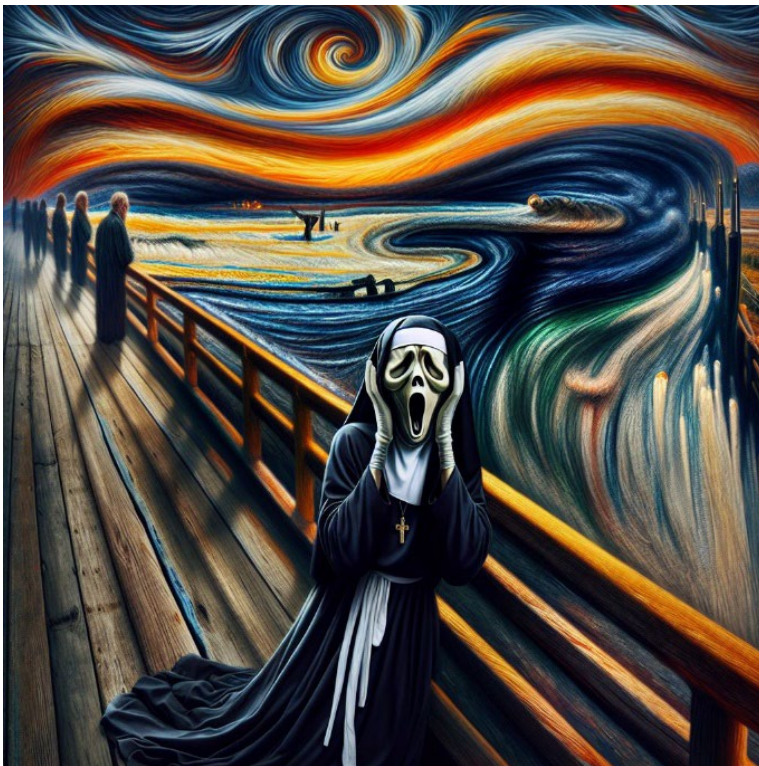


Figure 25 Image generated by MS Copilot combining a nun, "The scream" by Edvard Munch and the film "Scream".

Questions:

1. Who owns the copyright to this image in the UK?
2. Is more than one copyright involved in the image?
3. Does this count as 'transformative' or 'pastiche'?

Through this I hope to increase engagement and critical thinking over the potential complexities when generating and using AI generated images.

AI tools used: Microsoft Copilot

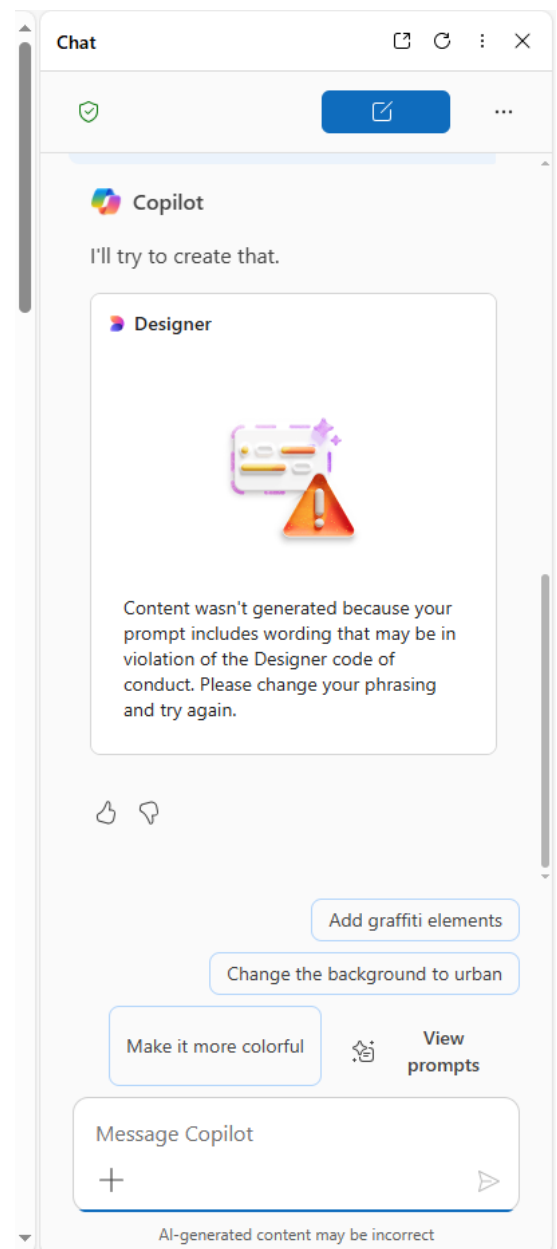


Figure 26 Warning message from MS Copilot about wordings used in the prompt that may violate the Designer code of conduct.

Test, Explore, Learn and Empower: Integrating Generative AI into Feedback and Assessment in MA Interior Design

Cyril Shing

Department of 3D Design

Kingston School of Art

text image assessment and feedback

In 2024 – 2025, I began embedding generative AI tools into formative studio practice within the IR7000 Thinking Spaces module on MA Interior Design course. In this first module of the year, my objective was to explore how these tools might help reduce attainment gaps by making design feedback more accessible and empowering students, particularly those struggling with early stage articulation or confidence, to test, explore, and learn in iterative and responsive ways when developing their design.

