

Exploring Generative AI and its impact on your study journey - 28th September 2023

ROB MOORE: Hello, everyone, and welcome to the matrix version of Student Hub Live. I'm Rob Moore, and I'm one of the Student Hub Live presenters. And it's great to see you all with us today. Today's session is all about artificial intelligence and, in particular, generative artificial intelligence. So just to let you know how the session is going to run, we have a number of guests. And we're going to be talking through some topics.

But you'll also have people who are answering your questions in the chat. So we've got Alexander and Nirwan who are answering your questions. You'll see them in the chat, and you'll know their comments because they will have SHL in front of their names. And they will do their best to answer your questions and point you out to some useful resources and some useful websites. And, of course, we've got Heidi with us. And Heidi is looking at your chats, your comments. And she's going to be sharing them with us as we go through the session. So hello, Heidi, and who have we got with us today?

HEIDI: Hiya. Good morning, Rob, and hello to everyone. We've got loads of people in Scotland with us today. So Jennifer, just outside of Glasgow, near Loch Lomond, what a beautiful part of the world - a bit damp and windy this morning, but not too bad. So Jennifer has been up since 6:00 AM. She was on the picket line at work this morning between 7:00 and half past 9:00. And Jennifer's done that three days in a row. So that's fantastic, Jennifer. I did put in the chat - you've definitely earned yourself a cup of tea this morning.

We got Carol in the Scottish Borders, and we've got Marie from southwest Scotland. So hello to everybody that's joining us in Scotland this morning. We've got Wynn in Wrexham, and he says, "bore da - good morning. I'm about to start studying environmental science." Fantastic. We've got someone representing STEM. That's awesome. Rosetta is joining us from Australia, and it's nighttime there, so thanks so much for joining us, Rosetta. Lovely to have you in the chat. And we've got Mustafa joining us from Finland.

Now, we've got a few people that are studying A111, which was one of my favourite courses. I loved it. I did literature, so I did the introductory arts and humanities course. And it's amazing, and you're going to love it. So Stephanie - she's studying A111, Arts and Humanities, and A112, Cultures, this year, following the English Literature and Creative Writing Pathway. You are going to love that, Stephanie. Jennifer's studying A111 as well towards a classical studies degree. And then we've got Kirsty, who is studying DD316 Level 3 in BA Social Sciences in Politics. And Kirsty got a distinction for her second year. So huge congratulations to you, Kirsty. I know how much work goes into getting a distinction, so well done.

Tracy says, "Good morning, everyone, from an overcast Lincolnshire with my two study buddies, my rescue British Bulldogs, who are currently snoring like a tag team." So I've got Martha behind me, who is snoring so loudly I'm amazed the microphone doesn't pick up her snoring, because she is - she's like a foghorn. So we've got all three of ours doing that, then, this morning Tracy. And then we've got Luisa. So Luisa is in second year psychology and says that she's suffering from a major lack of motivation today. Totally understand how you're feeling, Luisa. We all get days like that as students. So, hopefully, by the end of today, you will feel re-energised and re-inspired. We've got some great guests, so enjoy the show.

Oh, just quickly, if the chat is going a bit quickly for you all, in the top right-hand side. There's a little pin. I certainly use that trying to keep up with the chat. So, if you click on that, it will slow down the chat for you. We've also got some widgets. So if you'd let us know exactly where you're joining us from - if you're in the UK, you can pinpoint exactly where it is on the map. And, also, we've got a widget, and you can tell us what it is that you're studying. It's really great for us to be able to see what everyone's studying. So thanks for joining us.

ROB MOORE: Yup. And thank you, Heidi. So yes, please use the chat. Tell us about what you're studying. If this is your first time studying with the OU, or whether you're a bit of a veteran, everybody is welcome. Bear in mind that the chat is public, so just be careful. Don't share any personal information - no email addresses or telephone numbers. So just keep the information quite general.

So today's session is split into three elements. We're going to be looking at an overview of what generative AI is and what it can do. Then we're going to look at how we can use it in study. And then, for the final session - this is the bit that really puts the fear into the panel - we're going to answer your questions. So if you have any questions that you want the panel to have a look at, pop them into the chat, and we will get to them in the final session.

So I'm really pleased today to have three fantastic guests. We have John, who's the Professor of Computer Science at the Knowledge Media Institute. We have Alice, who's the Manager of Internal Communications and Engagement. We have Liz, who is the Senior Lecturer in Law in FPL and is our lead on generative AI. And this is a first for us. We've actually got - ChatGPT has joined us live. So you will see a box with ChatGPT in it. And, because it's not quite that intelligent yet, ChatGPT has a human helper, who is Aisling. And we will hopefully hear ChatGPT reading out the answers to us as we go through.

So let us know what you think of that. It's a bit of an experiment for us. We always like to try new things. So we're going to start off with the first session, and I'm going to ask John to explain in simple layman's terms, because this is what I need - what is generative AI, and what can it do? So in the terms that I can understand, what is it and what can it do, or what can't it do?

JOHN DOMINGUE: So yeah - hi. So generative AI is a version of AI. There are different forms of AI. And, actually, people are using AI throughout their life, anything you do. The most popular versions of generative AI is obviously ChatGPT, who we have as a guest on the show. And ChatGPT takes a prompt - you'll hear that term a lot - which is a piece of text written in some language, usually English for the audience. You write a few sentences, and then ChatGPT will give an answer.

So it will produce some text. There are other tools like Stable Diffusion, DALL-E 2, and Midjourney, where you can put in a prompt, a piece of text, and you get an image as a response, which people have - and these have actually won art prizes and photography prizes, these images. And there'll be new versions coming out soon where you put in a piece of text and what comes out is a video.

ROB MOORE: And, when it comes to the outputs, what sort of outputs can you get? So you've talked about images, which can win art prizes. So in terms of the text, how does it generate the text? Does it come up with unique, brand new ideas or - I'm not quite sure how it comes up with the answer, because it's a bit technical for me.

JOHN DOMINGUE: So that's a great question Rob, and it will actually go into philosophy here if we're not careful, although I don't like philosophy. So ChatGPT is basically - underneath, it's a neural network. So it's a piece of computing which is inspired by the brain. We have a set of nodes with links. And those links

can be strong or weak. And that's how it learns, in the computer sense. ChatGPT has learnt by reading the entire web.

So imagine something that's read the entire web. Then you feed in a prompt, and it gives an average web answer to the question. Now, you asked, is that original or not? And, to be blunt, there's a debate about this. So some people say it's only regurgitating and reorganising things it's read on the web. But then what do we do? We read books, we learn at school, and then we give answers. So some people - not me - will say, well, all we're doing is regurgitating what we learnt at school or at university, et cetera. But, for the most part, I would say it's - let's say it's a clever sort of regurgitation.

ROB MOORE: Yeah, I like that - clever regurgitation. Yes, yes, I can use that term. So, Heidi, have people used generative AI, and what are they saying about it in the chat?

HEIDI: Yeah. So Rochelle has said that, "I've had a lot of fun playing with the deep chat AI text generator. Some of them are pretty good." And then we've got lots of people sharing their thoughts on AI, some that are very positive and some that are a little bit less positive, shall we say. So Heather - "I'm all for AI backing up human intelligence, not to disrupt but to improve." Ally says, "Personally, I think I should not create music or art. I know that's quite a common way of thinking." Olivia said, "Currently studying languages and worried about AI taking my job one day." That's a really interesting one. I use a lot of these automatically generated subtitles for videos. And so many of them are still so far off. But we know, within quite a short space of time, that the accuracy is really going to come along.

