

Robot Wrestling: Learning Design in the Age of AI

From personalised learning to groundbreaking research tools, and from the threat of redundant skills to undetectable plagiarism, AI is poised to reshape learning. This webinar, from the [Centre for Online and Distance Education](#) (CODE), was a panel discussion, bringing together a multinational transdisciplinary group of experts to explore what recent AI developments really mean for education. The panel was chaired by [Leonard Houx](#), a CODE Fellow and the director of learning design for the Cambridge Education Group.

Leonard began by saying that he was 'beside himself with delight' at the quality of the expert panel they had assembled, all of whom had 'really substantial things' to say about AI in this context. He presented some of the now obligatory graphs showing the rapid growth of AI through numbers of published papers, startup companies and investment in the AI field, before confessing to mixed feelings: he is, like many of us, excited, overwhelmed and just a bit afraid of the consequences of these advances for education. He then introduced the panellists:

- [Efrat Furst](#) (Mofet Institute, Israel), a cognitive neuroscientist
- [Ugnė Litvinaitė](#) (Eden Centre, London School of Economics, UK), a researcher in AI and assessment
- [Shailey Minocha](#) (The Open University, UK), an award-winning learning designer
- [Neil Mosley](#) (University of London, UK), a writer and consultant specialising in online and distance education, and a CODE Fellow
- [Kane Murdoch](#) ([Macquarie University](#), Australia), an expert on academic integrity and student misconduct
- [Eglė Vinauskaitė](#) ([Nodes](#), London, UK), an award-winning learning design consultant.

During the session, Leonard posed a number of questions and invited one panellist to respond to each before opening the question up more widely. He started positively:

1. What are the great promises that AI offers for teaching online?

Neil began by stating that AI can be very promising for online education, but that we must deliberately take advantage of what it offers. Communication is a key aspect of online education, and AI can improve all its forms: written, audio, audio-visual and any combination of these. His wife is a graphic designer and she uses the CANVA platform which incorporates AI to put work together quickly while adhering to the best design principles. These tools can be used to make content and learning designs more accessible, and even to provide more individualised and responsive feedback and support for students. Similarly, there are AI tools that can help students. But the technology is not going to help on its own: we need to be informed by research and good practice if we are to make the best use of it.

Ugne suggested that learning content is often used as a proxy for skill development. In workplace learning, AI can be used to provide scalable, personalised feedback on, for example, management skills where learners can practice in their own speaking styles, and also provide contextualised support during practice. More generally, AI can allow us to create learning designs that are more personalised and contextual and, therefore, more relevant for each learner, and help online learners

overcome the 'blocks' that are very common when studying alone. So, in summary, AI can be disruptive in a good way.

2. Taking a negative view, what are the risks that AI presents to online teaching?

Shailey suggested that there were three main risks. Firstly, that both teachers and learners will become over-dependent on AI tools, and therefore become lazy and complacent and not check the answers that the tools provide. As one example, if you read an AI-generated summary of a paper rather than the paper itself, you lose all the cross-references and the opportunities for serendipitous discovery that they generate. Secondly, learning from AI can mean learning from 'synthetic text' in which the individual perspectives of the educators have been removed. And thirdly, the 'dehumanisation', or deprivation of contact with others that comes with AI-mediated education can cause mental and even physical health difficulties. An AI assistant is not a tutor, colleague or friend but a non-human entity, and it cannot provide the connectivity that we need for our wellbeing.

Kane then described some of the assessment problems that he had encountered with AI. Teaching is 'wrapped up in' assessment and cannot just be divorced from it. Some universities' response to the advent of ChatGPT and similar tools has been cataclysmic, but we need to realise that illegitimate AI is only another way of cheating: contract cheating, for example, remains rife. The main problem is how hard it is to detect cheating with AI. We are expecting staff members to 'prove' that a student has been cheating when there is no accurate way of doing so. Sometimes we have to accept that we won't catch every case of academic misconduct and take wins from AI in assessment where we can, such as in providing very fast feedback to first year maths students.

Neil added two further risks. The first was that we borrow AI techniques for maximising efficiency from the business world that turn out not to be conducive to learning, and the second was, surprisingly, a risk of over-personalisation. We hear much about the value of personalised education but should be aware that, particularly in a Western, individualistic society, personalisation can be a proxy for individualisation, and we can lose a sense of community.

Leonard endorsed the points that these speakers had made and added a further pitfall: that inequalities in access to AI tools can increase existing inequalities in access to education more generally. He highlighted one of Shailey's points further, suggesting that it is easy to outsource a task such as summarising a document to an AI tool and assume you have achieved something where you have really done very little. And, in response to Kane's discussion of assessment, he wondered if one solution might be to take assessment out of learning.

3. Does AI change pedagogy, and does learning itself change?

Efrat, the neuroscientist, gave a one-word answer to this question from a cognitive perspective: No. Biologically, our brains have not changed. The functions of the brain in acquiring knowledge and meaning – human learning – are constant, and, therefore, on a very basic level the principles of good pedagogy are also unchanged. We are still teaching humans and we have to teach at a pace that fits the way they learn. But AI does provide new challenges and opportunities for students to bypass learning by using AI inappropriately or to achieve more through using it responsibly. The same things apply in teaching, and in pedagogy. We have to be more creative and construct a better pathway of learning, for example by rethinking assessment and the types of assignments we offer.

