The eLearning Coach Podcast
ELC 082: A Blueprint for IA Literacy
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Connie: Hello, learning people and welcome to episode 82 of The eLearning Coach podcast. If you've been surfing through the wave of AI webinars, tools, and discussions, you might feel dizzy, confused, or overwhelmed. It seems that for many, the question has changed from "Will AI take my job?" to "What do I need to know so AI can help me DO my job." And I'm guessing you don't need any more pressure or stress in your life.

So, I hope this episode will bring some order out of the chaos for you. I'm speaking with Stella Lee, PhD, who has developed a framework of AI Literacy for Learning and Development.

Stella is an academic-turned-consultant ed-tech and AI strategist. She's also an international speaker, startup advisor, LinkedIn Learning instructor, and technology columnist for the Training Industry Magazine. With over 20 years of experience in digital learning, Stella combines her passion, academic background, and knowledge in visual art, human-computer interaction, adult education, and computer science with her unique global insights for her work with a long list of clients. She is the founder of Paradox Learning Inc. a boutique consulting firm based in Calgary, Canada.

You can find the show notes, a link to the framework, and a transcript at the elearningcoach.com/podcasts/82. Here's our conversation.

Connie: Hi Stella. Welcome to the eLearning Coach podcast.

Stella: Hi, Connie. Thank you.

It was pretty exciting for me to watch your presentation to TLDC because you were the first and only person, I was seeing who was interested in talking about AI literacy, perhaps competencies, and it's such a wild west right now that I love that you were trying to reel it in and everyone's saying, "What do I need to know? What do I need to do?" So, what was the impetus to create a literacy model for AI?

Stella: Yeah, that's a good question and thank you for that. Even though AI has been around for 60 plus years, but I think it's really only a year ago that when ChatGPT launched, it's exploded. And you hear a lot of chatter about it. There's a lot of excitement. But also, every event or every community that I've been to, all I hear is like, "Okay, we need to learn

about this. We need to try to keep up and we need to think about what are the implications to our work. But I haven't really seen a lot of models or frameworks out there to help us think concretely about it. And everything I create, I also feel like, "Well, what do I need myself?" And so, I started playing around with that. And I've done a lot of literacy work in my life. I've done technology literacy.

I was teaching that actually when I started out from university, I taught technology literacy at a college in the US, and I also then start working on a project on media literacy with new media when it first came about. And a couple of years ago, I was working on data literacy. So, I've been always very interested in literacy as something we need to think about more deeply. And so, it just was a perfect moment to say, "Okay, I wanted to create a blueprint, if you will, to help me and to help other people and to feel more empowered about it." I think people feel a bit lost. I think people feel a bit stressed about AI.

I think people feel a lot of anxiety if you will, so this is how I started. And by happy coincidence, I was also asked to create a workshop in August to a bunch of university professors in Europe on how to use AI to teach and research, do admin work. And as part of that, I put together a toolkit, like a field guide. And in it, I also added the AI literacy, and that's the beginning of the framework.

Connie: That's how it started. Yeah. So, you do have two frameworks, one for higher ed and one for learning and development or workplace training. What is the difference between the two? Is there much difference?

Stella: I know, you caught me there. Two frameworks, actually, it's not much difference, but when I started creating it, it was meant for the educators in more the academic settings. But then I realized it equally applies and it's equally needed for the L&D world. But as you know, the two of us don't really talk or there's very little-

Connie: Enough.

Stella: Yeah, enough. It's very, very little sharing. And so, I was afraid that would put people off if I just put this framework and say it's for educators. And if I say in the working really is what I changed, instead of saying, oh, in a classroom or your students, I want to say your staff, your target learners, and instead of saying a seminar, I want to say perhaps you can create

lunch and learn session. So, to make it more friendly and more approachable. And I also want people to say, "Okay, I'm writing this for them."

Connie: Okay.

Stella: I'm still of two minds about whether I should further separate the two because my goal really is to make it as flexible as I can so people can use it in however way they see fit.

Connie: And you're absolutely right. If I would've seen it for educators, I would've looked at it, but I would've thought, "Oh, well, I'm not sure that applies to me." One term I've been using to include everyone is learning professionals. I have no idea if the competencies and literacy should be the same in the end, but right now it does seem like there wouldn't be much difference. So, I get it.

Stella: Yeah, to me, I think it's a work in progress. So, I'm also talking to people like you. I talk to people in the learning community as well, both the academic and the more L&D.