It's the same within - when we're in Microsoft Teams meetings. I can't have the transcription on on the side because I get the giggles so badly with some of the things that it says my colleagues are saying because it's so poor. But, like I said, everything is just moving so fast. The technology is evolving so quickly that it's - in no time, it's going to be completely accurate. And then we've got Luisa. "At the end of the day, we'll always need humans to programme AI, unless it teaches itself how to think and feel," which is a little bit of an ominous thought, isn't it?

ROB MOORE: Yes, ChatGPT thinking and feeling. Maybe that's why it's not answering me at the moment. It's got a strop. It's having a strop with us. I do remember I was giving a lecture to a group in China. I don't speak Chinese, but I had an interpreter who was delivering my words. But, when it came to the slides in the chat with the students, I was using just a chat function that immediately translated questions from the students into English and my answers back into Chinese. And that was phenomenal. That was probably my biggest academic use of artificial intelligence, was just actually delivering a lecture. So, John, in terms of where we're heading with artificial intelligence, what sort of things can it do for us now? And where do you think it's going to lead us?

JOHN DOMINGUE: Yeah, so had some interesting points made by the students. Let me just reflect on those quickly, if I may. Jobs - so the best phrase I've heard around this, and I hope it's not too scary, and that is - AI probably won't take your job, but maybe somebody using AI will. Having these tools around is like having an infinite army of interns. So everybody gets an infinite army of interns in their job.

And then you're leading that army by creating the right prompt. The key at the moment is to create the right prompt. And, in fact, there are already jobs as what's called prompt engineers which have six-figure salaries, so writing these small pieces of text. A student mentioned programming. So humans need to programme. So one of the best uses of generative AI at the moment is to support programmers. It turns out that generative AI is good at programming. If you think about it - if it's read the entire web, people actually put programmes on the entire web. So it's actually learned to programme as well.

So, for me, I imagine a future where, for every activity we do, if there's some intellectual or knowledge component, you bring out your army of interns if you're a creative or an architect - and the architectural companies are already using it. And they draw, they paint, they make videos, they write for you. You have to sit there and direct them. You have to control them. But they will be helping you and supporting you.

ROB MOORE: Yeah, that's really sort of - I like this infinite army of interns. For those of you with us on Friday, when we had the Friday night social, we had those pictures of the animals reading books. And I've got to - I said at the time - I actually used Bing and ChatGPT to generate those images. And it took a lot less time than trying to find suitable images through a search engine. So I could definitely see where there are some benefits from that. I think we've got an answer now from ChatGPT, so let's see what the answer is, and let's see if we can hear from ChatGPT the answer to the question, what is generative AI?

AISLING THIRD: So it says - generative AI refers to a type of artificial intelligence that focuses on creating new content, patterns, or data by learning from existing information. This type of AI uses algorithms, often based on deep learning and neural networks, to generate outputs that resemble or mimic the input data. Examples of generative AI applications include, one, text generation, creating human-like written content based on the context and patterns learned from existing text data; two, image synthesis, generating new images by learning features from a collection of existing images, often using techniques like generative adversarial networks, GANs; three, music composition, creating new music by analysing and learning from existing melodies, harmonies and rhythms; four, voice synthesis, generating human-like speech from text inputs often used in text-to-speech systems, which you can hear, apparently. Generative AI has the potential to revolutionise various industries, including art, entertainment, advertising, and communication by automating and enhancing the creative process. However, it also raises concerns about the authenticity of generated content and the possibility of misuse, such as generating deepfakes or misleading information.

ROB MOORE: Thank you, ChatGPT. So, panel, I know we haven't heard from Alice or Liz yet. But what did you think of that as an answer? So anybody want to go first? No? Go ahead, then, Liz. So what did you think of that as an answer from ChatGPT?

LIZ HARDIE: I think that's a really good example of what ChatGPT and text-generated artificial intelligence can do, because it's written really well. It's got good written English. Superficially, it looks like a really good answer. However, it does raise some of the issues around the limitations of ChatGPT in terms of - it can sometimes lack detail or lack depth that you have to either ask it more about, or you have to rely on your own knowledge to understand where the gaps potentially are. So I think it's a really good example of both the positives, but also the limitations of the technology.

ROB MOORE: Thank you. Thank you, Liz. And, Alice, you wanted to add to that?

ALICE MANSFIELD: Yeah. Hi, everyone. I just thought it might be interesting to reflect on a couple of real life examples. So, as Liz said, sometimes it can sound great, but isn't maybe necessarily completely accurate. So, in my professional role, I'm a comms manager. Sometimes I have to write copy for articles, for websites, et cetera. And it's really good at giving me a first draft. So if I just drop in some bullets and I say, ChatGPT, come up with a 300-word article that uses these bullets to this audience, and it will give me a first draft.

What it won't do is get the tone right, necessarily. Sometimes it's mixed up some figures. So I've had examples where it's said - say, for example, we have made 7 million, when, in fact, we are looking to save 7 million, for example. So there's always the need to reflect on what it's given you and to check and edit

responses. Now, I'm also a student at the OU. I'm studying a research degree. And I had some worries about, oh, could this just come up with all of the thesis that I might spend years writing? And I asked it to come up with a couple of draft paragraphs for a chapter that I'm writing, and it just couldn't do it.

So, from a research perspective, there are still a lot of examples where you have to go and look at - old school. You have to look at books. You have to read through articles of interviews. You have to go into archives, maybe. There is - although ChatGPT - the large language models can draw on all that wealth of information on the internet, there are examples where the nuance or the exact information just isn't there and that, as a researcher, you have to go in and do as a person. So I just - yeah, that's an example from a couple of different perspectives that I've come across myself.

ROB MOORE: Thank you. And I think we're starting to touch on some of the limitations now of generative AI. And I think, as John said, these are going to get - it's going to improve as time goes on, the more that it learns. But what I heard you say there was - it's giving us plausible answers, but plausible is not the same as accurate or factually correct. And I think that's the stage we're at now.

And I think there's a lot of work to be done to - once you've generated your content through your prompts - to then interrogate and say - is this actually accurate? Has it put the correct facts in the correct orders - with the same thing. And I really like that - we would call them typos if we were writing, where it - the difference between saves 7 million or sold 7 million. That's the sort of thing that we could easily do as humans. But we can't just trust it without the checks. I'm going to go to Heidi now for a quick review of the widgets, because we've asked you to tell us what you think about AI. And, also, it looks as though we've got a prompt engineer in the audience, Heidi - somebody who does that as a job.

HEIDI: Yeah, we have.

ROB MOORE: Sorry, carry on.

HEIDI: Yeah, so John was talking about prompt engineers, then. So we've actually got Dale in the audience. So thank you so much for joining us today, Dale. I've actually put a little comment in there saying, oh, Dale, can we have a bit more information about your job? It sounds really, really interesting, on the absolute cutting edge. So, Dale, if you don't mind, can you just give us a bit more info about your role, like on a day-to-day basis? I'd actually be really intrigued to see one of those day in the life videos that people do on TikTok that say - this is what I do in a day. So it sounds extremely technical and beyond my capabilities, so I'd love to know some more.