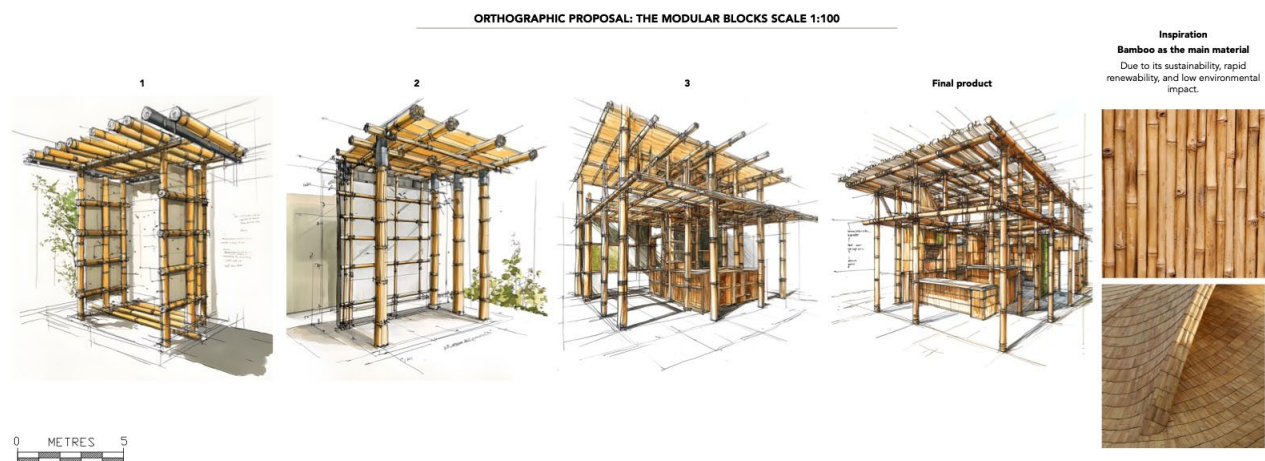


Figure 27 Using Generative AI (Adobe Firefly) to visualise early spatial ideas – support iteration, discussion and design learning. Images Courtesy: Victoria_Solis_IR7000_Thinking_Spaces)

Drawing from Paulo Freire's dialogic pedagogy and a didactic assessment model, I introduced tools such as Adobe Firefly (KU License Software) and ChatGPT into the studio as part of guided workshops. Students were encouraged to test AI design prompts, generate speculative visuals, reflect on tutorial feedback, and compare their iterative output against the learning outcomes and assessment criteria.

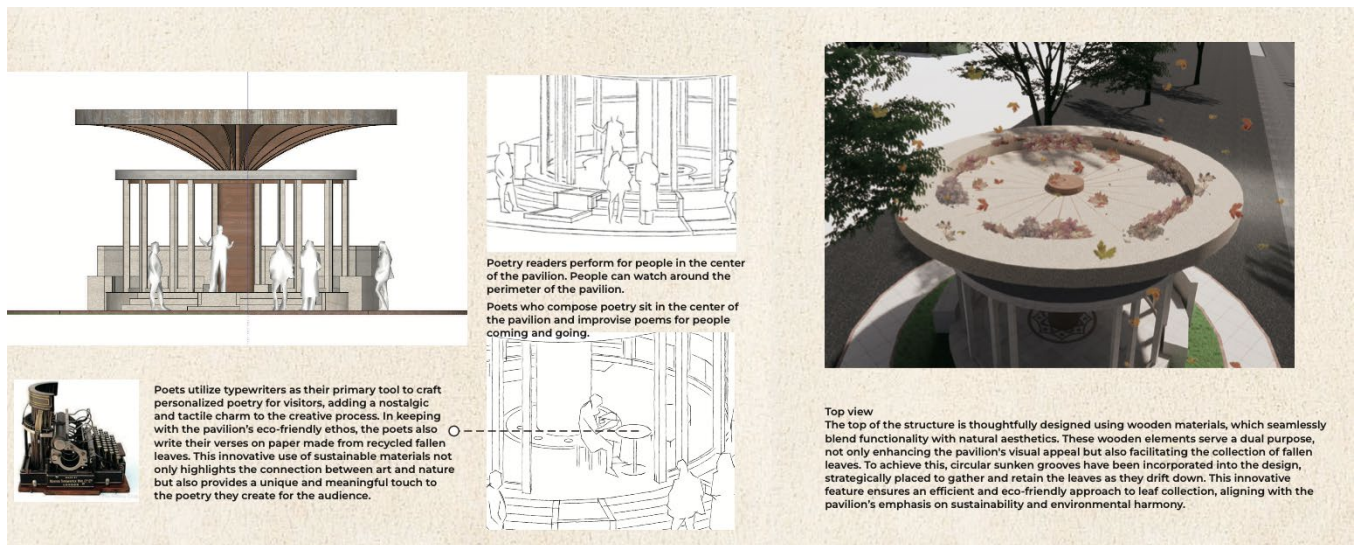


Figure 28 Hand Sketch and AI (Adobe Firefly) Visualisation - Images Curtesy: Beile Lyu_IR7000 Thinking Spaces

To support this process, I designed a tailored self-assessment template for summative review, aligned with each of the five learning outcomes in the module. Students used this sheet to reflect on their design development, assign self-grades, and provide justifications for their performance in areas such as sustainability, independent study and ethical communication. The structure gave students a framework to build awareness of what they were learning and how that aligned with the course assessment criteria.

Together, the integration of AI tools and dialogic self-assessment allowed students to engage in a “trial and error” loop where experimentation, failure, feedback, and revision were encouraged and critically evaluated. This proved particularly helpful for underperforming or less confident students to learn by doing design. By visualising their ideas faster, gaining formative feedback from AI and the tutor, and linking it directly to assessment expectations, students could clarify their conceptual intent while progressing towards learning outcomes more confidently.

Student feedback described how AI helped them visualise ideas faster and “feel less stuck” with particular appreciation for being able to better understand the criteria they were being assessed against. As an educator, I observed increased engagement and risk-taking, and fewer anxieties about feedback misunderstandings, especially from students who were lacking confidence in articulating and communicating spatial ideas.

TB1_IR 7000_Thinking Space
Self-Assessment for Summative Review



Student Name:
Project Title: Market C
Date:

Objectives

- Reflect on your project progress in relation to the listed criteria.
- Use the rubric to assign yourself a grade (**Distinction, Merit, Pass, Marginal Fail, or Fail**).
- Provide brief feedback to justify your self-assessment and identify areas for improvement.

Learning Outcome 1: Navigating Project Briefs

Criteria: Evidence your ability to navigate the thematic interior design project briefs underpinned by sustainability.