Connie: So how has the model that you've created, how has it evolved since you started?

Stella: So, I really started out with writing about the seven key areas because I've seen some models out there and I wasn't quite satisfied with it. It's too complex or it's not clear enough, and I'm just trying to implement from the implementation perspective. I thought, "Okay, what's something that it's easy to implement and it makes sense?" So, I started with, okay, what are the things we need to know? What are the key dimensions or areas? So, I started with that. And the seven areas are the AI, fundamentals of AI, the history, what are different techniques out there? How has it evolved? Data fluency.

Connie: Step number two, data fluency?

Stella: Yeah. Number two is data fluency or data literacy. I don't want to say literacy again. So, I want to call data fluency just because AI, it's all about data. So that would be the second thing you need to start thinking about. So, AI fundamentals and data fluency, even before ChatGPT came along, I think those are two core areas that we need to have. And then the third

one, I think because of generative AI, all the information and all the hallucination and all of that, that came about, I think critical thinking of that checking become a third very important emerging area.

And then the fourth is about diverse AI use cases. And the reason I put it there is I also feel like sometimes we sit in silos, and we only look from within. We only talk to each other in the learning community. We only look at learning use cases. We only look at how do we apply in certain settings, but we don't look across the board. And as you know, learning technology is not the most cutting-edge things out there. If you look at consumer grade tech, they're usually leaving. And then two, three years later, it trickles down to the L&D world. So, I put diverse AI use cases, hoping people would look outside the box, outside our world, outside immediate applications. And then I have to put ethics. There's no way that we talk about AI without talking about ethics. You can't just create a piece of tech and hope it goes well.

And because the implications AI empathizes even more of the problems, it's not that we didn't have ethics before, but now we have even more problems with that. So that's the fifth. The sixth is AI pedagogy. That's specific for learning professionals in mind because we have to figure out, we understand all the diverse use cases out there. We're thinking about ethics, how are we going to apply that to our work? And then the last one I want to edit with a bit of a looking ahead and looking more broadly into the future. So, it's the future of work. And so that's still the seven key areas right now. I'm open to that changing as well, but it's the balance between keeping it focused, inclusive, and comprehensive, but not overwhelming.

Connie: Yes, it's very nice. It spoke to me certainly. When you think of literacy or a competency, and I know they're not the same, but somehow, they seem like almost two sides of the same coin. How do you think of that? How much should someone know in each area?

Stella: So, the way I think about literacy, first of all, it's not just the knowledge and the skills, but I think also the mindset as well. I think you have to have that to embark on this journey. So now I evolved this framework into, for each of the key areas, let's figure out how do you build it up? So, I put the introductory, the intermediate, the advance, but it's not my intention to say everybody has to hit the advance across all the seven areas. I think that's not useful that way. I think what's more useful is to look at each person or each organization or each group to say, "Well, where are you at?"

Are you starting from, perhaps you're already at the introductory level. You already have read all about AI and you are familiar with different AI techniques and models, and you wondering, okay, what's next for me? But it's also depending on what kind of jobs are you doing, what are you tasked to do, what's your context? Both at the organizational level, a personal developmental level, and also perhaps regional country cultural level as well.

Connie: Yeah.

Stella: And I've been thinking about that too. Perhaps the next step is to help people by developing a self-assessment tool to help them gauge where they're at and then become more of a development plan to say, "Okay, I see this is where I'm at. This is what I know, and I am interested in." And also in my job, I need to develop more data fluency, so that's the area I need to go into. So that's how I see it being applied and used. It's not necessarily everybody hit the highest stage.

And by the way, the advanced stage is really about have a broader community impact. If you look at some of the advanced competencies, it's more about coming up with newer use cases on how do you use it for learning and development with AI tools? How do you contribute back to the community? How do you add, how do you perhaps help critique an AI policy in your organization? So not everybody's aspiring to that, right? Nor do they need to be. But it is definitely a skill you can develop.

Connie: I really like the idea that an advanced level is finding more use cases, giving back to the community, being able to help an organization set AI policy. I think those are great ideas. I realize context is so important, but just in order to generalize, are there three or so areas that you think are particularly important for learning and development practitioners, professionals? For example, like the third one, just really understanding about the hallucinations, the biases. That to me seems extremely important.