So, yeah, it's really busy in the chat, Rob - people sharing lots and lots of thoughts around what they think of AI and their engagement with AI, particularly ChatGPT. So Demi says, "ChatGPT made me a meal plan for a week with a shopping list." and I never even thought of using that for my meal plan. That is such a good idea. I find thinking about what I'm going to cook for dinner for me and my son every evening one of the most draining things. So thank you, Demi. You've saved me a chunk of time every week.

Olivia uses ChatGPT "to help me prepare content for my social media channel." Joseph - "I've used it for the basic building blocks of PowerShell scripts at work." I'm not quite sure what that is Joseph. That sounds very technical. "But it typically requires a lot of editing," so that's interesting. Hazel - "I used ChatGPT to create a rehearsal schedule for a panto that I'm directing." Boss says that she used ChatGPT "to write snotty letters in five minutes that would normally take me an hour." Hopefully those aren't to us, Boss, about our technical issues. I know a few people had a few glitches this morning, so yeah. But it says, "It saved a lot of energy that I don't have because I'm disabled and autistic."

Stephanie says that, "I've used it to see what Boris Johnson combined with Hulk Hogan would look like." And I went straight back to Stephanie and said, "I need to see a picture of that, please." So if one of the team can put the email address to Student Hub Live in the chat, please. And, Stephanie, if you would be so kind as to send that photo across, I would absolutely love to see that, and we can share that with others. And then Kim - "I work in the photography industry, and AI has definitely had a negative impact on our company." And then we've got tonnes and tonnes of questions coming in. I know we've got plenty of time reserved later on for questions. So do keep putting them in the chat, and I'll keep a note of all of them. And then we'll put them to the panel towards the end of the show.

ROB MOORE: Excellent. So yeah - thank you for all of your comments. That's great. And we definitely want to see if you've got some really interesting things you've generated. We definitely want to see some examples. I'm going to come back to John just for the last part of this first session. I know we're going to talk about the education side of generative AI in the next session, John. But, generally, when using AI, have you got any tips on what people should do to make sure that they're getting the best out of using artificial intelligence? What sort of things should we be checking?

JOHN DOMINGUE: That's a very good question. I think the main thing, especially if you haven't used it yet, is - I would really encourage you to use it. We've been doing some studies at the OU with staff, showing them. And there is a lot of fear out there, and there seems to be a correlation between fear and not using the technology. So, please, especially if you're worried, do a Google search, and you'll find ChatGPT in OpenAI. Just have a play, and have them play with it.

One of the things I would stress is - it's still unknown. So most people need to learn how to use it. But, actually, even the developers of ChatGPT at OpenAI don't really understand how it works. That was not so much of a secret. And they were quite shocked at how powerful it is. So there are some technical details. I won't go into them now. So Heidi mentioned the prompt engineering role.

So I would encourage people to become your own prompt engineer. So, for example, if you want recipes you might start by saying, write me a recipe. And then everything is really bland. And you say, OK write the recipe, but I like pasta. I like the Mediterranean style. I don't like - et cetera, et cetera. So it's a really - have a play. And another thing we found in our studies - this thing, when you interact with it - it appears human-like. You put in some English text. It responds with text or an image. But it's not a human. Really, what you're doing is you're programming a very complex machine in English.

So just have a play. There are already websites - there's one called PromptBase - where people sell and buy their prompts. That's how valuable they are. So people - like the person who won the photography prize - they've spent days in honing their prompts. So it's almost like writing the ultimate piece of poetry. So spend time and have a play. Read prompts out there, and try it, again, as the students are, but for different elements of your life.

I think one of the main things - if you have to write an email, don't write the email. Just write some bullets. Give it to ChatGPT, ask it to change it, et cetera. Also, maybe the final point I would make is - it's really a conversation. And the more context you can give it, the better. So have a first go, and then you can say, oh, that wasn't quite good. Highlight - whatever. Highlight the Mediterranean element in the recipe, or have less fish, et cetera, and go on. So treat it as a conversation with a complex machine.

ROB MOORE: Wow. So thank you, John. And I'm sure everybody's a bit surprised that they've come along to a university session on artificial intelligence, and you've told them to have a go, have a play. We're not telling them to be scared and run away. We're going to be talking in the next session about how

to use it effectively to support your study, and what is appropriate and what is not appropriate. But we'll definitely be coming back to this idea of the prompts. And those are going to be really important when we start to talk about how you've used it in your studies in your education. I'm going to come to Liz now. And, Liz, can you talk us through the types of opportunities that generative AI offers to us in education, mainly from a student perspective, but also from the academic aspect, so from the university side?

LIZ HARDIE: Yes, of course, Rob. So looking at it from the university perspective, it offers a lot of support to us as staff. We've already heard from people about how they're using it in their jobs. So it can help with repetitive tasks. Particularly, I've used it where I'm trying to decide whether to read a long report or an article. You can ask it to summarise it, and then you can decide whether it's something that you want to waste your time reading or not. There's also the possibility in the future that we can use it to offer more personalised support to students.

But I suppose most of the people that are watching today are thinking about - how could I possibly use it as a student studying with the OU? So I would echo what John said earlier. If you haven't already used it, have a go. Have a play with it. Find out what it can do and work out for yourself what you think it's good at and what it's not because we know that, going forwards, in the world of work, being able to use generative AI is going to be really important. So, as students, you need to use it both within your studies and outside your studies so that you can show employers that you have those digital skills.

I wouldn't be frightened of it in terms of what it means in terms of work because it is also an opportunity to really stress the value that we add as people to the things that we do. So generative AI sounds really convincing. It looks impressive. But it is, as John has said, a machine. And so there are human skills that we possess in terms of empathy, soft skills, critical thinking - all those human skills that we bring that generative AI doesn't. And so working with generative AI, playing with it, gives you an opportunity to see where we add value to it, but where we can relinquish some of the more repetitive, boring tasks to generative AI to free up our time to do the things that we enjoy or to do the things that we are able to do much better at than generative AI.

Looking specifically, then, at your studies, some of the things that I know people have talked to me that it seems generative AI is really good at - it can help you with revision or making sure that you understand part of your materials. You can tell it what you know and ask it to tell you the gaps. You can ask it to summarise an area and compare it to your own notes to see what is missing. So it's really good as that revision knowledge summary.

It can also be good as a study buddy. So, in my area, which is law, students have to write essays at some point in their studies. And, often, that's about putting forward a particular argument. So one of the things you can do is develop what you think your argument is going to be in your essay, and then ask ChatGPT or a similar programme what are the counterarguments to that. And then you can use that to strengthen your arguments and to address any weaknesses in it. So, because it's this conversational tool, if you don't have anyone to talk about your studies with - it may be you're in a study buddy group. But if you're not, you can use ChatGPT in that way to give you that support.

The other thing - the thing to be aware of, though, is that there are limitations to it. So don't take everything it says as being true. So in my area - I know when I've asked it things about the law, it's given me plausible answers, but it's wrong. And sometimes that's because it's picking up the law from other countries, not from England and Wales. Occasionally, it's given me cases, and I think - I don't know that

case. I must be a really bad law teacher. And when I've looked up the case, it's completely fabricated. It's made up. It looks really plausible. It looks like a case, but it doesn't exist.

