Transcript for Keynote Speaker: Lucas Wright | GenAI: A Sea Change in Teaching and Learning
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Presenter: Lucas Wright

AMANDA COOLIDGE:
Thank you. Good morning, everyone. It's lovely to see so many faces, and hello to everyone online. I hope you have a wonderful day today. It's a very robust program. So we've got a lot happening today and I hope you enjoy all of the sessions. It is my pleasure to introduce our second keynote speaker of the Digital Learning Strategy Forum, Lucas Wright. He will be familiar to many of you from his role at UBC. But you may have also shared a table with him at one of the forum sessions. The chance to chat with him over a power ball in the concourse. Lucas is a senior educational consultant at the University of British Columbia and is deeply committed to fostering excellence in teaching and learning across a variety of roles. He holds a master's degree of arts in adult education from UBC, complemented by certificates in digital storytelling, instructional skills, and online learning. He specializes in learning technology, design, facilitation, and open education. Lucas's mission is to elevate the teaching and learning experience with higher education, harnessing his profound understanding of educational technology. He's particularly focused on the integration of generative, artificial intelligence, leveraging it to create dynamic, engaging, and innovative learning environments. Lucas leads hands-on workshops and discussions, designed to not only transfer knowledge, but also to build capacity, inspire faculty, staff, and students, and drive transformative changes in education. Through his workshops, he champions creative engagement and innovative learning design. He fosters interactions that cultivate thriving learning communities. He hopes to empower the educational community to fully embrace and use the capabilities of GenAI, significantly elevating the quality and impact of educational experiences offered in higher education. I'd like to welcome to the stage, Lucas Wright.

LUCAS WRIGHT:
Let me just set up here. One moment. Hopefully this mic holds up. All right. So thanks so much for having me, everyone. I'm really excited, and it's such a privilege to get to speak to everyone here, especially such a welcoming group. So my name is Lucas Wright as mentioned. And today, what I want to talk about is the idea of generative AI as a sea change in teaching and learning. And I think by sea change, it's not necessarily always a positive sea change, but thinking about how we meet that.

So I want to start with my report card from grade eight. And just kind of draw your attention to the yellow there. So my tendency to rush his written work or to do it at the last minute, the result is often work, which while filled with logical thinking and well-crafted ideas is marked by spelling and punctuation errors. This is part of the written output challenge that I think if I had a report card now, it might say some of the same things. And I think it's part of the reason that when generative AI kind of caught everyone's attention in 2022, it made such a big difference for me. And so when I write an email now, when I write something, I think it's the first time that I can feel confident at sending it out. And I don't have to worry that it's clunky, that it's marred

with errors, etc. And when I've done presentations, I've talked to a lot of folks who with ADHD or written output, who are using generative AI as a way to, you know, feel a little bit more comfortable and confident with what they're doing.

So we only have 45 minutes today. One of the challenges for me is I really like everyone just to play with generative AI. On that note, I've put together a worksheet on Google Docs. You can either use a QR code to access it or use the bit.ly link. And what you'll find on that worksheet is a bunch of try activities. I've noticed and I'm like this as well that a lot of folks are on their computers. I've even checked a couple emails when folks are talking. All good. Hopefully, instead of that, or along with that, you can try some of these activities. I've included prompts, and I've included different activities you can do, and I'll point them out on the slides as I go. Keeping in mind, you will need to log into a generative AI tool or use a generative AI tool to do these. If you're uncomfortable logging in, you can use something like ChatGPT with an incognito browser. I've linked to three of the generative AI tools at the top. I won't have any time to troubleshoot or to check and you don't need to do these activities. They're optional as I go.

And I wanted to start by getting a read of the room and where we are with generative AI. I know when I first started doing these workshops, a lot of folks were brand new to this. But what I'd like you to do now is to indicate how you're using generative AI in your day to day. You can either use the QR code or use the bit.ly link, and that will take you to a Padlet. We'll just spend a couple minutes doing that. When you get to the Padlet, what you're going to see is first of all, a poll in the left-hand side, and then you're going to see a bunch of ways to use generative AI. What I'd like you to do is like the different ways that you use generative AI. So we can get a read of it. Also, if you would like to include some ways that you're using it, you can contribute to the Padlet as well. Let me give you 1 minute to make sure that everyone's on the Padlet. And then I'm going to start sharing that and we can see what everyone how everyone's using it right now.

