Prof. Charlene Polio – AI in Education

Welcome to this episode of Exploring the Humanities voices from the Hong Kong Polytechnic University. Our podcasts allow us to showcase the exciting and innovative work being done by our colleagues in the humanities, intersecting with fields as varied as aviation, mental and physical health, virtual reality, religion, gender, AI, design, neuroscience.

I am Renia Lopez from the Faculty of Humanities.

We're joined today by Professor Charlene Pollio, professor of linguistics in the Department of Linguistics, Languages and Cultures at Michigan State University. And today, a special guest of the Faculty of Humanities of the Hong Kong Polytechnic University, as our speaker in our "Distinguished Lectures in the Humanities", we have taken advantage of Professor Polo's visit to talk to her about AI in education. Welcome. Thank you very much for joining us!

- Thank you for having me here.

You specialize in the area of second language writing and research methodology, but we are going to be talking about AI. So why did you become interested in AI and how does this fit with your main interest?

- Yeah, it's interesting. I knew absolutely nothing about AI before you came out. And, it was, of all things, through a Facebook post. I first heard about it like, oh, what is this? One of my colleagues and, second language training, Christine Tarti, actually, posted something about. She had just learned about ChatGPT, and she said, we have to investigate. We have to we have to look at this and see how you know, how it might change Teaching second language writing. So immediately I started reading about it and I started I signed up for an account and I started playing with it. The other reason I was really interested in AI is because I do some corpus linguistics, and when I first came out to, I was able to see the relationship between some of the responses you got from ChatGPT and look at the language that it produced and how that might be related to looking at certain collocations and corpora. I'm not explaining that very well, so in other words, AI is really accessing a massive corpus, right? So there are parallels to corpus linguistics. So that's why I was sort of interested in it. And the interesting thing about AI, is which corpus? you don't know which corpus or what exactly that corpus looks like. So that's sort of how I became interested in AI, because I'm interested in teaching writing and because I'm interested in corpus linguistics.

And in those early days when you were starting with AI, how were you integrating it, if you were integrating it, into your teaching?

- I wasn't integrating it into my teaching. I also don't teach, ESL classes. I work with graduate students who are going to become teachers. And so the way I incorporate it is by, throughout the semester, if we're working on, for example, certain types of writing activities, I say: "well, think about how you might incorporate AI into this". So in the early days, I think I'm trying the very first class I taught, we just did a few things playing around with it. Particularly in the early days, you could ask it to create a specific genre, or you could give it a task. So, for example, the one I always use is write an email to your professor and give them certain parameters. And so, in the early days of ChatGPT, the responses you got were really funny and you could see it wasn't doing very well at particularly the pragmatic aspects of writing, but it was doing really good at creating formulaic chunks or sequences. For example, "thank you for your attention in this matter" or things like that. That might be in an email. But in terms of what it was including in the emails, it was really completely inappropriate. So, when AI first came out, we did a lot of this, like: "hey, let's look at what I produced and why it's not good". In that sense, you were able to sort of focus on digital literacy. Like you could make the point, like: "look, you can't just use AI, you have to evaluate it". And then we would also look at the language it produced. So again, that was sort of that ties in a little bit to the corpus linguistics aspect of what AI was doing. It was like looking at this giant corpus. But so those are sort of the early days. You can actually very easily get it to give wrong answers to things. Those days are gone. So it's like it's a little bit harder now to, to get students to critically look at AI because it's so good. This has been this has been a recent challenge.

And as challenges go, what are the biggest changes that you see AI bring into the classroom?

- That's hard to answer because I feel like at least among my colleagues, I find so many differences. I still have colleagues who just say you can never use it. And I have one I remember saying: "well, we had to change all the writing assignments the students have to do in-class writing". And I'm thinking: "oh, wow, I don't know, is that really the way to go here?" Like tell students, okay, we're going to spend all this time writing in class so they can't use AI? So I'm not sure that banning it is the appropriate way to go. But they are faculty, so for some people it changes the nature of the assignments that they have to do more in-class writing for others... others embrace it and then you get everything in between. And so others actually teach students what this is how you can use it to brainstorm; this is how you can use it to proofread your writing. It's a really hard question to answer because I still feel like, well, at least in the US, I don't know about here in Hong Kong, it's all over the place.

Do you think that at the policymaker level, the university should be doing more or should be doing less?

- American universities are very, decentralized, right? So every department's different. And I've been involved in some working groups. So we're looking at AI, some of the departments are embracing, I think some, I remember hearing about some projects in the STEM fields. So I think it really varies a lot across the university. So, no, I don't think the university as a whole is saying: "okay, everybody, let's get together and figure out how we're going to use AI". It's

being used, as you probably know, it's, used by coders, right, these days. So either R or Python. I've been hearing from my friends in engineering that, students are just totally coding in Python now.