Stella: I think obviously the AI pedagogy is important because you and I both know there are many ed tech companies. The products don't even support learning. So how do we as L&D professionals, as learning professionals ask critical questions about it? We need to know enough to ask questions if we're helping our organization say to evaluate an AI learning product. And sometimes it could also be you don't get a chance to evaluate. You've

just been told, "We bought this thing, now you have to use it," which happens so many times in the learning world. And I remember when I used to work at Duke University at the Center for Instructional Design, they just gave us iPods and say, "Well, we've got these iPods. Now you figure out how to use it for teaching and learning."

Connie: Wow.

Stella: And it happens all the time. And so instead of being reactive thinking, "Oh, I don't want to wait until I've been told to use this AI tool to support organizational learning and development," I think now it's time to develop that competency, that skills to think about if we have a task automation tool, how can we use it for supporting learning? If we had a recommendation tool, if we have an automatic content generation tool for video, how are we going to use that to support learning and development? So, I think that's a very, very strong area that I think we should focus on. And the other one, it's very close to my heart, is ethics. And I also think an area that L&D can shine. I mean, nobody's really advocating for that in organizations right now. If we don't own it, you will.

Connie: Good point. Can you describe the competencies associated with pedagogy?

Stella: So, AI pedagogies, it's basically about instead of accepting things at face value, when a tool is branded for learning, for education, for L&D, does it really serve that purpose? Vendors might claim these things, but we need to take it upon ourselves to closely examine that. And same with AI for learning tools. So, to me, there's three levels, if you will, on developing AI pedagogy. Introductory level is, I think we need to know what are the various tools. Not every one of them, because they're huge number out there, but at least broadly, what are some perhaps more popular tools out there? Perhaps supporting different types of learning. Some are for perhaps developing a better learning note-taking skills as you're learning. Some are for translation; some are for summarizing a piece of text. If your ID, you are working with an SME, and they give you a technical document, there are tools out there now to help you understand the technical document, to highlight the key points, to summarize it, to explain the terminologies for you.

So that's one tool out there that you can use. But then we need know that these are the types of tools available. So that's the first level to recognize

what's the current landscape out there. And also, to recognize not just the benefits, but also limitations of these tools. So that's the first level. And then once you think you accomplish that, then you might start one or two test and pilot these tools. So, get your hands dirty, really unpack and dig into it. Perhaps you also wanted to develop your own or with your organization some evaluation metrics to assess these tools to see are they effective? Are the claims substantiated? Is it meeting your specific learning needs?

Are these tools meeting industry standards? Are you collecting stakeholders' inputs when you're looking at these tools? So, these are perhaps a second level. And also recognizing, are they making any assumptions about the way we learn by providing you this tool? Are they making any assumptions about the learners and any learning process or learning theories? Are they using anything like that? And then the third level that what I call advanced. Again, not everybody needs to achieve that or aspire to that, but moving on is that perhaps you can add to the use cases of what are some new ways, is this tool really transformative in the way you do L&D? Is this really transformative in supporting and catering to the learner's needs? And also, perhaps you can start formulating your own guiding questions that others can use in evaluating such tools. So again, the third level, it's about furthering the field. It's about adding to the conversations. It's about collectively, perhaps we have a deeper understanding.

Connie: Nice. Okay. Would you mind going through one more? And that would be the ethics, the three levels for that?

Stella: Sure. For ethics, it's something I've always been paying a lot of attention to throughout the years. About 12 years ago, there's a book that came out called Machine Ethics. And it's actually, not only is it still relevant, but I also think it's even more relevant today than before because I think about 12 years ago, they talk about all the newer technologies that are coming in. And now it's like, yes, the risks and the challenges are still there, and also the risks are greater and broader. So, I think the first level, again with AI ethics, it's to just recognize what are the risks. Some are perceived, some are real. And also, there's so many conversations about whether AI is the end of humankind. So that's the much more far-fetched. But then closer to home, they are risks that are real and immediate. So, understand their different types and categories of risks and what are the various conversations out there, because it's very divided now.

So, understand the debate on that. And there are biases in the data sets depending on what you collect and feed the training data. It could be biased because if you're only collecting it from North America and it's very North American centric. A good example somebody gave me is he uses ChatGPT to do customer service training. And this guy is based in Europe, in a French-speaking part of Europe, and he's like, ChatGPT, when I complain about something in a restaurant, didn't get the dishes correct. They said it immediately apologized, immediately trying to offer me free dessert. He's like, never happens in the French-speaking part of Europe.