So the responsibility always remains yours, if you're using it in your studies, to make sure that you check and verify what it brings out. And, certainly within law, as well as having prompt engineers, there are jobs coming about, GAI checkers, where people are being employed to look at the first draft of what GAI spits out in a legal sense. That might be an explanation of the law. It might be a contract - and then having to check it and edit it to make sure it's right, because you do need that underpinning knowledge. You can't rely just on generative AI.

ROB MOORE: Wow. Thank you, Liz. That's great. And this is a really good point to flag up a YouTube video that John and Michelle produced. And I'm sure that somebody will pop the link to it in the chat box. This is where John goes into a lot more detail of the technical detail behind artificial intelligence and some examples of some ideas we've got as a university moving forward and how we can use them for support. And Michelle definitely gives some practical examples of how to use the output of generative AI in an answer. So hopefully that link can pop up in the chat box. We're going to have a quick look at your answers now - so Heidi, if you'd like to talk us through the answers to the question about using generative AI. Is it cheating? What are people saying?

HEIDI: Yeah, well, lots of comments. So we asked people to put into the word cloud about how they feel about AI. So, if you haven't put your thoughts in there yet, please do so - the little widget at the bottom. So, interestingly, the main feeling is excitement. So excited is coming out as the most prominent, and then intrigued, interesting, curious, so lots of people that want to explore it more and feel quite optimistic about it.

And then there are, of course, those that feel a little bit more apprehensive about it. And then we've had our students just sharing how they've used it, how it's benefiting them. So Stephanie, interestingly, says, "I don't think I'd ever use it for assignments - maybe for collating information that would otherwise take me a long time in research. But for now, I'm going to completely write my own assignments myself." So not going to use any of it to help and assist Stephanie with her assignment.

Emma says, "I've used it to summarise and find links and patterns in research papers." Leilani says, "I have no desire or plan, personally, to ever use generative AI." And Aaliyah - I do hope that I'm pronouncing your name correctly - says, "I attended A More Equal Digital Society demos event the other week in which an MP discussed policies. It really made AI less terrifying and left me viewing it in a more positive way." So lots of mixed feelings about AI in the chat.

ROB MOORE: Excellent. And, from your answers to the multiple-choice question, 28% of you think it is downright cheating. Only 3% of you consider it the same as using a spell checker. 34% of you have said it depends on the amount you use, and 36% have said it depends on the guidance from your module. And I think, for me, that's where I would be going because we've already said we don't want to say to people that you can't use this tool. You can't use the things that are available to you to develop your studies.

But you need to do it in the right way. So we need to give you some really clear guidance and advice on what you should use it for and what you shouldn't use it for. And this is bringing me straight into Alice, because this is the question I've got for Alice. Alice, what guidance do we currently have on using generative AI? And have you got some simple dos and don'ts for students if they're using generative AI in their studies?

ALICE MANSFIELD: Thanks, Rob. So -

ROB MOORE: Easy question.

ALICE MANSFIELD: It is such an easy question. The short answer is, yes, we do have some guidance. In fact, we have just updated our guidance to be a bit more detailed and give a few more examples of what's OK and what's maybe what to avoid when you're using gen AI in your studies. And you can find that guidance. There's links via the Help Centre and via Student Home so that you can access that.

In terms of dos and don'ts, the two big ones I would say - if you can only remember two things about gen AI, if you use it - one, check the output - absolutely essential to critique it, as both John and Liz have said already. And, number two, reference it. So if - however you've used gen AI, if you've used gen AI in your studies, just be really open about that. And, within the guidance, there are details on what that referencing looks like, so according to Cite Them Right.

There's also suggestions on best practise. So if you've, for example, used gen AI to consolidate some information, the best practise is to include the outputs - so the prompt date, the prompt that you've put it, so the text that you've input into gen AI, and the output. And all of that, like I say, is captured on that guidance that you can access via Help Centre and Student Home.

We are definitely encouraging people to use it in a responsible way. And, obviously, that's going to change in terms of your level of study, your subject matter, your preference, your personal preference. I have to say - I was quite nervous about using it and had heard about colleagues using it in really whizzy, fantastic ways. And it was only after having a little bit of a play myself that I felt a little bit more comfortable.

There are a number of things that you could do, in addition to things like consolidating, as Liz has already said. Revision - you can use it as a study buddy. You could use it to check a draft that you've produced, for example. You could input a draft of an essay and say, could you critique my arguments and help - make it help you to strengthen what you're talking about.

I think the absolute key is, I guess, this debate around cheating. And that is a concern for some people. The policy around plagiarism at the Open University hasn't changed, so the principle remains the same. So if you were to, for example, use an essay mill, or if you were to copy chunks out of a book and put it into your article - if you were to get your mate to write bits for you and put that in without saying that this content is from X, Y, Z, that would be academic misconduct.

And it's the same principle with generative AI. So if you were to ask ChatGPT to create an assignment for you and you just pop that in and submit it as your TMA or your EMA without saying, this is how I've used, say, for example ChatGPT or whatever other generative AI system you're using, then that would be academic misconduct. There are going to be, as I say, differences depending on what subject matter you're using. But I would come back to those two key points. One, check what it gives you. Critique its response. And, two, reference it and be really open about how you're using it in your studies.

ROB MOORE: Thank you, Alice. That was very clear and nice and concise. Thank you for that. And I do know - I've talked to colleagues about some of the references that ChatGPT produces, or generative AI in general. And I know we all hate referencing. We don't like doing that big, long list at the end. And there's a real temptation to think, oh, I'll get ChatGPT to do it. Be warned - ChatGPT doesn't actually understand the reference. It will give you something that looks like a reference. It's in a reference format. But, if we try and follow it, it doesn't take us anywhere. And, as a tutor, that's something I'm definitely going to be looking for. I do follow references at the end of the page. But we can definitely -

ALICE MANSFIELD: And I think that comes back to that -

ROB MOORE: Oops, sorry, Alice, carry on.

ALICE MANSFIELD: Sorry, Rob. I was just going to say - I think that comes back to that critiquing it, doesn't it? Because it can give you a reference. It can reference a journal article from a journal that exists. It can reference an author that exists and a title that exists, but those three things might not all be real in the same journal, article, author. And that is something - so, yeah, even if it looks plausible, if it sounds like it should exist, just don't necessarily trust what it's giving you.

ROB MOORE: Yeah. So it's actually more work to let ChatGPT do your referencing than to do it yourself. Oh, I've got away from Liz. Liz, you want to add to that?

LIZ HARDIE: Yeah, there's just one more thing I wanted to add. I had an essay because I tutor as well. I had an essay given to me with a reference which did exist. So the article was the name of the article in the journal that it existed. But, like you, I check. And when I got there, the article was about A and the essay was about Z. So it was nothing to do with the subject of the essay. So, yes, you just need to be really, really careful with references in ChatGPT. It does some weird and wonderful things.

ROB MOORE: We're going to be picking up questions at the end. But there's one that's popped up from Katrina that I just wanted to deal with now. The question is that, "We've been told as students not to use Wikipedia as a source. How is generative AI different?" Well, actually it's not. Because I never say to students, don't use Wikipedia as a source. I say use Wikipedia as an inspiration to give you ideas, as somewhere where you can go on further. What you can't do is reference Wikipedia as a robust, trusted source because you don't know the background of the content.