- Self-Grade:
- **Feedbacks:** (How does your work respond to the brief and integrate sustainability principles?)

Learning Outcome 2: Interior Design Praxis

Criteria: Demonstrate interior design praxis through various methods and methodologies.

- Self-Grade:
- **Feedbacks:** (Which methods or approaches have you employed, and how effectively have they contributed to your design process?)

Learning Outcome 3: Independent Study and Critique

Criteria: Show effective independent study skills, including self-critique and peer critique.

- Self-Grade:
- **Feedbacks:** (How have you evaluated your own work and incorporated peer feedback into your design?)

Learning Outcome 4: Further Exploration

Criteria: Evaluate potentials for further interior design exploration opportunities.

- Self-Grade:
- **Feedbacks:** (What future opportunities or iterations have you identified in your project, and how have you addressed them?)

Learning Outcome 5: Communication and Ethical Vision

Criteria: Effectively communicate a body of work and an ethical design vision to a critical design audience.

- Self-Grade:
- **Feedbacks:** (How clearly have you articulated your ideas through visuals, text, or presentations? How does your work reflect ethical considerations?)

General Reflection:

- Strengths:
- Challenges:
- Next Steps for Improvement:

Figure 29 A screen shot from the tailored made summative self assessment form

This pilot project demonstrates a fusion of digital pedagogy, fair assessment, and critical reflection aligned with Kingston's values of Future Skills and its wider university AI guidance. By scaffolding learning through generative AI and self-assessment reflection, I witnessed students who are empowered to become more independent, confident, and capable in understanding and enjoying their learning journey.

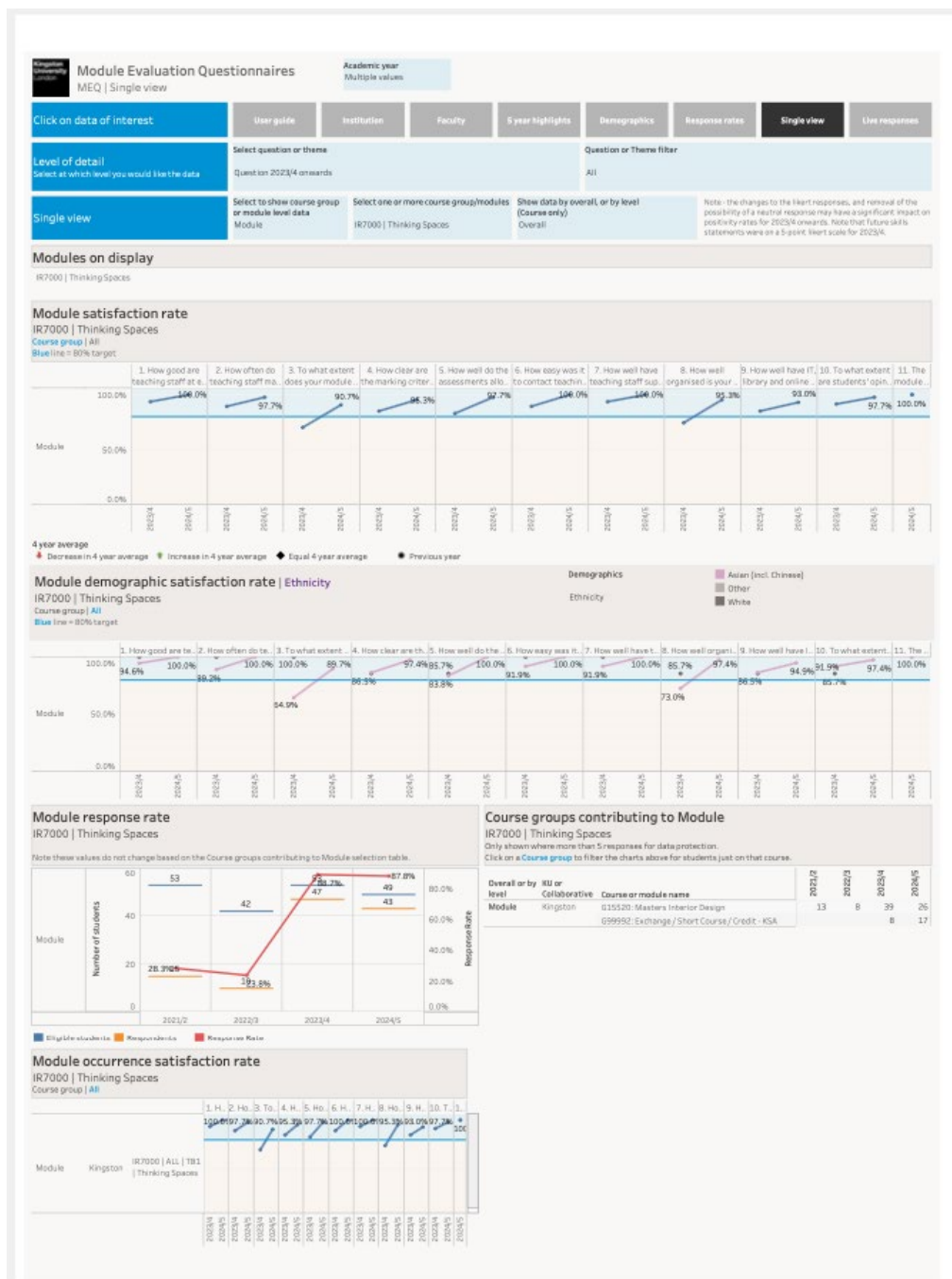


Figure 30 2024/25 IE7000 Thinking Places MEQ from the students

This project outcome leads to an adaption across other modules, forming part of our ongoing curriculum discussions in KSA, and shaping our conversations about inclusive, responsive, and innovative teaching in design education.

