



Drawing a line in the sandbox: balancing exploration and instruction in AI playgrounds

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Presentation abstract

Following the release of ChatGPT and similar generative artificial intelligence (GenAI) tools, many universities have committed to helping their students become AI literate (see for example Russell Group, 2023). The means of providing this support vary, ranging from optional, asynchronous guides to taught instruction embedded within courses. One popular format is the 'AI playground': practical sessions encouraging students to experiment with different AI tools, often with minimal instruction given by the facilitator.

Yet how much instruction is too much or too little? Some leading voices in AI pedagogy place an emphasis on exploration and self-discovery, encouraging students to set their own goals and play with AI tools rather than walking them through specific tasks (Mollick, 2023). Minimising instruction, however, may sometimes clash with students' needs. Recent research indicates that many students feel overwhelmed and anxious about AI, and a lack of confidence may hold some back from simply diving in on their own terms (Tierney and Peasey, 2023).

In order to find a balance between exploration and instruction, this paper presents different formats of AI playgrounds with varying levels of instruction, run by the Study Skills team at the University of Bristol during the 2023/2024 academic year. Using feedback from student attendees, we identify some specific areas of AI use in which students value facilitator instruction, and at what stages the facilitator should minimise their own intervention. With these findings, we present a potential model for introductory AI playgrounds for use and adaptation by other HE practitioners.

Keywords: AI playgrounds; play; exploration; instructional approaches.

Community response

What was evident from this presentation was that the use of AI playgrounds offers a means whereby students can work alongside Learning Developers and academic staff in a creative way to develop their confidence and explore understandings of AI. Tim explained that the workshops were developed by the Study Skills team at Bristol in the context of an ambiguous policy on AI use, an issue reflective of many university contexts. The audience were keen to find out about the practicalities of the AI workshops; for example, their length (two hours) and whether the topic of ethics was covered (no, as although there was recognition of its importance, the Study Skills Team did not want to potentially discourage AI use by students).

Tim also revealed an interesting finding that students involved in the study/AI workshops preferred sessions with more 'instruction', as opposed to a more open or exploratory style. Whilst it was a small sample size, it does bring up questions about what this might mean for Learning Developers' pedagogical approaches when developing students' AI literacy skills. Should we, for instance, take a more *laissez-faire* approach in the hope that students will derive their own meanings from such explorations, or is it best that we take a more explicitly instructive approach so that students feel adequately supported to navigate the AI quagmire?

There was clearly an atmosphere of fun and light-heartedness in the room, which was perhaps indicative of the subject of play and playgrounds. For one LD, Tim's excellent presentation revealed the potential to use AI playgrounds for the development of students' confidence in, and use of, AI:

This was a really insightful and fun presentation about using AI in the classroom. Tim described how he uses AI playgrounds with students and how they contribute to the students' engagement and attitudes to AI [...] there was a good indication that they provide a useful space to discuss and further students' understanding of AI and its uses for learning.

However, amidst the light-heartedness, there was the underlying serious question of how we, as Learning Developers, might best support students to develop AI skills, given that many universities are still struggling to develop clear policies around its use. It will be

interesting to see how the use of AI playgrounds might further evolve in the context of uncertainty and rapid advancements in AI.

Next steps and additional questions

It will be important as an LD community to respond in innovative ways to what continue to be rapid advancements in generative AI technologies. This session demonstrated a practical and fun way in which we might do so; that is, by engaging and facilitating students to explore, play, and navigate the tools themselves to derive their own understandings. The following questions might be a helpful starting point for you to reflect upon:

- How does 'play' come into your LD practice? How confident are you in adopting playful approaches to teaching and learning?
- Can you see AI playgrounds working in your context?
- What do you see as the limitations and strengths of such an approach?
- Do you tend to adopt a more exploratory or instructive approach to your workshops?
- How might your pedagogical approach impact on students' experiences of developing their skills in and understanding of AI?
- How else might Learning Developers adequately support students' academic literacy skills in the context of advancements in AI technology?

Author's reflection: the cost of playfulness

I would like to thank the ALDinHE community for their engagement with my paper and for their words of encouragement and thoughtful questions and comments. One of the most thought-provoking questions I received from attendees concerned the ethics surrounding AI usage from an environmental perspective: how do you incorporate a discussion of the environmental impact of using generative AI into an AI playground? In striving to promote AI literacy, we aim to empower students to make informed choices about their use of GenAI. To make an informed choice, one must be aware of the consequences of their actions, and we cannot ignore the fact that using GenAI carries an uncomfortably heavy

environmental cost. Some experts have estimated that an average session with ChatGPT of 20 to 50 queries requires 500ml of water simply to cool OpenAI's host servers, and this figure does not even take into account the amount of electricity needed to power those servers or to train the AI model in the first place (Smith et al., 2023).

Yet how can we incorporate this discussion into the playgrounds without smothering the spirit of playfulness? AI playgrounds are built around trial and error, experimentation and refinement, and the repetition of prompts across multiple GenAI platforms. In short, our playgrounds encourage students not only to use AI, but to actually use it *inefficiently* in order to discover things for themselves. Informing students of the environmental cost of their play may not necessarily cause attendees to pack up their laptops, but it is hard to feel playful if each new prompt induces a wave of eco-anxiety.

Such a dilemma lends support to a more instructional playground model, where students are provided with techniques to try out for themselves, such as chain-of-thought prompting. Students then spend less time experimenting and exploring with their prompts, bypassing 'discovering' to quickly reach 'applying'. Whilst the instructional approach may help to lessen the environmental impact of using GenAI, it does come at the cost of innovation. When we ask students to adopt an 'applying' mindset, we are asking them to move somewhat away from thinking creatively. They are therefore less likely to discover innovative ways of working with GenAI, which could potentially stop us from advancing further across the jagged frontier.

So, if we want to encourage environmental conscientiousness in AI pedagogy, it comes at the cost of playfulness and creativity; if we want to encourage innovative AI usage, it comes at a cost to the environment. Which do we prioritise as educators? I do not have a straightforward answer, but neither do I think that I should bury my head in the sand when I come to run my AI playgrounds this term. Instead, I may leave it up to students themselves to decide. We could explore the facts about the environmental impact of GenAI together, then give attendees a choice. For those who want to minimise their environmental impact, we provide instructional resources and techniques for them to apply, whilst letting them know that this may come at the detriment of innovation and discovery. Those who wish to pursue a more experimental path, having been informed of the potential environmental impact, are likewise free to do so. As we established earlier,

an AI literacy program should empower students to make informed choices about their use of GenAI — why not embed this within them from the beginning?

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The authors and contributors did not use generative AI technologies in the creation of this manuscript.

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