But I use Wikipedia quite a lot as inspiration to get some ideas of what things to go and look at. And I can then track down more reliable, more robust sources. So I would never say to a student, don't use it at all. But I would say, don't reference it as your main source. Use it as a way to jump to something else. And I think that's - in very broad senses, that's what we're saying about generative AI.

Use it, but be sceptical. Use it to inspire. Use it to create different ideas. But, actually, don't trust it as a final, robust piece of work in itself. And hopefully that's agreeing with what everyone is saying. Now, we're going to hear from ChatGPT. And, hopefully, the throat lozenges have worked and we'll be able to hear. So we asked ChatGPT - how does generative AI support higher education? So hopefully you can read it on the screen. If not, let's hear what it says.

AISLING THIRD: While it's generating the response, can I just say something personally?

ROB MOORE: Of course you can, Aisling.

AISLING THIRD: Because - oh, here we go. It is giving some text. Just to follow up on that, there are two quick things. One is - and this is just a general lesson across all subject areas, I think - is that you shouldn't be taking any source uncritically ever. One of the things that is part of a university education is to learn to be critical of what you're reading. And so to quote-unquote "cheat" using generative AI - the thing is, to do that well, you have to be critical of what you read, understand where it's making mistakes, et cetera - all of the things you would also have to do with things from a human source.

So, actually, it could be quite good practise, if you like, to try and develop your scepticism and questioning things. And then the other side of things - on a very, very technical point of view, for things like the case law, et cetera, or for the referencing, what we're seeing just now is just talking to a plain large language model. When those are tied to things like the ability to consult a database of case law or a citation source, et cetera, they will be able to pull out genuine sources that really are relevant to what you want. So just

the plain thing without any surrounding tools is not very helpful. But that's what we're experiencing now. What will come is integrating with other things. Anyway, sorry. ChatGPT now.

ROB MOORE: No, thank you, Aisling. That's great.

AISLING THIRD: So generative AI supports higher education by automating content creation, enhancing teaching materials, and personalising learning experiences. It can generate summaries, quizzes, and practise questions based on course content, aiding students in their studies. Additionally, generative AI can create realistic examples and simulations for hands-on learning, adapting to individual student needs. This helps educators save time and resources, while providing tailored and engaging educational experiences, ultimately improving student outcomes.

ROB MOORE: Thank you, Aisling. That was perfect. And John, you want to come in there and add to that?

JOHN DOMINGUE: Yeah, just to say - so Aisling pointed out a key point, that generative AI has been trained on the entire web. And what one can do is - you tune it, is the phrase, to use curated material from your company. At the Open University, we're right now doing that. So we're curating - we're taking now our content, which we've spent 50-plus years writing, and giving it to a generative AI - the next version, GPT 4.

And, from that, we're building an AI module writing assistant to help us in the writing of educational content for our students and also producing a digital assistant, which we hope, in a few years, to give to every student. And this will be able to do things like have a button saying, I don't understand this bit. Explain it to me like I'm 14 years old, or whatever you want. I want to talk to an AI about this. Generate some quizzes for me. Generate some flashcards. I want to talk to somebody about this. So we're doing this right now - just taking the generic tool, and then tuning it to speak with an OU voice.

ROB MOORE: Excellent. Thank you, John. Heidi, let's hear from our friends in the chat. What's being said at the moment? What are they thinking about this? Are people getting excited or getting more nervous? So what's the temperature like at the minute?

HEIDI: Yeah, there's loads going on - lots of really interesting conversations. But I've actually got a question for John. Is that OK, Rob? We've just had one that's come in, and I just want to pick up from what John was saying, then. Great. So, John, that was really interesting that you were talking about what the OU's doing in response. Donna has asked the specific question, "Has the OU employed its own AI prompt programmers yet?"

JOHN DOMINGUE: Good question. So we haven't put an advert out to get our own prompt programmers. But the Open University has dedicated innovation institutes. So one is the IET, Institute of Educational Technology. The other is the one that Aisling and I and Nirwan and Alex sit in, the Knowledge Media Institute. And, in that, we have AI specialists who are working on this. So, in fact, if I may say, I came to the OU back in the '80s to do a PhD on building an AI tutor, and just never left after finishing my PhD. So we have a lot of people with expertise that were doing and working on this.

ROB MOORE: Excellent. Thank you, John. Heidi, any other comments, questions?

HEIDI: Yeah, yeah, lots of comments and people sharing lots of their thoughts. So Julie said, "I think I'd rather use my time mastering things like library searching, essay writing, et cetera than mastering generative AI." And that's completely fair, Julie. As we're starting on this freshers' journey - if you're brand new to the OU, you're probably thinking, goodness me, I just want to figure out how to use the library. So

that makes absolute sense, Julie. If this is a little bit further down the line or something that you don't even want to engage with at all, that's absolutely fine.

Elsa says, "As a non-native English speaker AI is a great assistant to help me with writing academically." So I thought that's a really good perspective as well, for those that don't speak English as a first language - in this case, obviously, with English being the main language that we're talking about with ChatGPT.

Annette says, "I learned to type using an old-fashioned manual typewriter in school. Then along came electric typewriters. Then computing offered word processing. Now you can pretty much tell even what word to write verbally. I think of AI as just another tool in my toolbox that I can choose to use depending on what I want to achieve. It's just progress. Compare those early games like Space Invaders or Alex the Kid to today's games."

And that really made me think - when I watch this back in 10 years' time, or when my - well, my son says I'm cringe at the best of times. But in 10 or 20 years time, when he's watching this back or I'm watching it back, we're going to go, oh my God, do you remember back then? It's like when you look back at the old OU lectures on the BBC, and we were like - this is cutting edge. It's the university of the air. This is amazing. And then you look back and you say, oh, that looks so dated, but it was so incredible. And we're going to be thinking the same about ourselves right now, aren't we, when it becomes so advanced. So yeah - I thought that comment by Annette was really interesting.

ROB MOORE: Yeah, you remind me of what my wife says every time she watches me back on one of these. She goes, oh, bless. That's her comment whenever she sees me on the screen, which is great. So I'm going to ask ChatGPT one more question. And that is - is any of the content generated through ChatGPT or DALL-E copyrighted? So is it copyrighted? So we'll wait for the answer. And we'll see what ChatGPT says. Because, then, this is slightly different to the referencing point of view because referencing is obviously making sure we're not trying to claim a work that's not our own as our own. But copyright - who owns it? So it looks like it's got an answer. So, Aisling, would you like to talk us through the answer that it came up with, please?

AISLING THIRD: Yes, certainly. So content generated by AI models like ChatGPT or DALL-E may involve copyrighted material, depending on the input data and the specifics of the generated output. While the AI-generated content itself may not be copyrighted by the developers of these models, it could potentially infringe on existing copyrights if it closely resembles or replicates copyrighted works. Users should exercise caution and ensure the generated content does not violate any intellectual property rights before using it for commercial or public purposes.

ROB MOORE: Wow. Thank you, Aisling. That's perfect. I'm going to put it to Alice to comment on that, because you're our expert on all guidance. So, Alice, what did you think of that as an answer? Is that what you would have said, more or less?