Wonderful. So we're starting to fill up here and the way I've set it up is that the more one of the topics is liked, it's going to move up the Padlet so we can get an idea of how people are using these tools. Developing teaching materials is a big way, lesson planning, and I think this is fairly low-hanging fruit with using generative AI, brainstorming, course assignments, and just taking a look at the poll now here. Maybe I'll reveal the poll results at the very end for you. So emails, cooking recipes, lit reviews, and it looks like folks are starting to add some ways that you're using it as well. And I'd love to hear about some interesting ways that you're using it as well. Chatbot TAs, helping with questions, etc.

All right. So we'll just keep moving on here, and maybe I'll get a show of hands from everyone. We'll do a quick finger vote. What I'd like you to do is hold up one finger if you're pretty inexperienced with generative AI, just wait for 1 second. If you're using it more often, hold up two fingers, and if you have expertise or use it a fair bit, hold up three fingers. Ready? One, two, three. You can look around the room and get a read on the room. A lot of twos and threes

in this audience, but we still have some ones. It looks like most people are using generative AI to some extent.

The plan for today. What I want to talk about is why generative AI or why I feel generative AI is a sea change in higher education. How we can start thinking about responding to this sea change as educators. What are some emerging teaching and learning approaches and skills that we may need or we might develop for our students?

So why generative AI is a sea change. I don't say this lightly. I've been in faculty development for 14 years now and teaching adults since 2000. So I've been through things like second life and MOOCs and NFTs. But this seems a lot bigger, and I think it's really quickly making a big impact in our day to day and how we think about teaching and learning. What is a sea change? The sea change is actually from *The Tempest*, and it's a song sung by Ariel about a body under the ocean changing. But I think now what a sea change means is just a profound change in our day to day. Why is generative AI a sea change?

I think number one is the rapid adoption. This is a couple examples from an August survey of this year from KPMG. So 59% of 423 Canadian students surveyed use generative AI in their school work, And this compares to 52% a year ago. 75% say GenAI tools have improved their school work, and 70% say they are turning to generative AI tools for help rather than their instructors. I was just presenting a BCIT, and a number of students in a panel they had there were talking about how great it was to be able to use AI on the weekends instead of writing emails to their instructors. So what is this almost ubiquitous use of generative AI we're seeing mean for our teaching and mean for education?

Number two, the capabilities of these tools are changing very quickly, and this is a quote from Ethan Mollick. I continually go back to this quote because for me, it's continually true. "Today's AI is the worst AI you'll ever use." So far, this has been true every day for me. There's been very different functionalities, different accuracy, etc. For example, when generative AI in 2022 was first becoming more popular and emerging, it was ChatGPT 3.5, and there were lots of articles saying, it's okay, but it can't pass my class. When ChatGPT 4 came out, those articles quickly changed and saying, Okay, it's passing my class, and it's actually exceeding a lot of the abilities, sorry, a lot of the grades that my students would get on an assignment.

Here's a couple examples of growing capabilities. ChatGPT 4 scored in the 67th percentile on the standard bar exam when benchmark testing. That's compared to ChatGPT 3.5, which was in the 20th percentile. Li et al. wrote a really interesting paper in pharmaceutical sciences. They gave students a prompt to write a critical reflection. They had AI write the critical reflection. They had students write the critical reflection, and then they were evaluated without knowing which was which. AI achieved higher than the students in almost all cases, and evaluators weren't able to tell which was written by a student and which was written by AI. Number three, encoding, ChatGPT 3.5 was already achieving a grade B Gang et al. study of, I think it was Python code. So, real big advances in the abilities of these tools.

And I wanted to do a quick demo of some of these emerging capabilities. Again, I've put this in the worksheet if you feel like following along. This is the only demo I'm going to do, and I think along with better quality of output, one of the things that we're seeing is different functionality. And we're seeing the development of agents and agentic AI that's able to do multiple tasks. I'm using Claude here. Again, if you want to give this a try, please follow along. What I'm going to do is to ask it to create an interactive web artifact about the B.C., let's see, Digital Literacy Guidelines. And we'll see if this works. I think one of the challenges with these demos is you never know what's going to happen. So what it's able to do now is it code and react typically. And if this works, it should create a web artifact that I'm able to actually share publicly. So it has now created this artifact. I can go back and forth with the artifact if I wanted to, and I can edit a little bit. But overall, it's going to give me something I can use as a way to elucidate concepts, etc. That one's okay, but I think this is an example. For myself, what this means is when I do slides now, often I'm making these little artifacts so that people can interact with concepts. The code also can be downloaded and used that way. Just as an example of these quickly growing functionalities.

