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Tackling difficult changes in digital education through playful learning and gamification: the case of generative AI

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Abstract

We have been using approaches drawn from gamification and playful learning theories to create spaces for colleagues to explore generative AI (GenAI) in a way which is naturally fun. We have developed several games and activities to stimulate the sense of experimentation and creativity that many of us used when encountering new technology in childhood. We want to make a case that, although reflecting on the ethical and philosophical preoccupations that prey on our adult minds is important, so is treating GenAI as a new toy we can break out of the box and mess around with.

We will share some examples of activities we have used within the King's community, from our Chatbot Bingo! Icebreaker activity that encourages people to start talking about their own experience of AI to our GenAI Challenge, where we ask people to use GenAI to create images, poetry etc. and then discuss the capabilities and limits of GenAI tools. We reflect on our experiences of using these to create a culture that is open to the opportunity for change that GenAI represents. This is a moment when many of us are waiting to see what happens, waiting for experts to tell us the best way forward. Our playful approach does not seek to tell colleagues the best way forward, instead our goal is to inspire them to stop waiting and start moving forward themselves.

Keywords: generative AI; AI literacy; playful learning; gamification.

Generative AI and adapting to change

Generative artificial intelligence (GenAI) refers to machine-learning models that take instructions (prompts) and create (or generate) credible-sounding novel content by applying a statistical model to material it is trained on. It is changing higher education (HE). A February 2024 HEPI report into UK student attitudes towards GenAI found that 53% of students had used it in assignments, and 5% reported putting content into assignments without personally editing it (Freeman, 2024). Both staff and students have concerns about the implications of GenAI in education, with Chan and Lee (2023) finding greater scepticism among educators.

It is imperative that educators gain a degree of literacy and capability in GenAI, so we can better mitigate the negative impacts and instead harness and explore it (Lim et al., 2023). However, building consistent GenAI literacy is tricky as technology acceptance, adoption and digital transformation takes time to diffuse (Davis, 1989; Rogers, 2003; Budhathoki et al., 2024). Compounding the issue with GenAI is the risk that fast-paced change causes techno-stress – the negative impacts of technology (La Torre et al., 2019). Of particular concern are techno-complexity (where technology adds complexity to educators' work forcing them to keep up with fast-paced change) and techno-uncertainty (where the integration of technology creates ambiguous requirements and expectations) (Li and Wang, 2021). Anxiety is a natural response to change, but fear is unconducive to learning and can lead to defensive responses such as procrastination (Jackson, 2010).

As a learning technologist (Lo) and an academic developer (O'Hara), we have been grappling with how to engage our colleagues and build their AI literacy to make informed decisions. We found playful learning and gamification effective approaches because they allowed us to use silliness as a tactic to reframe the conversation and centre joy, curiosity and whimsicality, providing colleagues with intrinsic motivation to engage (Whitton, 2022). Traditional digital literacy interventions are not always effective because they can increase educators' sense of overload – perhaps since they try to cover so much (Li and Wang, 2021). Playfulness helps to reduce the cognitive load by decentring 'serious' workplace implications, while positive emotions like joy are linked to better learning and memory due to their impact on cognitive processes, especially attention and executive control (Tyng et

al., 2017). Playful learning often employs gamification, which is the use of game design elements in a non-game context such as education (Stott and Neustaedter, 2013). While the two often co-exist, some playful learning does not involve game play, and some gamification in education eschews playfulness.

We have developed several playful and gamified activities (documented in our open access Generative AI Toolkit) that have had some success in equipping our colleagues to begin adapting their teaching practices around it. Below are a few select examples and our reflection on why they worked well.

Using silliness to transition into playfulness

Using silliness as a tool, O'Hara designed a demo of ChatGPT based off prompts from a 3-year-old, creating a frame which gave 45 health educators 'permission' to be playful during the session (Walsh, 2019). This was largely successful in helping attendees transition into play – all but one breakout group returned with pictures, rhymes, and in one case a song about London's weather in the style of Dolly Parton, rather than more 'serious' enquiries.

Activating knowledge and building community with games

Bingo can be an effective approach to building community, helping learners connect class content to their personal experience and active existing knowledge (Weisskirch, 2009; Holbert, 2015). Both authors have used ChatBot Bingo, listing possible uses of GenAI on bingo sheets and asking colleagues to find another who had tried it. This not only introduced potential uses of GenAI, but also decentred the instructors as the sole source of knowledge and experience. Colleagues have fed back on how useful they found the activity, with one describing pinning the bingo sheet up in their office as inspiration.

Gamifying challenges to encourage a community of practice

Gamification and playful learning create safe spaces for experimentation with GenAI by emphasising exploration and trial and error (Stott and Neustaedter, 2013). Lo implemented

this approach through eight 'AI Challenges' on Microsoft Teams—each addressing a specific GenAI use case—as part of a departmental AI literacy initiative. The playful format fostered engagement and an informal community of practice.

The Image Creation Challenge exemplified the approach's success, with 20 colleagues posting 90 responses, sharing images and prompting techniques, and discussing GenAI's biases and teaching applications. The bite-sized, asynchronous format accommodated busy schedules while Teams' social features enabled peer feedback that sustained motivation and engagement. Overall, 37 staff (out of approximately 100) opted to participate.

One colleague noted:

> The AI challenge has been a really fun and interactive way of getting involved with and learning about AI. I'm not a computer nerd and have felt somewhat baffled, alienated and irritated by all the information coming through over the last year about AI. However, the Challenge was set up in a fantastic way. I was inspired to try out the different activities and, although I've fallen behind, I'm looking forward to catching up in some quieter periods. The fact that so many colleagues have engaged with the Challenge shows how it resonates with people and that it's given an opportunity to explore some of the positives and limitations of AI in a fun way.

Exploring emotion through play

Colleagues often express concern that if they raise concerns about GenAI, they will be perceived as Luddites or technophobes. Creating a space that was joyful yet open to negative emotions was a particular challenge. LEGO® SERIOUS PLAY® (LSP) has been successfully used in HE to help learners process their emotions (Brown and Collins, 2018) and develop their decision-making processes (Pedregosa-Fauste et al., 2024). We used Build Your Worries with the teaching team in a health-based discipline to facilitate a discussion in which staff felt comfortable expressing scepticism. LSP provided a jumping off point for lively reflective discussion, and one which inspired two attendees to adopt LSP in their own teaching.

Conclusion

'The pace of change has never been this fast, yet it will never be this slow again.' (Justin Trudeau's Davos address in full, 2018).

It is unsurprising that the pace of development and change with GenAI and the uncertainty it brings is causing stress and anxiety for many. Our conviction is that serious learning and feelings of joy and playfulness are not mutually exclusive but do need careful consideration and design. The stigma around play in adulthood is a barrier for some learners (Whitton, 2018) and adults often need alibis and excuses to engage in play (Walsh, 2019). We make a case for playful learning when we use it, but we also recognise that play is both a privilege and something that cannot be forced. We encourage participation but respect those who do not want to or cannot engage and in turn ask them to respect those who do join in. Gamification can be particularly useful when a high level of resistance to playfulness is present, allowing the facilitator to introduce activities seriously while leaving room to encourage play to emerge organically (Walsh, 2019). Using playfulness and gamification appears to be a fruitful approach to upskilling colleagues with GenAI, which merits further investigation. We have used it to help adult learners put aside 'grown-up' worries and engage in play that builds their AI literacy, empowering them to make more informed decisions about its role in the future of HE.

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