ALICE MANSFIELD: Oh, I think it's a really grey area, Rob. And I think that's what's making things quite tricky. So there are - and, honestly, if you ask ChatGPT the same question, it can give you a different answer. So there is an argument that the copyright of the output is owned by the promptee, so the person who's put the prompt in. There are obviously legal, like I say, grey areas - things that aren't entirely clear. So if I - for example, if I said to ChatGPT, please, could you come up with a story about Iron Man and Spider-Man and produce a screenplay, there you might start to come into copyright issues. And Marvel might not be too happy if I was to then go and try and sell that as an article, for example. But when it

comes to, I think, work within your studies, the key is, like I say, to reference it. And that will really cover you.

In terms of whether you're owning, copyrighting, and all of that kind of stuff, the key thing that we want to know is what is your thought process, what are you learning, and being clear about how you're using all the other tools, whether that's a book or a web article - whether it's Wikipedia, which I have used in the past, or whether it's ChatGPT, the principle remains the same. I don't know if Liz might have any - yeah - anything to add to that from a law perspective.

ROB MOORE: Well, if we can come - John had his hand up first. So if we come to John first - sorry, Andrew. John first, and then we'll come to Liz. So John?

JOHN DOMINGUE: Yeah, I'm sure - Liz might correct me, but - so I think there are a couple of elements, or three things I would say. So I've been at conferences with lawyers. And most of the answers they give to the questions are I don't know or nobody knows. It will depend on the region. So each region has its law. So, for example, I know, in Europe, they are working on demanding that all the sources that any AI was trained on are made public. In Japan, they've recently announced that there is no copyright when one considers training an AI. So there are going to be radical differences. The third element will be the terms and conditions for any service that you use. I think for some of them, like Midjourney, any image, you own it, which makes it easier than using Google image search. I'll pass over to Liz.

ROB MOORE: Thank you, John. So Liz, do you agree, or what have you got to add?

LIZ HARDIE: I agree. It is really unclear at the moment because it is such a new area. And we are going to see cases come to court, and hopefully that will clarify the law. There are cases ongoing at the moment from authors claiming that generative AI has infringed their copyright. So you may have picked up - George R. R. Martin, for example, has brought a case, I think in America, over infringement of copyright. Part of the problem is - at the moment, the UK government, which obviously governs us in the EU, as we're based in England and Wales, is not following the example of other countries and doesn't, at the moment, seem to have a plan to bring in laws specifically to regulate generative AI. So it is going to take, I think, a bit of time to work it out. In terms of who owns the things that come out of generative AI, the output - the issue is that, at the moment, under the law, a machine cannot own copyright. So generative AI can't own the copyright that it - ChatGPT can't own the copyright of what it produces.

So individual tools have their own terms and conditions. So, for example, ChatGPT purports to give the copyright to you if you've put the input in. But it's really unclear as to whether that is legally workable when it's putting out - it might put out very similar outputs to different people. But, as far as you're using it is concerned, I think - just be careful if things come out that would be copyrighted, like quotes, song lyrics, recent song lyrics, recent books, things like that - it's likely to be copyrighted by the original author. And, as Alice says, be open about how you've used it and where you've used it, particularly in your assignments. And, at the moment, I think that will be fine. You don't need to worry particularly about it. And we will obviously - the OU will update the guidance as the law becomes clearer as to what the position is.

ROB MOORE: Absolutely. And I know Alex has put a link to the guidance in the chat, so if you do need to check that guidance, you can there. And, from my point of view, I think what I'd - the way you write the prompt is probably going to be quite important. If you say, write me a poem in the style of - then obviously you're asking it to copy somebody. So I would say your prompts are going to be quite an important element in this.

Heidi has got lots and lots of questions from you. So we're going to work through as many as we can. And our experts will do our best to give you real answers. If we can't get you an answer, we will make answers available afterwards. So, if we can't answer it in the session, we will look to getting an answer out to you. So, Heidi, what's the first question you've got for us?

HEIDI: Are you all ready? We've got 22 minutes, and we've got about 4,000 questions. So let's get going. So one of the - I'm trying to group them together as much as possible to get as many responses as I can. So one of the key areas - one of the key themes is around the impact on the environment of ChatGPT. So Chloe Louise says, "Environment issues is a big one. ChatGPT," Chloe Louise says, "emits around eight tonnes of carbon dioxide per year." Patrina says, "Can you address the environmental impacts of AI, please?" And Wendy says, "I'd like to know what's being done to mitigate the environmental impact this technology will have, and if the UK government has committed to help with this." So it's interesting - taking up to government level, if anybody knows.

ROB MOORE: So John - I'm glad you put your hand up. John, I was going to come to you with that one.

JOHN DOMINGUE: Yeah, so sustainability is a big thing for the tech companies. It's also one of the main objectives for the Open University, so we take this very seriously. These systems, generative AI, happen in the cloud. And what that means is - it happens in some large data Centre somewhere. If you look - you can Google this. If you look on the big tech companies, they're all committed to being carbon neutral by some point. So Google have committed to being carbon neutral by 2030 and running their data centres by sustainable power.

Microsoft have committed to being carbon neutral by - carbon negative by 2030, and by 2050, to have eaten all the carbon they've ever produced in the lifetime of their company. And I believe that Microsoft are actually getting into the energy business - into the sustainable energy business, so to have their own power plants that are sustainable. So it's something to keep an eye on. The other thing one has to think about is - what is the current carbon footprint of the Open University? How do we teach? Do people have to drive to study centres or not? Do our tutors have to drive? And we'd have to compare that to - whatever - if some parts were supported by generative AI, and if they were run by sustainable energy.

ROB MOORE: Thank you, John. So, yes, we're aware, and things are being done to mitigate it. And it sounds like that 2030 is a common target across the big tech companies. So we should see something happening there. We'll move on to the next question, then, Heidi. Hopefully that's answered that question. So what's the next one you've got for us?

HEIDI: Yeah, that's great. So we obviously had lots of questions coming in around referencing, but Alice did talk about that quite a bit earlier, and my colleague, Raphael, has put the link then to the OU's terms and conditions. So if he'd be kind enough to put that in again so people - if there was any outstanding questions around referencing, you can then have a look at that document, and that should be able to help you.

So a couple of questions from people that want to know - they want to learn more. So Tina - "Can you recommend somewhere where I can learn about this topic, as, from my perspective, you're all talking in another language totally?" I think that's a really fair point, Tina. Thank you so much for being so honest. Makes absolute sense. And Samantha - "Are there any official courses to learn to get the best from ChatGPT?"

ROB MOORE: Anybody want to take that one? Oh, go ahead, John.

JOHN DOMINGUE: Yeah, so I don't have specific - maybe I can put a link to something. It's a bit technical. I'll send it around in a moment. There's Stephen Wolfram, who's behind Wolfram Alpha. If you Google his name, Stephen Wolfram, and "What Does ChatGPT Do Behind the Scenes" - It's a bit technical, but I think it's the best comprehensive description of what's going on, and he's one of the best science writers I know, full stop. The other place is YouTube. So there'll be lots of videos on YouTube, and impressive demos, and also on X, formerly known as Twitter.

