

## The eLearning Coach Podcast

### [ELC 059: How Chatbots Can Support and Enhance Learning](#)

Connie: Hello learning people. Welcome to episode 59 of The eLearning Coach Podcast. Are you doing enough to adjust to the 21st century workplace where the pace of change is rapid, and skills need continuous updating? One way to enhance and support the modern learning journey is with chatbots. In this episode I speak with Vince Han about the power of chatbots for learning and support, and the ins and outs of designing the conversational interface.

Vince is the founder and CEO of Mobile Coach, a chatbot platform for interactive engagement, intended to positively influence learning and behavior change. He is an industry thought leader in learning technologies and often speaks about artificial intelligence and chatbot technology. You can find the show notes and a transcript at the [elearningcoach.com/podcasts/59](http://elearningcoach.com/podcasts/59). Here's our conversation.

Hi Vince. Welcome to The eLearning Coach Podcast.

Vince: Thanks for having me, Connie.

Connie: Yeah, I'm excited to talk about chatbots. To make sure we're all on the same page, can you explain what a chat bot is and how it works?

Vince: Yeah, you bet. The basic definition, it's a simulated conversation with a computer. Chatbots can take many, many different forms, but basically when you're chatting with a computer, whether it'd be on a website or through a mobile device, that's technically called a chatbot. And the way that it works is that companies or organizations that want to build chat bots, or any individual for that matter, you envisioned up, hey, I want a computer to talk with people.

And so commonly you might have chatbots helping with customer service in a website, or you might have a chatbot that's smart about helping you lose weight and giving you some tips on that. You might have chatbots coaching you in a corporate environment. Lots of different use cases, and that's a little bit about how chatbots work.

Connie: Great. By the way, how did you get into chatbots?

Vince: The short answer is that about seven years ago, I was really interested in what technologies could help people with a personal goal, like whether it'd be weight

loss, or trying to save some money, or your basic new year's resolution problem where I create an important new year's resolution on January 1st, but two weeks later I've given up on it. You know that classic human behavior problem that we all can empathize with at some level?

Connie: Yes.

Vince: And so, I was really interested in the self-help tools, and in my research, I found that the number one problem is keeping people engaged in a conversation about whatever they're trying to work on.

And that's when I started discovering that, hey, chatbots and this ability to like mimic messaging, is probably the most effective way to keep people engaged. Because, let's face it, I ignore a lot of the messages that come in, emails, push notifications, we're just inundated with these messages. But if I get a text message from a friend or a family member, I'll never ignore that.

And so, it was this idea of, well, if a chatbot could mimic that, then it could always get someone's attention. And that's what got me started on figuring out how to create a chatbot, and could a chat bot be as engaging as chatting with a real person?

Connie: That's interesting, because I forgot that chatbots can send text messages. What other platforms can they work with?

Vince: Yes, a chatbot can send text messages, it could send Facebook Messenger messages. Around the world there are lots of messaging apps like WhatsApp or WeChat. Your audience is probably scattered everywhere, and they'll be familiar with different messaging channels, if you will. Any channel where someone can send you a message, you can create a chatbot to send a message as well.

Connie: I see. I know that many of the chatbot conversations are pre-programmed, but I'm wondering if many of the chatbot platforms have the capabilities to use artificial intelligence. In other words, to learn from audience responses.

Vince: Artificial intelligence, so much of that is a marketing term. And so, everyone building chatbots will say they use artificial intelligence. From a dictionary perspective, artificial intelligence is just computer automation. So, from that perspective, yes.

From the more general, what people are really asking is, is a computer thinking on its own and having a conversation on its own? The real answer is no. Any chatbot that you're interacting with, even though it feels automated, has been programmed in some way. I think we're still years away before you're going to have a chatbot that we see in the movies, like Jarvis for Iron Man.

Connie: Right. However, when I think of AI in chatbots, what I think of is, I realize the conversation is programmed, but can it learn, can it come up with a combination of feedback or response that was not originally programmed in there?

Vince: So, there are different of sophistication around that idea of the chatbot learning on its own. So, the first step is, can it learn what common responses are to a specific question, or common inquiries are, and then build on, from a predictive perspective, how are users going to interact with this chatbot that I've built? That's phase one.

Phase two would be, can I learn enough from those interactions to do something with it? And I would say that technology today is pretty good at that first one of being able to track hundreds, thousands, maybe millions of responses to a chatbot and then being able to categorize it and be predictive around that. But still to take all that data and have the chat bot be intelligent to automatically make decisions based on that, I would say that we're not there yet.

Connie: I love the word predictive. That's really the term that I was talking about. So, Vince, how can chatbots be used for support in the workflow? Meaning, how can they be used to support a task like we're used to saying job aids do?