And so even these nuances, we don't think about it because we live in North America. Of course, if you complain, they will give you free dessert.

Connie: Fascinating.

Stella: So, I think even understanding there are cultural differences so that those are built into the assumptions in the systems. There's also the aspect on surveillance and misinformation and perhaps even the job displacement is an ethical concern. So that's the first level is to know all these things out there. And also, what are then some principles associated with that accountability. There's a lot of talks about explainability, explainable AI. What does that mean? You hear that it basically means a lot of times this algorithm, how it arrived, the decision is not open for human users to reveal them, to change them, to audit them, to update them. There's a lack of transparency when you use these systems.

So, we need to know, first of all, what does that mean? And second of all, what has been done about it? How can we assess the risks? Are we able to these specific systems? And what are some use cases out there? So that's the second level is to start looking at these issues more closely, but also at a more global level because ethics is very culturally dependent as well. Maybe we have a higher tolerance or lower tolerance in privacy concerns. Some countries don't care, some countries care more. And so that's also looking at it at a global level. And again, the advanced level is if there's an interest, you can start contributing to that conversation. You can start adding and helping, for example, Canadian government, it's always doing consultation with citizens about AI, and they're always collecting public opinions. You can sit different committees and you can read about these policy documents.

You can put your feedback through them. So that's like the advanced level you have the inclination, and the interest is to, again, giving back and perhaps that mentioning about these cases to educate people, to mentor others with your organization. You can say, "Well, do we have any policies on that? Can we draft them? Can we use some guidelines? Can we audit these systems?" So that's AI ethics, and it's very tricky when it comes to dealing with learner data, user data, when that data that you collect say on how people learn. And if that's connected to perhaps the developmental plan, that's an issue. That could be a privacy issue, which could be a surveillance issue.

Connie: And there's another one that we discussed before the podcast started, which was the ethics of taking other people's art.

Stella: That's right.

Connie: That's a whole other area. We have to get that settled before I feel comfortable using an AI graphics tool.

Stella: The US Copyright Office still doesn't have a very clear definition on how to protect the copyright. It's very vague. Even say, oh, if you're collaborating with AI, let's say on a graphics novel, you wrote the text, then the text part of it could be copyrighted, but it's never so clear cut. You don't just write a text and not perhaps getting some input from AI. And perhaps you don't just create graphic novels without some input from human to improve on a graphic. So, when it's mixed in, then does that mean you can have copyright protection?

Connie: Right. In the world of politics and governing, it just seems like it's very often the case that the people who make those laws and rules and regulations don't understand technology. It's very, very difficult. I know we're running out of time. I do have one more question.

Stella: Sure.

Connie: How do you envision people using this framework? It's going to get out there, people are going to look at it. What are some ways that you think people can use it so that it can apply to their world and be helpful to them?

Stella: I'm super curious, honestly, to see how people are using it. I think it's so early on. As I mentioned before, I want it as flexible and as adaptable to

different circumstances and contexts as possible. For individuals, I like people to use it as a self-assessment tool to start with, and a bit of perhaps a personal development plan to say, "Okay, now based on my interests and what I need to do for work, this perhaps is an area that I can get started." And I start putting some resources and activities where each area.

Connie: That's great.

Stella: My hope is to build that out. I'm even thinking about crowdsourcing that part because there's just so many good ideas out there, and so many people know so many different resources that I don't know. So, I'm thinking about crowdsourcing that. And so that's one way of how I envision using it. And AI is ever evolving, so I can't say this is the end. Even technology literacy, what we deem technology iterate a few years ago has changed because technology has changed and our understanding of technology has changed, our usage of technology has changed. Is it still tech literacy to know how to write a CD? No.

Connie: Right.

Stella: Yeah. So, I think there's not really an end to it, but it's to balance what we can use right now, but to just keep it relevant as things change.

Connie: Well, thank you so much for your time and for putting the hard work and effort into this literacy model for AI. I think it's going to help a lot of people.

Stella: Thank you.

Connie: A lot of academics and a lot of organizations. So can't go wrong.

Stella: Thanks. It's been fun. So, we'll see.

Connie: There are a few things I find very helpful about this thoughtful framework. First, that it brings order to a tsunami of information about AI. Second, that it shows how important it is to understand the flaws of AI before jumping into the tools. Third, that it brings ethics into the conversation and finally, it becomes clear that not every person needs to learn everything. Rather, each individual should consider their unique work situation, talents, and interests and find a few areas of focus.

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