But one thing I would say is that this area is moving very fast, even for people in the field. And I and all my colleagues will spend time on Twitter every day keeping up. So there are some amazing things. So, for example, just a couple of days ago, ChatGPT has learned to speak and see and hear. And there are also - I've seen some very impressive dubbing into foreign language by AI as well. So have a look for those.

ROB MOORE: Wow. So things are moving really quickly. I'm going to ask ChatGPT a question, which we'll come back to in a minute. There's a question in the chat about, "Will artificial intelligence replace my tutor?" So I'm really interested in that question. So will artificial intelligence replace my tutor or my teacher? And we'll come back to you in a little while on that one, Aisling, once we've got an answer. So Heidi, your next question.

HEIDI: So Lynn says, "Why are GPT outputs or references or law cases" - which we touched on earlier when we were chatting - "not automatically checked against libraries to ensure that the citations exist?"

ROB MOORE: There we go. Liz?

LIZ HARDIE: So this will depend upon what subject area you're studying. But it's a bit unclear what ChatGPT has been trained on. We know it's material that has been scraped, effectively - has been taken from the internet. John, I hold my hands up. I'm not technical at all. So if you wince when I explain this, I apologise. Particularly for law, legal cases and legal journal articles are hidden behind a paywall. So most of the authoritative legal case reports and the articles, for example, are on database you have to pay a subscription to to get access to.

Now, as an OU student, you're really fortunate. You get access to this through the OU Library free of charge to you because the OU pays for it. So you may not be aware that it's a subscription model. But that's the reason why at the moment in law, it's particularly finding it difficult to cope with references. And it's mainly because the real references are hidden behind this paywall. That will probably change going forwards. For example, they are introducing generative AI into some of these legal databases. But, at the moment, I think some of the problems are due to the issues around paywall and what the system has access to on the internet. But John is probably going to come in and correct me with a technical answer now.

JOHN DOMINGUE: Hi. So, yeah, I would never correct you, Liz. I just wanted to say, on the general referencing side, there's some other work going on in the Knowledge Media Institute. So, for 10 years now, we've had a project called CORE. And if you look up core.ac.uk - some colleagues of mine are scouring the entire web and reading all the research papers that you can find on there and linking them together.

So they have 300 million research papers, which you can link it - if you look at any one paper, it will find you all the related papers. They've just, in the last months, linked that to ChatGPT. So there's no service available yet, but if you Google CORE-GPT, you'll see what they're going to do is - you type in your query, it will search the 300 million research papers, and then find the five that are most relevant and summarise

them for you. So not now, but I'm hoping at some point in the future, we'll have an OU GPT with referencing service.

ROB MOORE: Excellent. And I think that's really important, that you can only get answers on the things that ChatGPT has been trained on. And, legally, there's no way for ChatGPT to actually read OU material. The OU module material should not be freely available on the web. So there's no legal way that it should be able to use our material at the moment. It will only be when it's trained on it, under a control by the Open University, I guess. I'm coming to - I think Aisling's got an answer for us - so the question about will artificial intelligence replace Rob. Obviously, it won't know who Rob is, but your tutor is the answer. So, Aisling, what does it think? Am I out of a job yet?

AISLING THIRD: I didn't ask it about you, yes. So it says, "AI is unlikely to fully replace human tutors, but it can complement and enhance their teaching capabilities. AI-driven systems can provide personalised learning experiences, instant feedback, and additional practise materials, while human tutors offer emotional support, motivation, and nuanced understanding of student needs. The combination of AI and human tutors can lead to more efficient and effective learning experiences, leveraging the strengths of both to benefit students."

ROB MOORE: I quite like that. So, as the other tutor in the room, Liz, what did you think of that as an answer?

LIZ HARDIE: I think - absolutely, I'd agree with a lot of that. I don't think it's going to replace our job, Rob. And, as we've said before, there needs to be an underpinning knowledge and understanding of the subject area, which ChatGPT innately doesn't have. It's not built that way. And we also have other human skills that technology doesn't have. Where I see it would be really helpful - and I have been an OU student in the past - is, as tutors, we are not available 24/7 for our students.

And where students want a fairly straightforward, instant response to a question, it may be that ChatGPT can assist with that, which I think is great for the student because they get a quicker answer. And it means that we can focus as tutors our attention on supporting students with more complicated or subject-specific questions. So I think it's watch this space in terms of where we go as an institution, as the OU, in this space. But I can definitely see some benefits to us as tutors and to students by using generative AI in some respects.

ROB MOORE: Yeah. I absolutely agree. ChatGPT doesn't care about you like me and Liz do. We really care about - but it is that individual response. It is that tailored response that makes a big difference. So hopefully we're safe for at least another few minutes before we get overtaken. So, Heidi, we've got time for perhaps a couple more questions.

HEIDI: Oh, just two more. Oh, gosh, well -

ROB MOORE: Wow. The way we're going, we might get two or three more in, but not many more, I don't think.

HEIDI: So Sophia says, "I struggle to understand the intelligence of AI if we just - haven't we just coded everything into it? It wouldn't be able to do it if we hadn't coded it first." And I thought - there were some people earlier talking around - some of this terminology and this language is kind of like beyond my comprehension at the moment, which is completely understandable and totally fine. But I thought this was a great question from Sophie because I'm like you, Sophie. This is all new to me, and it's taken me a while to get my head around it. So can we talk a little bit around that intelligence and the fact that humans have actually coded this initially?

ROB MOORE: I think, John, that's one for you - oh, no, everybody. Let's get John first, then Alice, then Liz. Oh, I like it when everybody wants to jump in.

JOHN DOMINGUE: So yeah - so we're hitting a deep philosophical discussion. And there's the whole history of this. I remember people talked about - if you simulate a thunderstorm you don't get wet. So there are two types of AI. There are those that you programme, and they're symbol systems. And the best example of that in use is the knowledge graph from Google. So if you type in "London" into Google search, you get that panel on the right. And that's because Google understands that London is the capital of England and has photographs, et cetera.

The other thought is based on statistics - neural networks like ChatGPT. And there, there's no real programming. So you can think of the programme as becoming lazy. So instead of us coding it by hand, we get the machine to do the learning. So you set up a machine that learns, and you just present it with lots of examples. Ideally, you can present it with good examples and bad examples. And, for ChatGPT, the learning environment was the entire web.

The philosophical argument is - and I'm not going to say whether I believe this or not - I'll be neutral - is how is ChatGPT just learned on the entire web, so it's been set up with an architecture that learns connections - how is that different to a baby? So what does a baby know when it's born? It doesn't know much. In fact, it has to learn for - what? 16 years, 18 years before it's allowed to function in society. Learning the piano takes time. So we're - humans are great at learning. We're not programmed. But it takes us - we have to read, watch be instructed. And it's just the same with a machine. Now, I'm not saying that I believe the argument or not. But there is - at a superficial level, at least, there's a mapping there.

ROB MOORE: Thank you, John. Alice, what do you want to add to that?

ALICE MANSFIELD: I am going to sound so unintelligent coming after John there, because I've got to - I completely empathise with everyone who's saying this is another language. For me, this is the fringes of where I'm comfortable understanding tech. And my mind starts to slightly blow. And so I thought it might just be helpful - one of the best explanations that I've heard is to think of ChatGPT, for example, a little bit like a super, super smart text on your phone.