Vince: Yeah. I think that there are two immediate answers that come to mind. The first is so much of supporting, learning, and the workplace is things that are repetitive, right? You're going to have new hires, you're going to have a changing environment in terms of, so much of the work that we do in today's 21st century is dynamic. And so, when you're supporting that, you're answering the same questions over and over and over again.

So, what a chatbot does really well is automate that repetitions to save you time, as well as to provide immediate answers to your target audience. The second big value of a chatbot in terms of workflow, is a more frictionless path to that job aid.

And so, traditionally what I see is organizations spend all this time investing in these wonderful job aids. They're effective, they're thorough, they're easy to read, or if they're videos, they're so great. It's so easy now to create compelling, easy to follow videos, but the problem is, how do you get people to that job aid when they need it?

And a lot of times organizations will say, well, you just have to log into the internet and come to this LMS, and by the time people are at it, there are five, six, ten clicks before they can access the job aid, and whether they like it or not, that's just five or ten clicks too many.

And so, what's great about a chatbot is just pick up your phone and you're just asking you a question, hey, how do I do this? And they get the immediate answer in that frictionless way, I think is, to me, one of the most exciting value propositions of the chatbot.

Connie: It really is. I've read that knowledge workers spend way too much time trying to find the information they need because it's not easily accessible.

Vince: We certainly see that anecdotally, that's really important information for someone that's championing a program to help an audience progress, and to develop. To be able to focus not only on the quality of the content, but the accessibility of the content, has to be part of the solution in my view.

Connie: Yeah, that's a really good point. It's not just the content, it's people being able to find it quickly. On a similar thread, have you seen how chatbots can be used to enhance learning?

Vince: I love when people that are learning experts will say that learning is a journey, and it's so true when I think about how I learn things. You can give me facts and figures to learn, and the older I get, Connie, the more I need to review stuff over and over again to really get it. But perhaps more importantly is if I think about learning skills and learning competencies, that definitely is a journey.

Connie: Right.

Vince: And part of the, I think, the important shift in the 21st century is this understanding of, to build a technology infrastructure that mirrors how people really learn, which is to say that traditional method of go sit in a classroom and

all of a sudden we hope you'll magically become good at skill A, that's just not reality.

And so I think that what a chatbot does really well is that if you say that part of that learning journey is a conversation, it's a conversation with yourself, it's a conversation with peers, it's a conversation with mentors, and it can be a conversation with a chatbot from the beginning to the end of that journey. To me, it's a great way to think about how a chatbot adds value to that learning journey.

So, in that learning journey from when you're introduced to concepts, to when you're practicing them, to when you need clarification, to when you need feedback, the chatbot can add value throughout that whole time. And of course, in the learning journey, we're really busy.

One of the biggest threats to the learning journey is that you stop doing those learning activities, because when you get back to your desk after a training, you're inundated with hundreds of emails, and habits, and all this other stimulus. So, having a chatbot break through that, and hold you accountable through that learning journey, I think, is a really wonderful value to what a chatbot brings to the learning experience.

Connie: That is so true. Can you give me an example of how you have implemented that or seen it implemented?

Vince: Yeah, so the work that we do at Mobile Coach, it's two fold. We have a chatbot authoring tool. So, if someone says, hey, I've got an idea for a chatbot, you don't need an engineering degree to be able to build one using our platform. But what we do a lot of is help people that are creating learning programs figure out how to create an effective chatbot.

So, we've rolled up our sleeves and we've done a lot of work around different learning initiatives. So, here's a use case, let's say a new manager onboarding curriculum. So, a company, every time they either hire a new manager or promote someone, put someone through some training, and that training could be classroom training, it could be e-learning, it could be informal mentorship or all of the above in a blended approach. So, I think all of us can imagine that.

Now, a great example is a chatbot being introduced to be the concierge through that whole blended learning experience of that program. So, a chatbot introducing that new manager to say, hey, remember we have this orientation, congratulations on your new manager job. Remember orientation is a two day training. It's this date. Remember to book your travel and blah, blah, blah.

And then after the training is done, say, hey, way to go to finish this training. We covered eight different competencies. I'm going to help you master them or review them, which one would you like to review first? And so, let's say that new manager says, hey, I want to work on my listening skills because I really want to make sure I'm strong with my leadership, and the chatbot could say, oh great.

And so then over the next two weeks we'll give them reminders, activities to do, nudges, hold them accountable to really being contemplative about it. So, that description of what the interaction is like is a very classic example of a chatbot in a learning environment.

Connie: Great example. I find it very attractive, because it's a way to tie together the holistic learning journey that, I think, is going to be a lot more common in the decade to come. And all of this is occurring through text, is that correct?

Vince: Well, that's the beauty of a chatbot. In many cases the answer's yes, but it doesn't have to be. That conversation could be embedded in a pop up widget on an LMS, because some organizations would say, yeah, I could see the value of a chatbot on a mobile device, but our audience are not allowed to have mobile devices, let's take a hospital where people have to turn off their phones, or maybe drivers, or people on a manufacturing floor.