Another reason generative AI is a sea change is it's starting to change the way that we learn and change the way we work. And there's three emerging skills I wanted to bring up from the Microsoft Future of Work report. Of them is the idea of documents to dialogue. And if you look at that worksheet that I shared with you, I created a chatbot that goes along with this workshop. So you can ask it questions about what's the outline of the workshop? What are some key concepts about generative AI? What are the activities in the workshop? And what I'm finding in my own work is rather than following up with an email, I'm following up with bots. And we're starting to think about what does it mean to start moving away from static documents to thinking around more dialogue. And I think in the teaching and learning space, what I'm really interested in is some of these. Say a poorly designed course that doesn't have a lot of interaction. Perhaps a course I'm doing as part of onboarding. It would be very interesting to think about rather than watching a video, doing a quiz question, what it would mean to interact with a bot and have dialogue. Number two is the importance of evaluative judgment. So more and more, I think, what we're seeing online as it becomes cluttered with AI content, as well as AI content itself, requires a real discerning set of eyes to figure out what's true, what's disinformation? What's hallucinations? Number three is the movement from search and create to evaluate. And again, giving an example of my own work, I've written a lot of learning objectives, as I'm sure many of you have. I have moved from writing learning objectives from scratch to asking generative AI to produce 100 learning objectives, going through those, evaluating them, refining them, sifting them, and using them that way. So I think three skills that we're really seeing among many other skills means that this is quite a sea change.

Next is digital equity. We're seeing students now that are really effective at using generative AI. We're seeing staff, we're seeing faculty, and it's starting to create equity challenges that we need to think about for teaching. Excuse me. How are we going to help create more of an equal

playing field? And can this be a way to help students? As in my first example, students who may have written output issues, students who may have challenges, equalize a little bit more.

So how can we respond to this sea change? What I'd like to do now is talk a little bit about some ways that we can think about our response to this.

Number one, I pulled this example out of how we respond to sea level rises. Often in sea level rises, one approach is to put up concrete barriers. But what they've realized is by building up the natural ecosystem that it's actually better able to absorb water when the sea level rises. I think this is often called the sponge approach. But I think this is a really interesting way to think about generative AI. And how we respond to this development.

And I think what is our natural protection from generative AI? You know, we've all seen so many technologies come in that are going to change everything, disrupt education. But some of these areas are always core, and I think they offer us this natural protection> Critical thinking. We're always engaged in critical thinking, and the need for critical thinking is just becoming more important. Creativity. Well, I'm going to talk a little bit later about how GenAI can be creative. I think human creativity is something that universities are good at fostering and valuing. Student agency and choice and community and relations. These are just a couple of the natural skills that we have, the natural competencies that we have that are going to offer a protection against this change.

And another way we can think about this change, and I think where this becomes very important to me is what Maha Bali talks about is critical GenAI literacy. So how do we build up literacy around using generative AI tools in a responsible way as well as understanding their capabilities? And I want to talk about that a little bit more.

A couple of ways that we can think about this. One is helping faculty, staff, and students understand the basics of the architecture. Not too much, but just understanding what these tools are and what these tools are not. They are not reasoning. They are not thinking. They are using complex word prediction. And when I'm working with faculty, when I'm working with students around this, that's not always clear, and just understanding that this is making this mistake because it's just predicting a number of words that's coming out rather than trying to reason through something.

Number two is helping folks with prompting. I'll give you a quick example. I'm from a town called Atlan B.C. Has anyone been there? My favourite question to ask each workshop. And I went paddleboarding, something I loved doing there last summer, and I asked ChatGPT , where should I go paddleboarding? And it said, Oh, you can go across the lake to the glacier. So if you've been to Alan, you're probably laughing. The lake is 70 miles long. It's the biggest natural lake in B.C., and you probably wouldn't make that trip across. So then I asked ChatGPT, act as a guide. Tell me where I can go paddleboarding using First Island as a starting point. So I gave it some details. I gave it a role. It said, Well, you might want to slowly go down the south side of