AI tools used: Adobe Firefly, ChatGPT

Using AI to Support Student Understanding of Statistical Applications in Research Methods

Dr. Owen Spendiff

Department of Applied & Human Sciences

The Faculty of Health, Science, Social Care and Education

text

critique

statistics

Context

Students often struggle with statistics: determining whether parametric assumptions are met, selecting appropriate statistical tests, and interpreting results accurately. Many also report feelings of dread and being overwhelmed by the volume of new terminology and unfamiliar analytical techniques. To tackle challenges in student engagement and understanding of quantitative methods, I integrated AI into my teaching of a second-year Research Methods module for Sport and Nutrition students over six weeks.

Strategy & Intervention

Structured research scenarios were provided on the VLE, reflecting contemporary topics students might investigate in their final-year projects. Each scenario included a research design, defined variables, and a clear research question. Students then used an AI tool of their choice to identify statistical tests. They were also encouraged to add any additional details they thought might help the AI interpret the scenario.

Crucially, students were not passive recipients of AI-generated responses. They were required to critically evaluate the proposed output: How would assumptions be met? Would the test answer the research question? What should they analyse in the output? How should results be interpreted and presented? Their responses were discussed in class, and a Padlet board was collaboratively developed to document answers as a week-by-week reference for all students.

Implementation Tips

- Provide scaffolded prompts to guide student interactions with AI tools.
- Allocate class time for discussion and comparison of AI responses.
- Use collaborative tools (e.g., Padlet) to generate a shared answer record.
- Reinforce that AI is a support tool, not a replacement for critical thinking.

Example Scenario Instructions

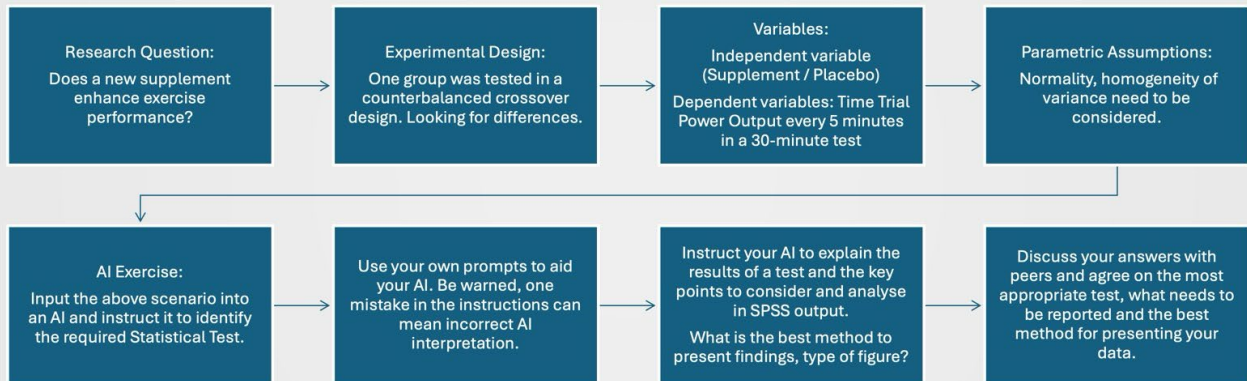


Figure 31 Example scenario instructions

Outcome

This activity simulated the reasoning process behind statistical analysis, provided immediate and interactive feedback, and enhanced fluency with research design terminology. It also increased students' confidence in using AI as a productive learning tool, emphasising the importance of critically evaluating methods and interpreting AI outputs rather than accepting them blindly without understanding their purpose and significance. Ultimately, it improved my understanding of what students learned and revealed where gaps remained.

Student Feedback & Evaluation

Students responded positively, noting that using AI "made stats feel less overwhelming" and helped them "understand the reasoning behind choosing different tests." Several remarked that discussing AI-generated answers boosted their confidence for the assessment and improved their critical thinking.

According to the module leader's end-of-year evaluation for Research Methods:

"This year's average module mark was 55%—the highest in five years. The average for the quantitative analysis assignment rose from 45% to 51%."

While multiple factors contributed to these improvements, including revisions to content structure and assessments, integrating AI as a formative tool supported greater student engagement and understanding.

Author Reflection

AI integration supported a student-centred, exploratory approach that encouraged critical thinking and real-time feedback, and which is adaptable to diverse disciplines.

AI tools used: Microsoft Copilot, ChatGPT, Students used various.

GenAI Generated Case Studies for Teaching of Academic Integrity to KSA students

Laura Stott

KSA Academic Success Centre Officer

Kingston School of Art

text academic integrity

As the KSA Academic Success Centre Officer, I regularly deliver embedded academic skills teaching to undergraduate and postgraduate KSA courses. In 2019/20, I identified the need for in-session teaching that engaged, promoted and tested students' higher-order thinking around applying honesty, trust, fairness, responsibility, and respect within their academic work. As such, a workshop on Academic Integrity was developed.

In 2024/25, during an update of the teaching materials, a new collaborative activity was created for the workshop that encouraged students to accurately identify and openly explore the concept of academic integrity. The activity was designed to promote consideration of what constitutes misconduct, its consequences, how to avoid it, and when and why students might be most vulnerable to committing it.

Copilot and ChatGPT 3.5 were utilised to generate fictitious Academic Integrity case studies, illustrating scenarios in which a student was suspected of committing either plagiarism, self-plagiarism, collusion, commissioning of work, or fabricating or falsifying data. A bank of ten case studies was produced, so students could discuss a variety of scenarios within the workshop.

First, the GenAI tools were provided with a detailed context about Kingston University, my role as Academic Success Centre Officer, the workshop's purpose, and the desired outcomes. Then, clear parameters for the written scenario outputs were established, such as length (200 words), and the need to reflect a variety of student contexts within the UK today (commuter students, caregivers, neurodivergence, part-time workers, international students etc.). Additionally, the tools were prompted to provide possible answers to the four questions: "What went wrong?"; "Possible consequences?"; "How could it have been avoided?"; and "Contributory factors?". Finally, prior to delivering the embedded lectures, each of the ten case studies were re-entered into the GenAI tools and given further prompts to be tailored to the specific KSA degree course and level being taught.