So we all know that, when we're typing in a message to someone, your phone will come up with suggestions for the next couple of words. ChatGPT does the same thing, but on a much more sophisticated scale. And that is - that also echoes that critical thing about - that it doesn't always get it right. So smart, predictive text - I'm sure we've all got loads of examples. I used to have a phone that would always auto-correct my name to "Algae" from Alice. So there are real examples where it just doesn't quite get it right. It just will put together strings of words that it thinks kind of - this word usually follows this word - usually follows this word. And that's what helped me to understand that intelligence perspective.

ROB MOORE: No, thank you, Alice. I think that makes a lot of sense. They used to call me Ron at work because that's - predictive text always corrected Rob to Ron. So I was always called Ron for that reason. So, Liz, what do you want to add to those points?

LIZ HARDIE: I was going to say - very similar to Alice, I don't understand the technology behind this. And what helped me was to understand that ChatGPT, for example, is predicting based on the billions of words it's had input into it what the next word in the sentence is going to be. So it's not acting like how I would understand a Google search, in that it's looking for a source that answers a specific question. What

it's doing is predicting what it thinks the next word in the sentence is going to be. And it's incredibly accurate because of the vast amount of training materials it's got. But that is all it's doing. And I find that really helpful when I'm thinking about the limitations of ChatGPT and how I'm using it - to understand that.

ROB MOORE: Thank you, Liz. And I know in John's YouTube video, there's a really nice graphical illustration of how that training takes place. So, Heidi, next question.

HEIDI: I know we're running short on time, so I've -

ROB MOORE: Make it a good one.

HEIDI: Yeah, thanks, Ron. Yeah, I've combined two questions together. So Diane and Forzana - I've tried to combine the two questions. So Diane - "I'm very worried that, as someone who feels apprehensive of AI, it seems that, unless I get to grips with it, I won't be doing as well as other students and likely not achieving higher marks if I don't use it." and Forzana said, "Should students who have graduated in a specific field look to build future study with AI, computer science, tech? Or is it a skill we can pick up in professional development courses?" So just that theme around there about incorporating AI within our studies - is it absolutely necessary? And, if we don't have it, are we going to be at a disadvantage?

ROB MOORE: Oh, that's good. And Liz wants to comment on that one, so Liz.

LIZ HARDIE: Yes. I can certainly answer the first part of that question. So I would say, if you're apprehensive about it - and I am not a technical person at all. My 18-year-old computer scientist daughter laughs every time I mention that I'm talking about generative AI, which says where I am at in terms of tech. I would encourage you just to have a go at it. You don't have to do a complicated training course. Just go onto the internet - Google, Bing, or Bard, or ChatGPT, and have a go, because that really helped settle my nerves about this whole issue.

In terms of do you have to use it, no, of course. It's optional for you as a student to do it - to use it. I think what you need to think about, though, is - it will depend upon what stage you're at in your studies and what you're wanting to do and which area you're studying in. Because, if you're studying to change a career or to develop your career, it may be that these generative AI skills are going to be required in whatever future career you have.

So we know - in law, it is already being used by the courts, by the legal profession. And so it may be something that you need to look into if you're looking at that kind of career in the future - but more in terms of your future career. There may be other subject areas, other careers, where it's not going to have as great an impact. So I would say just have a general search around that and see what's suitable for you. But I'm sure John will be able to give a much fuller answer.

ROB MOORE: John?

JOHN DOMINGUE: Hi. Yeah. So - yeah, a couple of things I would say. One is - so what we're really talking about - we're really betting how important is this technology. And my best guess and the best guess of all of my colleagues is it's the web and the Industrial Revolution wrapped up into one. So it's going to be big and change anything. So imagine trying to do whatever job you have without using a mobile phone or the web, and that will give you an idea how big it is.

In terms of what training - I'm a professor of computer science. But I wouldn't advocate that anybody does a general technical course, like a foundations of computer science course. I would say there will be courses coming out from everywhere, including the OU, on generative AI plus some area - generative AI for law, generative AI for chemists. So look out for those courses - the generative AI plus your favourite

area, and I would encourage you to take one of those. And, also, as Liz has said - has said repeatedly - just play. Just play with it.

ROB MOORE: Absolutely. So thank you, everyone. I can't believe - oh, we've got Alice. I will let you squeeze something in quickly at the end.

ALICE MANSFIELD: Thank you, Rob. Sorry. I know we're at time, but I just wanted to say that all of those things, career training aside slightly - I just wanted to reassure anyone listening that you're not going to be penalised if you don't use gen AI in your studies. It is one tool in amongst a toolbox of many. And we are developing it. We're moving forward. But, no, you're not going to get a worse mark than someone else on your tutor group because they've used gen AI and you haven't. It's about your learning and your understanding of the subject.

ROB MOORE: Yeah, I would endorse that because I do have students who, for various reasons, still have to hand write their assignments. And they are not penalised because they can't use a computer to write their assignments. They are treated exactly the same. And that's our job - to make sure that we're fair and that we don't expect you to use tools that you're not familiar with. So I just want to say thank you to everyone. That has been a fascinating discussion. I remind everybody in the audience about the feedback form. The link to it is now in the chat box. That helps us decide what you want us to talk about, which guests you want us to get in, what topics do you want us to cover. So, Heidi, what are our last comments from the chat, just before we finish?

HEIDI: Well, it was not actually a comment, but it did make me smile. It was when you were talking earlier about, Rob, that you were known as Ron because of predictive text - your colleagues calling you that - Patrina has in the text, and this did this make me smile. "Predictive text used to change my name to Urinal, most unfortunate." So you're not the only one. It could be far, far worse, couldn't it?

ROB MOORE: It could be worse.

HEIDI: So I'm really sorry to hear that, Patrina. But thank you so much to everyone that's engaged in the chat today - fascinating conversations. It's been super, super busy. I've tried to put as many questions as possible to the panel. If we have missed your question, please do pop it in the chat now, and we'll come back to you afterwards. We'll get in touch with you. But, yeah, thanks so much for the engagement today. It's been a great show.

ROB MOORE: Thank you. Thank you, Heidi. And yup - so it's been great talking to everybody. And I'm sure this is a subject we're going to be coming back to time and time again. And, when we get updated guidance and information, we'll make sure we run another session on this in the future. So remember the feedback forms, and, also, keep your eyes open for the other Student Hub Live sessions that are coming up.

So 3rd of October, we've got a quiz, the OU Essentials Quiz. So come along and see about studying with the OU. We're doing that at 11:00 next Tuesday. And, apparently, there are prizes for the winners. So come along and see if you can nab some of those prizes. Then we're looking at sessions on Essay Planning for Beginners, Use of Social Media - so we've got - my colleagues from business and law are going to be talking about how we can use social media in our studies. Academic Conduct and how to make sure you don't fall foul of the rules, Developing Essay Planning, Improving your Academic Writing - and, yeah, a range of workshops helping you to improve the way you put your assignments together. So you can find the details for all of these on the Student Hub Live web page. And you can subscribe to get the latest notifications. So thank you to all my guests, and thanks to everybody who's been supporting

us in the chat as well. It's been great. And, to everyone who's posted questions and comments, we really do appreciate your time with us. So, till we see you again, have fun, enjoy your studies, and goodbye.