the lake. Suddenly it gave a very different answer. So there's kind of the garbage in, garbage out here Prompting makes a huge difference in how we use these tools. And I think it's a little time to reclaim the term prompt engineering. Yes, engineering is a thing. There are ways to use these tools. But it's more than that. This is natural language. We're having dialogues with it. How does a philosopher prompt these tools? How does a psychologist? How does someone in education? How does someone in design prompt these tools? But it makes a huge difference in what their outputs are. Has anyone seen this image? Can anyone tell me what it is? Yell out why it's significant. Yeah, exactly. This won a state fair competition in the U.S. for digital art. It was quite controversial because it was AI generated and couldn't get a prize because AI was unable to get copyright. Why I put this image in though is in the *New York Times* article about it. What they mentioned is it took more than a week of prompting to develop it. So again, prompting makes such a huge difference in using these tools. I don't know how long prompting is going to be here, but right now, I think it's an essential skill.

So one approach to prompting when we're starting to use it is the actor model of prompting. And this is something I put together based on a couple of other frameworks for prompting. And I think what's really exciting about prompting is a lot of the research into prompting is. It's amazing what the research is saying right now. You'll see research like saying "please" may impact the accuracy and quality of output. Things like that are really fascinating. My director is a computer scientist, and she was saying that this is the first time that we have code that someone's putting in and no one knows what's coming out. So a couple approaches we can use to improve our prompting. One is assigning a persona, by giving generative AI a persona, ask generative AI to act as a persona, we get more accurate output, and we can also get more diverse ideas. One of my favourite personas is "act as a cynical faculty member and evaluate this workshop. What changes would you make to it? Construct the output." Lots of different types of output we can have. From Excel, from short documents, from long documents, but by refining the output, constructing the output, we can get higher quality output, including specific details in your prompts. So again, these very generic prompts are going to call on Wikipedia and more generic sources. By adding more details, you're going to get better output. Train with your own examples. I've trained generative AI with my own emails as a way for it to write emails . You can train it with learning objectives to get higher quality learning objectives, and then reflect and refine. So again, I gave that example of evaluate this article. What criteria did you use? Now revise it based on that criteria. What they find is that you get improved output, and you can almost loop, so you can kind of keep improving, keep trying different perspectives.

And this is just an example prompt. Again, if you feel like opening your computer and giving this a try, this is a more detailed prompt using the actor model. So you'll see in this prompt, we have, act as an expert political science professor at the University of BC. Create a case study on undergraduate political science, focus on analysis and learning objectives from Bloom's Taxonomy. Again, getting really detailed and helping our students use these prompts as well.

I want to switch gears a little bit now. And so far, I've talked about a lot of the positives about this and just to relay a story for you. I taught actually with Rhea, a group of about 250 teacher

candidates about AI, and we started by having them create AI art. And the art teachers were so upset. And they pushed back more than I've ever seen in a workshop, and it really got me thinking about some of the challenges that we're thinking about. And I think more than any technology I've ever worked with, this is one of the hardest circles to square. It's a really big challenge. So how do we think about responsible use?

Number one, how do we think about sustainable use of these tools? We know that the carbon footprint of these tools and the water consumption is enormous, and how can we mitigate that? And how can we ethically use these tools in a way that is protective of the environment? And I think this is an interesting one because it also links a little bit to computing costs in these tools. Right now, we're using OpenAI, we're using Gemini, and they're all boosted by venture capitalism, and I don't think we're seeing the true cost of a single prompt that's going through trillions of parameters. If we think of Cory Doctorow and enshittification, what's going to happen when the venture capitalism dries up, and when we start thinking more about these environmental impacts, and we think more about this computing cost?

Number two is data privacy. Right now, there are reams of institutional and personal data going into these tools. It really reminds me of the internet circa 1999, when everyone was searching, you know, everything, not expecting it to leak out. Can I get a show of hands who has seen *War Games* with Matthew Broderick? Wow. Okay. Usually, no one's seen that. That's very impressive. And how did they break the computer at the end? Anyone? Tic-tac-toe. Yeah, I couldn't win at Tic-tac-toe So the AI blew up, and it averted nuclear war. So, has anyone heard of the poem forever hack with generative AI? So a few hands there. The poem forever hack was done by a Google engineer in May, I think of this year. They asked ChatGPT or a ChatGPT model to write the word "poem" forever. It did not write the word "poem" forever. It shared personal information from its database. So I share this example to talk about the vulnerability of these tools with all of this data that we're putting into them. Now, that includes myself, I used GenAI as a counsellor last Christmas. I really would not want that stuff to leak out. But we're getting into this situation where it's easy to use. It's helpful. How do we help protect our privacy, our students' privacies, and the institution privacy. But we need to move beyond AI. So when I'm doing these workshops, I have a lot of folks saying, Well, is it going to use my data for training? Well, not only is it going to use your data for training, it's using the whole internet for training. So in a way, you're almost safer in AI from having your data used, because at least you can toggle off the training. But if you're using Reddit, Pearson textbooks, Facebook, most of the Internet now, generative AI is using that for training. So it's created quite an interesting space in terms of privacy.