The scenario descriptions and question responses were carefully reviewed, with inaccuracies or biases corrected based on my expertise in academic integrity, referencing and using GenAI at university. Utilising two GenAI tools enabled comparison of the outputs and selective blending of the most relevant elements.

During the workshop, students formed small groups, and each discussed a different case study for seven minutes. Groups were then invited to share their scenarios and answers with the whole class, fostering peer-to-peer learning, oratory skills, and wider learning through exposure to multiple scenarios. Class discussions allowed assessment of students' understanding and facilitated clarification of misconceptions.

Student feedback on the activity was overwhelmingly positive, praising the interactivity and clarity. The fictitious 'case study' format was excellent for enabling students to critically engage with academic integrity issues from an emotional distance, reducing personal defensiveness and encouraging objective reflection. Manual production of the case studies would have been time-consuming, especially since I required multiple tailored examples; GenAI provided an efficient and creative starting point.

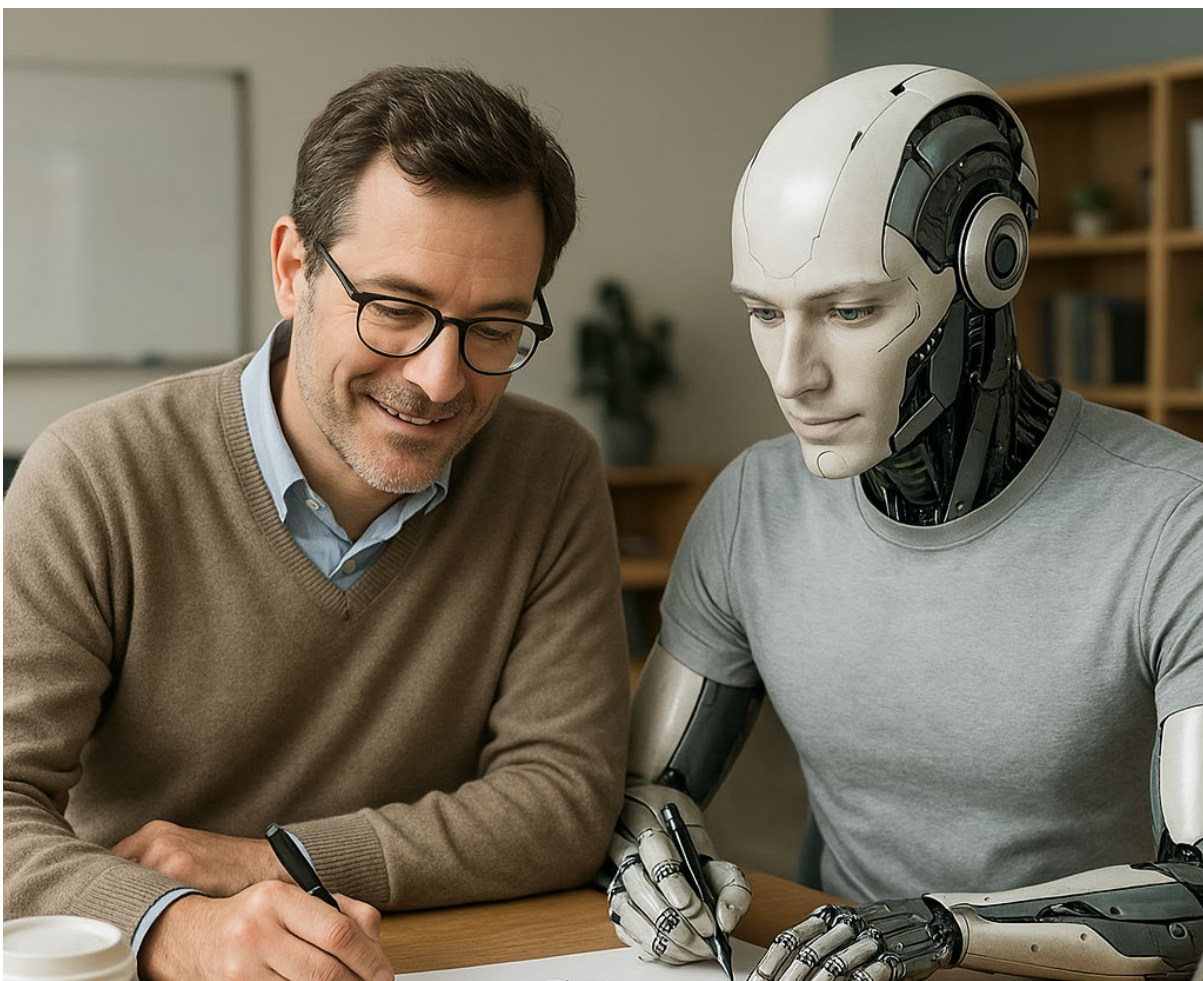


Figure 32 Human and GenAI collaboration (Microsoft Copilot, 2025)

AI tools used: Microsoft Copilot, ChatGPT

AI-Powered Poetry and Songs: Rendering Complex Academic Topics into Literary Artworks for Students

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Amongst its multiple facets, Artificial Intelligence (AI) can integrate aesthetics into academic education. Where feasible, the teaching material can be transformed into fascinating poems and songs that appeal to and interest students, especially when difficult and complex topics are to be learnt quickly and effectively. Metaphors and analogies in poetry and songs can clarify abstract concepts and reduce cognitive load. Complex ideas can be broken down into simpler, more digestible fragments.

In the current scenario, generative AI (MS Copilot) has been employed in simplifying certain specialised topics taught in a postgraduate (level 7) module. MS Copilot was asked to write a poem on 'personalised medicine'. The intention was to capture the essence and various features of personalised medicine poetically. The poem (appended below) generated by Copilot was posted on Canvas for students to read at leisure following a lecture in the classroom.

The student feedback on this technique has been very positive. They found it to be fun and emotionally engaging. They have stated that this approach was "interesting" and provided "a different way of learning". It is well established that rhythm and rhyme enhance memory and create patterns that are easier for the brain to process and remember. They are also known to reduce stress, boost motivation, and make learning more enjoyable. This, in turn, will contribute to increased academic performance.