And so, while the mobile device is a really common channel for that type of use case that I described, it doesn't have to be the only one. You can have it on a webpage or a website as well.

Connie: Sure, makes sense. So that's the concierge version of using a chatbot, and it's a beautiful thing. What about delivering a learning experience?

Vince: We're seeing more and more of that, Connie. If I put my futuristic hat on, I would say as the years go by, you'll see more and more where we will trust chatbots to actually deliver the training. And part of the challenge is that, of course, we're so

tied to how we do things now, so what we do is we create e-learning, what we do is create classroom training.

As organizations mature, and as, of course, our workforce is becoming more and more digitally savvy, you will find that you can really get some effective delivery and training through a chat bot, and you can do storytelling through a chat bot.

We have seen some projects where people are delivering basic content, let's take a 30 minute compliance e-learning, for example. That's not a whole lot of content. So, you can imagine a chopping up that content, and instead of having slides and a pre-determined 30 minute sit down session, break that up into a conversation over a week or over several days.

We are seeing some people create chatbots around that type of delivery that are working very well, and I think is big part of the future of chatbots.

Connie: Is there any research yet on how chatbots affect learning?

Vince: I haven't seen anything really rigorous. I haven't seen anything like an IRB peer review type of research. We've participated in a lot of informal AB testing type of projects with our clients who want a stand up chatbots and are trying to find or justify some ROI on investment to put them together.

And every time we do that, we really see a positive correlation between the type of engagement that a chatbot can bring and the goal of that engagement, whether it'd be speed to knowledge mastery or competency around a certain soft skill. We always see positive results, but we would love to see more formal research around that. If anyone in your audience is interested in that from an academic perspective, we'd be very interested in supporting it.

Connie: Nice. I mean, I do get emails from people once in a while who are working on dissertation, so if anybody's just about to start, contact Vince. In so many ways chatbots makes sense, because with a chatbot it's most likely easy to have space learning, to have retrieval practice, to have so many things that make for effective learning. How does the target audience that you're using chatbots for respond to them?

Vince: The bottom line in answering that question is, do the messages feel valuable to me? So many sources are trying to get to us. More and more, unfortunately, we

get a lot of unwanted automated messages. And so, you want to make sure that your chatbot doesn't belong in a bucket of unwanted messages.

The example I always like to give is, my dentist's office likes to send me automated messages reminding me of my appointment. And those messages, they don't come in a very friendly way. Oftentimes there's these weird characters in them, and it says, hey, your appointment is tomorrow at 2:00 PM. And for some people appreciate those messages, but for me, I'm a pretty organized person so I know my dentist appointment's tomorrow, right? I don't really want to get those messages, so I opt out of them.

So, you need to make sure that those messages, they don't feel spammy, if that makes sense. And so, when we find that organizations take care in making sure the messages feel valuable, we find that users, even though they know the messages are automated and coming from a computer, they really do appreciate, not only put up with them, but actually appreciate.

And that's really the standard you want to get to when you're designing a chatbot for learning.

Connie: What are some guidelines you can give people if they are thinking of designing a conversational interface?

Vince: I would say a couple of tips would be, one, don't try to overreach in the design. So, my example earlier on, people do watch movies, and AI is depicted a lot in movies in a very unrealistic fashion. It's so common for people who are designing their chatbot for the first time to try to mimic what they see in the movies, and that's just not going to work.

And so, you have to take a very practical approach. And so that would be my first tip. The second one would be in my own day to day conversations with the people I'm supporting, what do I find myself repeating most often? Which is a great indicator of what people are wanting to know. So, you take that content and just try to make it as elegant and as smooth as possible.

So those would be two initial tips that come to mind. And of course, there are many others, but it really depends on your audience, the demographic of your audience, the nature of work. If somebody is in front of a computer all day, or

someone's like an outside sales rep and on the road all the time, the user experience could be drastically different depending on that context.

Connie: Is it typical to create the chatbot conversation and then over time you have a stored reference to go back to, and then you improve it. Does it involve a lot of prediction and continuous improvement?

Vince: I would recommend that when you start your first chatbot project, that you take what we call a guided chatbot approach. Think of it more like buttons where the chatbot's saying, hey Connie, I can help you with three things, A, B, or C, which one can I help you with? Rather than, hey Connie, how can I help you today?

That second one, yes, you can build it in a way where it can be predictive and get smarter over time, but you know what? You're not going to have the opportunity, because, especially in a corporate setting, people don't have much patience for the time it takes for a chatbot to get smart, and so that project's going to get shut down pretty quick.

And so, a guided approach so it lets you control the messages, it reduces the likelihood that the chatbot's going to stumble, which also means that you're going to have a better qualitative user feedback experience. And when you're building a chatbot, you're usually building it because you have a very specific use case in mind, so you actually know the content that's going to be most relevant and you can guide people through it.