Developing a evaluative judgment is becoming more and more important. I don't know if anyone forages here, but this was on the foraging or the legal Reddit. A family was poisoned by mushrooms. I think this was earlier this year, because they used a book from Amazon that had images of AI-generated mushrooms. A colleague of mine is in the foraging community, and what she's told me is the foraging community says, just don't use any books after 2022 right now from Amazon. So we know that generative AI is 100% confident, but maybe 70% accurate.

How do we deal with this issue around an evaluative judgment and how do we help our students deal with it? I think this is a real challenge. Recently, for fun, and I'm going to share these challenges later, I created a disinformation campaign using ChatGPT, asking it to write a research article, news release, and a university release and do a podcast, saying that wearing sunglasses at night helped your vision. It's Corey Hart reference if you didn't... And it was incredible. And what surprised me about it is you would really need research skills to chase all of the research within that to figure out if it was legitimate or not. So how do we help our students wade through these hallucinations? And how do we deal with the coming disinformation onslaught?

This is the UNESCO Quickstart Guide flow chart they did. I think it's a good start. Start. Does it matter if the output is true? No. It's probably safe to use ChatGPT as long as you're ethically willing to. No? Yes. Do you have the expertise to verify the output? And this is where faculty are so important is this is a very complex expertise. I can look at an education article that I create with generative AI, and there's two references that are made up, but everything else is perfect. So how are we going to help our students be able to do this and how are we going to do this?

And I think when we think about evaluative judgment, I'm going to show a couple of example assignments soon. We need to think about ways to help our students develop this judgment more. This is a quote from Bearman et al. "There's a deep need when working with generative AI for students to recognise the quality of its outputs, as they often appear plausible and relevant, even when they may be unsuitable." Again, I think this takes us back to one of our natural protections: critical thinking, and how can we help students engage in this critical thinking?

Awareness of AI bias. We also know that generative AI is quite biased, and we need to think about the output bias and how we can develop awareness among ourselves and our students about this bias. AI tools show bias in ranking job applicants, names according to perceived race and gender. This was a recent study, and it was with generative AI.

This is a prompt that I like to do. It's based on an assignment that Dr. Patrick Pennyfeather does at UBC, or used to do, is ask generative AI to create an image of a typical Canadian family. And over and over again, this is the typical Canadian family that comes out. Sometimes they're wearing plaid, but they're always white. They're a young man, usually a daughter. And so how are we going to help our students through this bias?

Another issue I think we need to think about and build awareness around is the limitations of discerning AI content from human written content. And these quotes are all from Reddit. I spent a little bit of time and if you want to have some fun on Reddit, search "accuse generative AI." And you start seeing all of these students right now who are getting accused of using generative AI in their work, because someone's using an AI checker or someone's making the assumption that they can tell if it's AI-generated work. Rather than so computational linguists who did a study trying to discern the difference between AI generated and human generated.

And I think they were below 50% accurate. So we know that AI detectors are 17 to 34% accurate in studies. So how are we going to help, again, faculty understand and students understand that? And I want to share the last quote. I think that's really powerful. "I'm neurodivergent. I'm autistic, and as a result of this, this student was accused of using AI. My writing lacks empathy and oftentimes sounds robotic. And I'm unsure if that plays into why my essay appears to be written by AI." Again, how can we develop awareness around this? So we know that AI checkers don't work. Human checking is problematic right now. I think our main choice right now is communicating when and how to use these models and looking at assessment redesign. So redesigning our assessments to use AI and redesigning our assessments when we need to, to mitigate the use of AI. And I think unfortunately, that often means in-person assignments and challenges around things like flexibility that we pack.