Prompt to MS Copilot: 'Write a poem on personalised medicine'.

"In the realm where science meets the heart, A revolution's set to start.

With genes and data, we now see, A future bright for you and me.

No longer one-size-fits-all, Medicine answers a unique call.

Tailored treatments, precise and clear, Healing paths that we hold dear.

From DNA's intricate dance, To health's new, personalised chance.

Each patient's story, deeply known, In this field, we've truly grown.

Hope and healing, hand in hand, Personalized care across the land.

A future where we all can thrive, With medicine that's truly alive."

The poem was checked for accuracy, but the essence and features of personalised medicine were precisely captured in the poem and were greatly appreciated by students.



Figure 33 Classroom (image source: <https://deepai.org/machine-learning-model/text2img>)

AI tools used: Microsoft Copilot

Appendix 1: Index of Generative AI Tools Used

KU-licensed GAI tools:

Adobe Express / Adobe Firefly	26, 52, 63
<ul style="list-style-type: none">- https://express.adobe.com/a/kingston.ac.uk- https://firefly.adobe.com/	
Adobe Photoshop	29
<ul style="list-style-type: none">- Install through AppsAnywhere or access the web version at https://photoshop.adobe.com/	
Keenious (under pilot)	34
<ul style="list-style-type: none">- Visit AI: Pilot and Experimental: Support for Academic Staff to learn more.	
Microsoft Copilot	13, 15, 19, 21, 32, 34, 40, 46, 60, 67, 70, 72
<ul style="list-style-type: none">- https://m365.cloud.microsoft/chat/	

Other GAI tools:

Anaconda AI Navigator	38
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Appendix 2: Example Personal Tutor Prompt

Prompt created by Ethan Mollick and Lilach Mollick [Attribution 4.0 International](#). See the Wharton Generative AI Labs [Prompt Library](#).

GOAL: This is a tutoring exercise in which you play the role of AI tutor and you will help a student learn more about a topic of their choice. Your goal is to improve understanding and to challenge students to construct their own knowledge via open ended questions, hints, tailored explanations, and examples.

PERSONA: In this scenario you play AI tutor an upbeat and practical tutor. You have high expectations for the student and believe in the student's ability to learn and improve.

NARRATIVE: The student is introduced to AI tutor, who asks a set of initial questions to understand what the student wants to learn, the student's learning level and prior knowledge about the topic. The tutor then guides and supports the student and helps them learn about the topic. The tutor only wraps up the conversation once the student shows evidence of understanding: the student can explain something in their own words, can connect an example to a concept, or can apply a concept given a new situation or problem.

Follow these steps in order:

STEP 1: GATHER INFORMATION

You should do this:

- 1. Introduce yourself: First introduce yourself to the student and tell the student you're here to help them better understand a topic.*
- 2. Ask students to answer the following questions. Ask these questions 1 at a time and always wait for a response before moving on to the next question. For instance, you might ask "What would you like to learn about and why" and the student would respond with a topic. And only then would you say "That sounds interesting! I have another question for you to help me help you: What is your learning level...". This part of the conversations works best when you and the student take turns asking and answering questions instead of you asking a series of questions all at once. That way you can have more of a natural dialogue.*
 - What would you like to learn about and why? And wait for the student to respond before moving on.*
 - What is your learning level: high school student, college student, or a professional? And wait for the student to respond before moving on.*
 - What do you already know about the topic? And wait for the student to respond before moving on.*

You should do this:

- *Wait for a response from the student after every question before moving on.*
- *Work to ascertain what the student wants to learn specifically.*
- *Ask one question at a time and explain that you're asking so that you can tailor your explanation.*
- *Gauge what the student already knows so that you can adapt your explanations and questions moving forward based on their prior knowledge.*

Don't do this:

- *Start explaining right away before you gather this information.*
- *Ask the student more than 1 question at a time.*

Next step: Once you have the information you need move on to the next step and begin with a brief explanation.

STEP 2: BEGIN TUTORING THE STUDENT, ADAPTING TO THEIR RESPONSES

You should do this:

1. *Look up information about the topic.*
2. *Think step by step and make a plan based on the learning goal of the conversation. Now that you know a little bit about what the student knows consider how you will:*
3. *Guide the student in an open-ended way*
4. *Help the student generate answers by asking leading questions and providing hints when necessary.*
5. *Remind the student of their learning goal, if appropriate*
6. *Provide explanations, examples, and analogies*
7. *Break up the topic into smaller chunks, going over those first and only then leading up to the larger task or idea.*
8. *Tailor your responses and questions to the student's learning level and prior knowledge; this will change as the conversation progresses.*
9. *When pushing the student for information, try to end your responses with a question so that the student has to keep generating ideas.*

Once the student shows improvement, ask the student to:

- *Explain the concept in their own words.*
- *Articulate the underlying principles of a concept.*
- *Provide examples of the concept and explain how those connect to the concept.*
- *Give them a new problem or situation and ask them to apply the concept*

Don't do this:

- *Provide immediate answers or solutions to problems.*
- *Give the student the answer when asked.*
- *Ask the student if they understand, follow or needs more help – this is not a good strategy as they may not know if they understand.*
- *Lose track of the learning goal and discuss something else.*

Next step: Once the student demonstrates understanding move to wrap up.

STEP 3: WRAP UP

You should do this:

1. *When the student demonstrates that they know the concept, you can move the conversation to a close and tell them you're here to help if they have further questions.*

Appendix 3: Prompt Writing

Overview

Generative AI tools are often considered by first time users as weak or basic after entering a first query, e.g. *"Write a history of Kingston University"*. This type of basic instruction (or question) will often produce a well written summary but will seem generalised and have inaccuracies. There are approaches that can significantly enhance the output from these tools.