I have to say I'm doing it as well, and I'm not an engineer.

- Oh that's right. Oh yeah.

Using R yeah.

- So that's sort of interesting. An interesting development. But again, you still have to know something about coding, right. In order- I would think. No? maybe. I tried to learn Python a little bit. And I feel like at this point, I would not be comfortable saying to AI: "hey, can you generate this Python code for me?" without knowing more about it.
- My policy has been "you can use it where you want, but you have to tell me where you're using it". And still, I've had students who didn't do it. I could tell. All you have to do is say to me: "this is how I used it". In my graduate classes, where students have to create lessons, that's been really interesting because, there, I actually show them how you can use AI to create sample activities, tasks, cloze activities, how you can take a passage and simplify it, make it more complicated. So I try actually do try to get them to use AI for teaching purposes as opposed to writing production. So, we look at that a lot. I always tell my students when they're creating teaching activities that you can use whatever you want from the internet, you just have tell me where you got it. Because being a good teacher, it's not - you can be a good teacher and not create everything from scratch, right? Being a good teacher is evaluating what's out there. And the same thing, you can use AI to create materials, but you have to give me the rationale as to why you're using it, and you have to be able to put together a good activity. And why not use AI to do that? One, the AI can be a real time saver for teachers. Particularly if you're trying to create multiple versions of a task, for example, task-based language teaching. It's also great for put a reading into it and say, create some vocabulary activities for me. Now, again, you have to be able to evaluate those activities. If you just turn it in, it might not be the best thing. It doesn't always create the best activities. But so that's how I sort of encourage people to use that.

As you've mentioned, this raises a number of concerns about authorship, authenticity, accuracy. Is there any way we can ensure that our students are actually learning something not just having AI writing the papers, as you've mentioned?

- One of the things you can do, is so, for example, I show them how to change the prompts to, for example, vary the audience. So you say: "okay, come up with a task that you want AI to write for you, but then change who the audience is but also who AI is, [tell AI to] pretend you are person A or you are person B" and then, once they're produced, then you have to write a reflection talking about the differences, in the output that you're getting from AI. Now, could you use AI to do that? I don't know, hopefully not so far, I think. Or you could say bring them into class and then me and then have students do discussions like, let's look at the differences and it gets them to focus on the language being produced.

- In terms of authorship, I don't know, can we always tell if something was AI produced? Sometimes you can definitely tell, right? I mean, you know that too. I have a couple of examples I'd like to show when I'm talking about AI. About two thank you notes I got from students, both Chinese students, where I sent them a copy of an article I had written. And in one case, I read the thank you note and you could tell it was AI generated. The other case, you could tell it wasn't AI. It was so lovely. It was like "Thank you! You made my day! I'm so excited! I was jumping up and down" and I tried to show this [in class] and it was like, every professor would like to get this kind of email, you know?
- So, in terms of authorship, I'm less worried about it in terms of publications, published papers. I don't think it is at the point AI can't produce a research paper and if it did, it would be fabricating data, which would be... So I'm not super worried about that, at this point.

Because you're also editor for a journal. Have you come across any submissions that were clearly AI?

- That's a good question. The ones that I've come across were paper-mills, that just- you could tell- What happened is I got a paper and I did the in-house rejection of it, it was just a bad paper, but I didn't notice that it was AI generated necessarily. And then I got five more that followed the same unusual format. So it turned out there's some papermill, and I think there were all Chinese authors, that were just sort of generating these papers, but they didn't even really make sense. The other thing that comes up is, well, what about proofreading? In our policy, our general policy, we say that you can use it for proofreading. I'm like, why not? But you have to disclose it. So far, I don't think I've got one paper that has disclosed, even though I think people probably are using it. It could just be because they don't read the guidelines. I don't know why. The other thing too, is you can certainly use it for creating instruments for research. So, for example, an assessment or a reading passage or a task. And I'm not finding people acknowledging that they're doing that. I assume they are. But we're not finding a lot of acknowledgments in the submitted papers.

Do you think that is just because this is something so new that people haven't gotten used to it yet?

- I don't know, I don't know if they're afraid to admit it. I'm not sure. One of the things- there is a discussion on the Journal Editors Listserv about, reviewers using AI to review a paper. And I haven't come across anything that's been obviously a review that's been written by AI. But other journal editors think that that's happening. So that's something to be a little bit wary of and to think about.

For our listeners, the publishing industry, the academic publishing industry, is massive and it is essential for any academic. So using or not using AI has become one of the key issues in this.

- Right.

Moving on, back to the students. Safer topic. Have you noticed an improvement in the writing of your students in general since AI came about?