So a couple ways, Alan Levine wrote a blog post recently mentioning he goes to all of these sessions and someone talks about the environment and then just kind of moves on and says, This is how great AI is. We now have time to dance at the top of the hierarchy of needs. A couple of ways we can think of mitigating these issues. And I think this links a little bit to the session we had yesterday, thinking about what we can do as a community to help with the integration of AI and with the mitigation of these harms. Number one is facilitating faculty, student, and staff critical GenAI literacy. And for me, this is why I do these workshops. This is what the most important thing is from my perspective. Number two is thinking about institutionally hosted and cross institutionally hosted models, so we can get some control over data privacy. Number three is local models, and you may not know this, I'm sure some of you do, but you can download models like LaMDA 3 onto your computer and use it without the internet. And when we're thinking about things like the environment and things like privacy, using a model locally without hitting those trillions of parameters on the server farms is a good way of thinking about privacy and sustainability. Prompting literacy as talked about, I think, is important. I think augmentation rather than automation. As we start automating more tasks, more workflows, more elements of admissions, recruiting, teaching, we're going to run into issues around bias. We're going to run into issues around hallucinations a lot more. When we're augmenting and we have someone working with generative AI, it's going to enable us to prompt in a way to reduce bias, to think more about those inaccuracies. Choice and selective use. We can't use it for everything, and especially with the environment, we really need to make hard choices about when we want to use it and when we don't want to use it. Included in our assignments when appropriate. Understanding that, by including it in our assignments, it can help our students grapple with these tools, and as much as we hear about young people being better with these tools, maybe it's because I'm older, I don't think this. They need to learn about them as well, and by including them in their assignments, we can help them with that.

The last piece I want to chat about is emerging approaches to teaching and learning and thinking about ways to engage students with these tools.

Number one is personalization. This is an image from my son's homework. He's in grade nine. We did this last night. I am really poor at math, and ChatGPT is a lot better than me at math. So

I took a picture of his homework up there. You'll probably remember story problems, and I said, Tutor my son to answer question 26. And he's able to sit there and go back and forth with generative AI, ask it questions, and it can tutor him around the math problem.

So when we think about personalization, I think the ability to have a tutor for every student can make a big difference in the educational space. This is a quote from Bloom, 1984 and his study the 2 Sigma Problem. Under the tutoring of mastery learning conditions, the average student was about 2 sigma above the average control class that learns under conventional instructional conditions. So he found, and I think most studies have reinforced this, that tutoring is going to be a more effective form of teaching in terms of achievement than many other approaches we take.

And this study came out this month, actually, It found that AI tutors can improve learning efficiency, helping students learn twice as much in less time compared to traditional active learning models. I think I wanted to share this study just because it's very significant, but I also think we need to take some of these studies with a grain of salt. I haven't had a chance to look deeply into what these achievement measures were. But again, what does it mean to think about democratizing tutoring?

This is an example of a tutor prompt. You can try it out if you want on your computer. And if you put a prompt like this into your computer, what you'll find into a program like ChatGPT, you can go back and forth and have it tutor you in multiple subjects. It does bring up the question, what does it mean to have a tutor that's only 70% accurate? Although I will acknowledge that not all human tutors are perfect either.

What we're seeing a little bit at UBC now and in other institutions is a development of custom bots that are used for tutoring in the classroom. This is a bot developed by doctor Raymond Lawrence at UBC Okanagan for Computer Science, and what he's done is created a Python bot so that students as they are using Python, they can ask this bot questions and get specific tutoring examples. Sorry, tutoring help. What's interesting about this model is he built in an endorsement system, a little bit like the tool Piazza. So a TA or a faculty member can endorse the answers to deal with hallucinations.

Another way that generative AI is changing education is co-creation, and I love this quote from Mollick. "LLMs are connection machines. They are trained by generating relationships between tokens that may seem unrelated to humans, but represent some deeper meaning.

Show of hands, who's heard of an AUT test? An AUT test is one type of creativity measure. It's an alternative use test, where you choose an object and you get someone to spend 2 minutes and figure out as many ways that they can use that object that's not its original functional use. For example, how many ways can you use a toothbrush that don't involve brushing your teeth. What Ethan Mollick talks about in his book *Co-intelligence* is a human can maybe do 30 of these in 2 minutes. AI can do hundreds if not thousands of these alternative uses. And these actually

were generated with AI. And I think AI creativity is interesting. I mean, it's not thinking, it's not creative. But some of these sure ring creative, a frother for small amounts of liquid, a miniature rake for Zen gardens. So what does it mean to have these tools that can help our students with creativity as creative partners used in the classroom?