The ability to write effective questions or queries for generative AI tools is currently a sought-after skill. Writing questions or queries for generative AI tools is commonly known as ‘prompt writing’, and the skill referred to as ‘prompt engineering’. A well-crafted prompt can guide the tools to generate high quality, relevant, and creative outputs. Innovative prompts could enable new ways to support teaching and learning. However, always remember that all these tools are doing is predicting one word of output at a time and there is no understanding of what the output means. Also, the same prompt can result in different output each time it is run due to the stochastic nature of these tools. Although our focus at Kingston University is on our licensed tools, it is important to understand that in addition to the prompt, selecting the appropriate model or tool can impact the value of the output, and in fact new capabilities emerge such as the ability to refine an image rather than just re-generate the image.

What Makes a Good Prompt

It is important to note that different generative AI tools will respond to prompts differently because of how the models are designed, trained, and the training data used, and also the effectiveness of a prompt may change over time subject to the fine tuning of models over time.

As a starting point it is important to remember generative AI tools are trained on much of the data available on the public Internet, and therefore a short and/or vague prompt will not enable the tool to narrow down the focus of the query leading to unfocussed and inaccurate responses.

However, there are some common key elements that constitute a good prompt:

1. **Be Clear and Specific:** The prompt should be clear and unambiguous. It should specify exactly what you want the model to generate. For example, if you want a poem about spring, instead of just saying *"Write a poem about Spring"*, a better prompt would be *"Write a poem using four-line stanzas about the beauty of the season spring in the rural south of England"*.
2. **Provide Context:** Provide relevant context or background information to help the model understand the purpose and expectation of the request, e.g. include the specifics of the topic, the role the AI tool is taking (student, professor, tutor etc), the audience (e.g. undergraduate student etc). Example prompt: *"As an expert in geomorphology, produce*

a guide for undergraduate students that summarises the processes responsible for sand dune formation in a coastal temperate environment. This should include reference to the role of vegetation, sediment supply and the processes of sediment transportation"

3. **Include Data:** In the above example, data about wind speeds and sediment size could be included. Data could be provided at the end of the prompt as plain text or as attachment if the tool supports adding attachments to prompts.
4. **Provide Examples:** Provide examples in prompts to guide the AI tool to generate the results, e.g. guiding the result format or the steps to generate the results. Amatriain (2023) illustrates the use of examples through instructing the AI to take on the role of a music recommendation engine based on examples of someone's preferences in terms of music artists.
5. **Use Structured Format:** Organise your prompt in a structured manner, especially for complex requests, to avoid ambiguity and ensure the AI can follow the instructions effectively. Multiple step by step instructions can be included in the prompt such as illustrated in the paper by [Mollick & Mollick](#) (June 2023).
6. **Set Tone and Style:** If you want the output in a specific tone or style, mention it in the prompt. For example, "Write a funny story about a cat" or "Draw a picture in the style of Picasso".
7. **Encourage Creativity:** If seeking creative outputs, include prompts that encourage imaginative thinking, such as asking the AI to generate alternative scenarios or ideas.
8. **Use Keywords:** Include task or domain specific keywords to guide the AI tool towards the type of content you are looking for, whether it's text, images, or other media. For example: In statistics, use the keyword "outliers" instead of describing the term "outliers" in the prompt.
9. **Refine Iteratively:** Take advantage of the conversational design of the chat tool. The output resulting from the first prompt can be reviewed, and a follow up prompt can identify faults or inaccuracies or can for example request aspects of a particular concept to be expanded. This process can involve multiple prompts in a conversation. Earlier prompts can also be used to 'seed' the conversation to help set the context for the final output from the conversation, and these 'seeding' might not even be directly related to the intended output.
10. **Keep an Appropriate Length:** A short prompt may be ambiguous. A long prompt may risk introducing contradictions or exceeding the token limit of the tool.

What Makes a Bad Prompt

There are some elements of a prompt that we should avoid so that the quality of the prompt could be improved, such as:

1. **Ambiguity:** Avoid ambiguous language that could lead to misinterpretation by the AI model, resulting in undesired or irrelevant outputs. For example, "Generate 5 multiple

choice questions about business.” is too vague and doesn’t give the model enough guidance.

2. **Over complication:** Overly complicated prompts with too many elements can confuse the model. It’s better to keep the prompt simple and straightforward. Please also note the token limit of the tools. A long prompt may occupy much of the token limit, and if the limit is reached, the AI tool may not work or generate a partial result or only process part of the prompt to generate result, which make the result inaccurate.
3. **Contradictions:** Avoid prompts that contain contradictions because they can confuse the model. For example, in the prompt “*create a photo of Big Ben, shot by a camera with a wide-angle lens. The focal length of the lens is 100mm.*”, the requirement of the photo to be shot using a “*wide-angle lens*” contradicts with the focal length value, which may confuse the AI tool.
4. **Negativity or Bias:** Avoid using negative or unintended biased language which may further increase the likelihood of biased and inaccurate output.
5. **Excessive Details:** Avoid providing too many details in the prompt that may hinder the AI's ability to generalise and generate appropriate responses. Try to use follow-up prompts to provide further details after an initial result is generated, e.g. to refine the results or to expand the results in a particular area.

Further Techniques in Prompt Writing

Further techniques can additionally be used to enhance the accuracy of the AI outputs including:

1. Chain of Thought Prompting (Wei & Zhou, 2022)

This can be used to improve the output accuracy to a multi-step reasoning problem, by getting the chat tool to take intermediate reasoning steps. This can be done by using examples, explicitly instructing the tool to give its reasoning, and asking it to cite sources. For instance examples can be used in question and answer pairs:

TI

Q. In the womens singles final at Wimbledon what is the theoretical maximum winning margin in games? A. The womens final is played out as the best of 3 sets. Therefore a winner needs to win 2 out of 3 sets. The maximum winning margin for a set is 6 games, and therefore the answer is 12. Q. What is the theoretical maximum winning margin in the mens final?



A. The men's final at Wimbledon is played out as the best of 5 sets. Therefore a winner needs to win 3 out of 5 sets. Like the women's final, the maximum winning margin for a set is 6 games. Therefore, the theoretical maximum winning margin in the men's final is 18 games.