Ugne suggested that we as educators need to learn how generative AI, for example, works as well as just knowing how to use it before we use it in our teaching. AI-enabled pedagogy is a skill, just as using every piece of teaching technology that came before it is, and we should not fall into the trap of thinking that AI itself is going to solve anything. **Efrat** endorsed this point, adding that we should be able to find answer to the 'big questions' we ask about pedagogy in our practice.

4. How are you using AI in your teaching practice now, and how do you see others using it?

Ugne started this discussion by citing a survey that she and a colleague, Donald Taylor, had carried out about six months ago, asking workplace learning professionals about their experience of using AI in their work. The results showed that if the learning design process is divided into four parts – discovery, design, delivery and follow-up – AI was used most in delivery, next in design and very little in either discovery or follow-up. In the design phase, AI was most used for background research and to develop case studies, design activities and write quiz questions. In the delivery phase, it was used to create individual resources including images and, interestingly, synthetic video and audio. It can also be used to translate existing resources in English into other languages. A few people are beginning to use it for sentiment analysis in the follow-up phase.

Efrat asked how far those learning designers who are using AI agree that it is of high quality and helpful. **Ugne** suggested that people are still experimenting with it and there is little consensus as to what is best practice. Often people are using it to scale up what they are already doing rather than taking a step back and rethinking.

Leonard commented that it was surprising that AI is so little used for follow-up, especially in improving the quality of feedback. **Ugne** suggested one reason for this: that students find it difficult to trust AI-generated feedback.

5. How will the process of teaching and assessment change?

Kane, who as an expert on academic integrity is an observer of teaching and assessment rather than a teacher, explained that public (and other) institutions, like universities, can be thought of as having a 'social license' to operate, and that cracks will begin to appear in this unless we adapt to the scale of change represented by AI: that is, that our graduates will go into the workplace unprepared, and 'learning won't happen'. The way we learn – the way our brains are wired – will not change, as **Efrat** had explained, but as teaching moves online and involves more AI we will need to find different ways of making sure that our students are learning. This will mean different types of assessment, often involving surveillance. As one example, medical students' diagnostic ability can be assessed using actors pretending to be patients; this type of assessment can be very challenging and very difficult to cheat in, even using AI. Although it is difficult to replicate this in other disciplines, we can learn a lot about our students from VLE logs of their activity. A case can be made for a return to traditional exams, which are also difficult to cheat in using AI, but they are hard for some students, including neurodivergent ones. We spend an enormous amount of money assessing students, and with the advent of AI it is becoming harder to relate assessment to the quality of learning. A case can also be made for fewer and less important assessments, and if students can become less focused on assessment tasks they might even enjoy learning more.

Shailey took a broader perspective, suggesting that with increasing uncertainty in the world, global tensions and an economic downturn, higher education in many countries was likely to be even more financially constrained in the near future. With little time and money, it is likely that many educators will resort to AI tools for both teaching and assessment, with the risks to academic integrity that we have already discussed. We worry about whether assessment can be authentic and secure, and whether online-only students, who may have chosen to study this way because of a disability or another disadvantage, will be further disadvantaged in collaborative activities. The whole concept of plagiarism is becoming ‘fuzzier’ as generative AI develops, and it is not even clear whether it will have any meaning in the future.

Kane also is worried about whether authentic assessment is affordable. You can think of assessment as being like a Swiss cheese, with holes: cheating students might get through a hole in one layer but, in a secure assessment system, they will be caught by another layer. But this is secure rather than foolproof, and there are no ‘silver bullets’. We need to think about what should be assessed and about where misconduct starts. Few people would argue that students using the Grammarly app to improve their written English are cheating, but if the quality of writing is a criterion – which it often is – it can give them higher marks.

Neil agreed with much of what the previous speakers had said and added a further point: that many students are very worried about being incorrectly flagged as cheating. There is a danger that by focusing on academic integrity we assume that all students are out to cheat. We shouldn’t be naïve, but neither should we forget that most students are honest.

Finally, **Efrat** suggested that good pedagogy involves designing complex tasks that are relevant to students’ professional lives and that involve creativity, which it is not easy for AI tools to respond well to. If we can no longer just ask students to summarise documents, we can design difficult tasks that require the knowledge that would be in those summaries. This has always been solid pedagogy, but now we are required to do more of it.

6. To what extent are learning science jobs at risk from AI?

Neil – a learning designer himself – explained that, from his perspective, AI is currently providing tools for learning design, not putting the designers’ jobs at risk. Even if there is a risk in the future it will only be to some ‘learning design’ roles, and there mainly in commercial environments. As Efrat said, the way we learn hasn’t changed, so learning designers should be able to remain relevant by building up knowledge of how humans learn.

Leonard ended this discussion by introducing parallels from the end of the last century. The introduction of calculators and then search engines caused educators to worry about the decline in pupils’ and students’ mental arithmetic and ability to find information, respectively. In contrast, the result in each case was a decline in some skills but an increase in other, deeper skills, and this may well happen again with AI.

He then concluded the webinar by thanking all panellists.