This is an example of adult learning environments. Dr. Kari Grain at UBC, who teaches in the Global Learning and Change Program, has her graduate students use generative AI art to create images of ideal active learning environments, sort through these images, and then use them as a space for reflection. How can we help our students use these tools to brainstorm, to ideate, and as part of the creative process?

And finally, an evaluative judgment. And I think we've touched on evaluative judgment multiple times during this workshop and understand that the ability to evaluate information that's accurate from information that might be disinformation or a hallucination is important. And what I love about these errors that generative AI are creating is it's creating a very productive learning space. So how can we leverage this space?

This is an assignment written by Justin Farrell, professor of Sociology at the Yale School Environment. He has each of his students create a research question and statement and then put it into ChatGPT and create a write up on it. They then annotate the write up. And they determine what was inaccurate, misleading, incomplete, or unethical about the write up. And then they consider how it helped them refine the research question. What we're seeing, again, at UBC, and I think a lot of institutions, is the use of this productive learning space to help students evaluate the outputs of these tools, and by doing so, develop their evaluative judgment, as well as create a space for productive learning.

I can take some questions in a moment. Before I do that, I wanted to come up around that idea of play and capability building. I think talking about generative AI is one thing, but playing with it makes such a difference. In order to facilitate that, I've been working with BCcampus with Helena to develop a set of 10 challenges to play with AI. One of the challenges is around disinformation. One of the challenges is around creating artifacts, like I showed you. And we put all of these into a course. So you can log into the course with the link that I've included on the worksheet and play with some of these challenges, experiment with these tools. And I think it's in this experimenting that we're all able to learn and to think about this sea change.

And yeah, just ending saying, thanks so much for joining me. I can take a few questions now, but I really appreciate the chance to explore this with you. And I can take questions or comments, if anyone has any.

PARTICIPANT:
I had a question about the student who self-identified as having is it not? Hello. I have a question regarding the student who self-identified as having autism and the issue around faculty that thinks that their assignment is generated by ChatGPT. So looking at all the other

things that you talked about after that, it really still doesn't address that issue for that student because I don't think that any of those things can mitigate that. I was just curious whether there are ways to mitigate things like that because obviously, a lot of students don't self-identify as having a disability, and that is a problem if faculty tend to grade their papers and say that they're generated by ChatGPT.

LUCA[BJ1] :
Yeah. I mean, it's a good question. I guess it's a challenge right now because I understand that some faculty need to find ways of mitigating this, but it's probably not thinking that you're able to detect generative AI in writing. Unfortunately. There's going to be some cases you may be able to, but we know that international students, students who are EAL get picked up by detectors, they get picked up by humans easier. So maybe it's taking a step back and acknowledging that at this point, it's difficult, if not impossible, to discern whether a student's using AI or isn't using AI in many cases. I think this might be different in some of the STEM disciplines, but especially with writing, it's going to be very difficult. And then in terms of mitigation, I'm hearing a few different things, and I would love to hear from the audience as well about how you're thinking about those assignments or assessments, where it's very important for you not to have students use AI? Some of the approaches I've heard are having students write in class, having in-class components, having graded active learning in the classroom so that you're watching students have discussions. Interviewing students. Having some interview process. I know in math at UBC during the pandemic, they were randomly choosing students and asking them to work through problems with them to make sure that they weren't using contract cheating. So these are a couple of ways, but I think one of the challenges here is scale. When I've spoken to K–12 audiences, a lot of people teaching in small classrooms, I think it's probably far less of a concern because you know your students so much better and you're talking to them every day. Any other mitigation approaches? Yeah? I think what we put in our rubrics is really important.

PARTICIPANT:
At KPU, we actually did a GenAI rubric inbox and one of two or three of the people on my team are providing feedback to faculty on their rubrics and if they are allowing use or even if they're not, really adding to the rubric that you're looking for synthesis and integration of class discussions and other pieces that generative AI is less likely to be able to actually embed smoothly. I think it creates a level where students have to add more of their own ideas, or even I adapted a rubric and asked it to ensure that the criteria asked to hear student voice and examples in the writing. And some of that I think helps get around what AI might do the structure and some of the core concepts of things, but forcing the students' thinking and experience to come through.