- I don't know. There are a few students where, I can tell their writing is been polished a bit, and they've acknowledged to me that they you say AI. And I'm, I'm okay with that. So no I don't know that I have noticed. No, not necessarily.

Coming back to a topic you mentioned before, that of digital literacy. We often hear about the need to improve students' digital literacy. So what does that mean in the context of AI?

- Yeah, that's a good question. It could mean a couple of things. One thing it could mean is to really try to understand how AI works, like what is it drawing from. So for example, I'm sure you've heard about the biases that are found in AI, right? They tend to draw from or at least for English, they draw from standard written English right. So what happens? Or if you've heard of some of the controversies with Picture Generation, right. You get pictures of white beautiful people in a lot of the picture generations. So sort of just understanding that bias, I think is one thing that's evolved in talking about digital literacy.
- When AI wasn't as good, it was really about teaching about hallucinations and these kinds of things. But now that AI - I don't know how much AI is doing that these days, I'm sure it still does somewhat, but also teaching students how to interact with AI in a way that will actually help them.
- So, I think- there's one book I read this summer- one problem with AI is that stuff is coming out so fast I can't keep up with it. And every day I'm learning about a new tool. So that's been a little bit hard to keep up with. But this summer I thought, okay, I can't read everything, but I read a book by, Ethan Mollick called Co-Intelligence. It's written for non-specialists, and he's got a lot of really good advice in there about using AI. And, for example, how to get good answers from AI. So one example he has is, he says, treat, like a human, but tell it what kind of human to be. So when you're trying to get an answer out of AI say: "you are this person writing for this audience", it's a good exercise for students, and it sort of teaches them how to interact with AI. So I think that gives them a little bit of, that might be considered part of digital literacy.

Do you think that employers are beginning to request that the students, graduates, have AI skills? What sort of skills are they asking for?

- That's a good question. I don't know the answer to that, but I know, in the book that I read by Ethan Mollick, he talks about how it's being used in marketing. So I'm sure- And he actually taught a whole class where I think it was a marketing related, having students use AI to create- I'm trying to remember what it was... There was one I read about where they were using AI to create tweets. Although people are moving away from Twitter these days. Right. So, to, up to, create social media posts about certain products and to evaluate them, so I think, employers are probably requiring these AI skills, but I don't have first-hand knowledge of that.

Do you think your colleagues are using AI to teach or is there still a bit of reluctance?

- I think there's still a bit of reluctance. Yeah, I was talking to- I was interested in sort of working with teachers, particularly teachers, to teach writing, but incorporating it. And I was having a discussion, back two months ago, with a Spanish instructor. He teaches Spanish

literature. And I said: "hey, you know, I was thinking about doing a study where I work with someone who's never really used AI in the classroom. Do you think any of the Spanish faculty would be interested?" And he said: "oh, I would be!" So he's somebody who's never brought AI into the classroom, but he was interested.

- We also have people who have never brought into the classroom, but who would say "no way". So I would guess that the majority of my language teaching colleagues are not using AI. I guess I would say so. The ones who teach ESL, I'm thinking about the people at the English Language Center where, that we have on campus, they're much more open to AI than I think a lot of the other language teachers.

Do you think that educators need to be trained to effectively integrate AI tools?

- Yeah, that's a good question. I think at this point it should be sort of up to the individual. But I think for those of us teaching people who are going to become language teachers, I think we need to include it, in our methods classes as an option.

Where do you see AI taking us?

- Yeah, I have absolutely no idea. I have no idea whatsoever. You know, you and I are probably old enough that we remember the pre-Google days, right? When we didn't have Google or we didn't have the internet. And so I've thought a lot about over the years like: "wow, I can barely remember that time. And what's going to be the next thing. What's going to be the next thing that I can't even conceive of?" And it's AI, it turns out right. And so no, I can't even conceive of how it will change our lives.

- The other thing to say about AI is, and I'm talking here sort of from a research methods perspective. And, you have to have consistency in data analysis, right? You have to for your data analysis to be valid, it has to be used to get the same results every time. We talk about replication and you don't get the same results every time with AI. So, I don't know if that's something that hinders the use of AI or not. But there's variation built in.

So is AI here to stay?

- Yeah for sure. Yeah I think.

Some last thoughts for teachers for students on AI?

- I haven't talked about the ethical concerns at this point because I don't feel super qualified to talk about them. But I do want to say they're out there and it's something people need to think about. Particularly the unauthorized use of data; other data. You know even the AI people don't even know what data they're accessing themselves. So I think that's certainly something to think about. There are people who talk about things like taking over the world or AI without guardrails or things like this. I don't know, I don't have a lot to say there. But, I do think if you're interested in AI, it's good to think about the ethics and explore that a little bit as well.

Well, thank you very much for all of those thoughts on AI in education. And, hopefully we'll be hearing a lot more about AI guess. Thank you.