That type of chatbot design in 2020 is going to yield a lot more success.

Connie: That makes sense. I'm assuming that there's a way to see how people have responded.

Vince: That's actually an essential part of any chatbot project that anyone wants to run, regardless of what chatbot tool or authoring environment you decide. You absolutely have to have access to that feedback loop. Because, let's face it, most people when they're building a chatbot, they're doing it for the first time. And so, you're going to have a set of assumptions, many of which will be right, but some of it will not be right. And so, you're going to have to make some adjustments.

And the chatbot design process should be very iterative, and that iteration has to be informed by real data. And the data could be quantitative, it could be, hey, if I send this question at 9:00 AM on a Friday, only 20% of the people answered it, but when I sent it on a Monday, I got 80% of the people to answer it. And that's very informative.

You could also have qualitative data by having the chatbot to say, hey, Connie, I've been chatting with you for the last month, which messages have felt the most valuable? Which messages have felt like a waste of your time? To get that feedback in and then make adjustments along the way is absolutely critical.

So, our platform absolutely has this whole reporting dashboard that allows you to see that feedback, both the quantitative and qualitative feedback, and make adjustments. Any chatbot authoring environment you choose should give you that ability as well.

Connie: In some ways it reminds me of the guidelines that you need for scripting an audio or video script, and that is the tone has to be appropriate for the audience, and the mission, and the use case.

Vince: Yeah. That's such an important point, Connie. I think tone and personality really have a huge impact on the psychology of the user experience. And you don't have to overthink it, but it shouldn't feel robotic. And yet on the other hand, you shouldn't try to trick the user to say, hey... What I find in corporate based chatbots is that you shouldn't try to ever have the user wonder, is this a person or is this a computer?

But if you're building a chatbot, maybe that's targeting a new hire population where the population is the first job out of college, that tone can and probably should feel very different than creating a chatbot for senior executives, for example. And so, to take some real care and thought about what that tone should be is, I would agree with you, a really important part of chatbot design.

Connie: Yes. And I personally enjoy when a chatbot says that it is, I mean, in certain terminology, this is an automated message system. And also, I like it when it's friendly. And sometimes they will even make jokes that will make me smile. On the other hand, if this is a website about diseases, you'd want a sympathetic tone. So, it's pretty fascinating, isn't it?

Vince: Yeah. We are consistently surprised by things that we see. People know that they're interacting with a computer, they absolutely know it. They know the messages are automated, and yet if we give someone an emoji, or a thumbs up, or a funny little gift, they will send back, thank you, or have a great day. So, putting in this conversational emotion-based piece to the chatbot conversation, I think, it's great. It's fun for people.

Connie: So, just one more question before we wrap up, Vince, and thank you so much for all that you've given us. What do you think is the future of chatbots? Can you give us some trends that you've seen and where you think it's going?

Vince: The real value of a chatbot is in this idea that what a chatbot really is, it's a user interface for a conversation. And the smarter that a chatbot can become, the more valuable those conversations can become. And so, the real future of chatbots is really being able to plug in to the chatbot's brain context about me.

If you think about the internet of things and the whole infrastructure around the internet of things trend, that's a very good analogy to the future of chatbots. So, the more that a chatbot can understand about where I am, about who I am, the more relevant the types of messages that a chatbot could send to me.

So, imagine like today, if I had a chatbot that could say, hey... 30 minutes before you and I got on the phone, Connie, imagine the chatbot automatically sending me, hey, remember, here's your meeting with Connie. Here's a link to who she is. Here's a reminder of the notes that you took when you chatted with her last time. Here's her favorite color. Here's some things that you could compliment her with to get on her good side.

And so that those are maybe funny examples, but to get the point across, the smarter a chatbot could be about context, the more valuable they're going to be. And that's just going to open the floodgates to just making life more automated, easier, making us more effective, and hopefully making us better human beings.

Connie: Yeah, great point. And I can almost imagine at work, the chatbot checking someone's calendar first and saying, whoa, it looks like you've got a busy day, I'll be fast.

Vince: Exactly, yes. Exactly.

Connie: The purpose is to support people in ways that will help them to be more effective.

Vince: Absolutely. Yes.

Connie: That's great. Thank you so much, Vince.

Vince: It was a pleasure, Connie. Thank you for having me on.

Connie: I hope you found this episode valuable. As the industry comes to think about learning as a continuous journey, I think chatbots can serve an important function along the way. Are you using chatbot technology or thinking of using one? Please share your experiences and thoughts at the [elearningcoach.com/podcasts/59](http://elearningcoach.com/podcasts/59), that's the number 59. That's also where you can find the show notes and transcript.

That's all for now. Take care, and I'll talk to you next time.