LUCAS:
Wonderful. Thanks for sharing that. Does anyone ever have any other mitigation approaches they're using right now, Yeah, Valerie.

VALERIE:
Way before AI, I've used assessment meetings. There's an issue about scale, but one of the ways that I can do that with learners is by shifting up the number of instructional hours, so not using 3 hours on but 1 hour whole group, and then the rest is 2 hours of free time per week. So I can do that research problem topic thing in a Zoom meeting. And when we have writing, its track changes, I will give the opportunity to mark with them there. And the benefit of that is we see an iterative thing as we book over and over again, not just waiting for the end product to surface. It's being present all the way through the growth and it's relational. It supports five R, it supports all the things. I have an English lit undergrad, so I cringe at the "write this for me," but I also have kids who have, you know, family members of learning disabilities. I get the assistive bit. But the more we say, Do this for me and make a product, I think that's like, I don't like that use of AI because learning is when you're being asked a question and the synapses, work, and it's about the relationships. I've cringed and I've pushed back and especially with the climate piece of how do... not changing my world a lot. But how do we encourage learners to use it to ask me questions? Like when you had that, great. That's going to help them. It's not going to take away that understanding, but I do hope folks move towards more relational designs and assessment meetings. I'm happy to share more how we do that.

LUCAS: I love that. Thank you, Brian.

BRIAN:
My question is a bit broader. Last year, our institution took a run at developing policy around the use of AI at the institution, and there were a lot of discussions on things like disclosure. This wasn't just about teaching and learning, it was about research, administrative use, all that. For a number of reasons, that foundered partly because they questioned whether policy was the appropriate way to do it. Also, too, frankly, the pace of change. So that initiative has been rebooted, and it's kind of landed partially on me to develop what they're calling guiding principles. Now, given all the dimensions that you've been identifying and the other ones that you didn't have time to get to, are there models you've seen or examples you've seen of institutions, organizations that have done that kind of work effectively, and that have future proofed the rate of change and the evolving nature of this all?

LUCAS:
I actually think. I don't know if you've seen the UBC guiding principles. I think they're a pretty good model to start thinking, but it is interesting moving beyond the idea of policy to guiding principles. And from my understanding, there was a session yesterday. I don't know who attended it with Christina Hendricks talking about some of the larger ethical pieces, and I think Christina, if you have a chance to look at her blog, in addition to those guiding principles is starting to really break down some of those ethical choices. But I would also. You know, my focus on AI is in the capability space. I would also open that question up to the room. Has anyone, how have you been successful? What models of guidance have you been able to implement with your faculty? Yeah, I see a hand at the back of the room.

TERESA:
It's Teresa Southam from Selkirk College. We do have a set of guidelines, but I think what we're finding we need now is some flesh on the bones, some examples for each of the guidelines, and that's what the faculty are asking for.

LUCAS:
Thanks. Anyone else around guidelines? All right. I think we're out of time now.

PARTICIPANT:
Yeah. I would recommend both KPU and McMaster, and I believe both of them built their guidelines with Creative Commons in mind. And so at Vancouver Community College, we built off a lot of those guidelines to launch ours. But I think this person was commenting, the work is the after, the plan to socialize to your instructors and fill in the gaps for all the other pieces.

AMANDA: I think there was a question online as well.

LUCAS:
Okay. So the person online, are you able to unmute? What's that? Yeah, that'd be great.

AMANDA:
So the question online was, if we find there's a need to have students learn how to use GenAI, should we be moving towards platforms hosted within Canada and managed by/for post-secondary?

LUCAS:
Yeah, No, of course, I think I mentioned in the mitigation, thinking about ways of hosting local models is important, and it would be interesting to find a way to do that. I think we're in a little bit of a race right now once again with technology, where we're seeing the capabilities of these tools moving so quickly. And these huge server farms and huge parameters. So, it's great to have Canadian-hosted and local models, but what are we going to do as these other models like OpenAI get more and more powerful and integrated in our tools? I mean, Apple just integrated AI. We're going to see more and more of this integration. But I guess I really believe in the importance of local models. I think of locally hosted WordPress, locally hosted Wikis, and how important that has been. I think it's a little more difficult in this space. All right. Well, I should end now. Thanks so much.

AMANDA: Thank you.