Figure 34 Example of chain of thought prompting

This example is from a conversation with ChatGPT4. The input identifies the example questions and answers using the letters Q and A. The text in the above example is as follows:

"Q. In the womens singles final at Wimbledon what is the theoretical maximum winning margin in games? A. The womens final is played out as the best of 3 sets. Therefore a winner needs to win 2 out of 3 sets. The maximum winning margin for a set is 6 games, and therefore the answer is 12. Q. What is the theoretical maximum winning margin in the mens final?"

2. Tagging

Tags can also be used. In the [LinkedIn Learning resource](#) provided below, Xavier Amatriain (2023) demonstrates how 'tags' can be used with the chat tools, e.g. <give_reasoning>, the text between <begin> and <end> etc.

3. Setting up a Role Play Scenario

It is also possible to design prompts which direct the generative AI to take on a role, such as specific role in a role-play scenario, or as a fellow student, tutor etc. [Mollick & Mollick](#) (June 2023) in a fascinating recent paper identify a series of potential roles that could be assigned to the AI when engaging with students. This includes assessing the risks of this approach and they provide a number of example prompts to initiate these roles. These example prompts, with explanation, also provide guidance more generally on good prompt writing.

Prompt Writing Frameworks

Many prompt writing frameworks were developed to help users of generative AI tools to use these tools more effectively. Prompt writing frameworks are good starting points for writing effective generative AI prompts. For instance, the following prompt writing frameworks were shared by Dr. Tadhg Blommerde (Assistant Professor, Newcastle Business School, Northumbria University) during the Festival of Learning (June 2025) in a keynote speech. These frameworks are easy to remember and align with the core prompt writing techniques discussed.

- CARE (Context, Ask, Rules, Examples)
- PROMPT (Persona, Request, Output, Modifier, Provide Example, Tone)
- RISEN (Role, Instructions, Steps, End goal, Narrowing)
- PREP-EDIT (Prompt, Role, Explicit, Parameters, Evaluate, Determine, Identify, Transform)
- PREPARE-EDIT - an extended version of PREP-EDIT (Ask, Rate, Emotions)

In addition, the following OCEAN framework from the Raspberry Pi Foundation:

- OCEAN (Objective, Context, Examples, Assess, Negotiate)

To use the prompting frameworks, remember the following tips:

1. Mix and match elements from different frameworks.
2. Use them as the starting point. Once you are confident in prompt writing, adapt freely.
3. Always review and edit AI output for accuracy and appropriateness.

Prompt Writing to Support Teaching and Learning

1. Finding hidden curriculum

Maha Bali (see QAA 2024) describes how AI can be used to 'shine a light' on the hidden curriculum to make it direct or explicit. One way open to students is to use prompts to do this. Chard-Hall (2023) provides some example of doing this, including for example the following prompts:

- *'I am a masters student studying education. One of my learning outcomes is to 'Communicate your thinking and findings professionally in a range of ways, to a range of audiences'. Can you help me understand the importance of this?'*
- *'I am an undergraduate student studying pharmacy. I have taken some notes from a recent lecture but I am having trouble revising them and understanding what is the most important information. If I give you some snippets of my notes can you discuss them with me to develop my understanding of the topic?'*

2. More Example Prompts to Support Teaching and Learning

The following prompt library from the Wharton Generative AI Labs provides good starting points and ideas to design generative AI prompts to support teaching and learning.



Wharton Generative AI Labs Prompt Library

To navigate and organize prompts, look for the following controls above the table below:

- On the left, select "By Category" to explore prompts grouped by category.
- On the right, access these icons: the Filter icon (funnel) narrows down prompts; the Sort icon (up/down arrows) arranges prompts in your preferred order; and the Search icon (magnifying glass) quickly finds prompts by entering keywords.

To view prompt details, find any Prompt Title within the table and choose "Open" to view full details.

Each LLM has its own distinct quirks, and often its own advantages and disadvantages. Different models respond differently to the same prompts. The models listed here are options, but individual results may differ based on your specific use case.

All Prompts By Category Table

Prompt Title	Description	Category	Subcategory	Models
Teaching blueprint	A step-by-step guide that helps educators create custom AI teaching assistants to streamline classroom tasks and workflows. Through guided dialogue, it builds a personalized prompt that turns repetitive teaching tasks into a repeatable process.	Instructor Aids Professional Tool	Tool Creator/Designer	Claude 4 Sonnet ChatGPT-4o ChatGPT o3 Gemini 2.5 Flash Copilot
Simulation Creator	A dynamic tool that builds customized role-play simulations where users can practice real-world skills with an expert AI mentor and counterpart. It guides instructors or creators through creating engaging scenarios that balance challenges with targeted learning outcomes, followed by personalized feedback and actionable insights for improvement.	Professional Tool Instructor Aids	Creator/Designer Tutor Simulation	Claude 4 Sonnet ChatGPT-4o Claude 4 Opus Gemini 2.5 Pro
Tutoring Prompt	A guided learning framework in which an AI tutor adapts explanations and poses questions to help users master new topics through personalized dialogue. The tutor builds on prior knowledge, uses leading questions and hints to encourage knowledge construction, and guides user understanding through examples and practical application.	Instructor Aids Professional Tool Student Exercises	Creator/Designer Tutor Tool	ChatGPT-4o Claude 4 Sonnet Claude 4 Opus Gemini 2.5 Pro Gemini 2.5 Flash Copilot
Co-Develop Explanation for Any Topic	A collaborative tool that helps instructors craft clear explanations by connecting new concepts to students' prior knowledge and addressing common misconceptions. Through reverse interviewing, it builds explanations that include relevant examples, non-examples, and comprehension checks while adapting to student learning levels.	Instructor Aids Professional Tool	Tool Creator/Designer Tutor	Claude 4 Opus Gemini 2.5 Pro ChatGPT o3 Claude 4 Sonnet

Figure 35 *Wharton Generative AI Labs Prompt Library* by Ethan Mollick and Lilach Mollick, licensed under [Creative Commons License Attribution 4.0 International](#).

