

Learning Uncut Episode 48
Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars
Hosted by Michelle Ockers



Michelle Ockers:

Welcome to Episode 48 of Learning Uncut with our guests Rachel Horwitz and Trish Uhl.

We discuss a complex, cross-discipline global initiative related to traceability of products and materials across the supply chain at Mars. This initiative commenced in August 2018 when Rachel was leading one of the colleges at Mars University. Trish is a learning and performance consultant with a background in IT and business readiness. She was engaged on this initiative to bring these various strands of expertise to bear in order to devise the learning and change management strategy. Trish introduced the approach of learning engineering to this program. Perhaps, like me before working on the episode, you've not heard of learning engineering before. I'm going to leave it to Trish to explain what that is and why it was especially well suited to this initiative. You'll hear the penny dropping for me on this around three-quarters of the way through the episode. Be sure to check out the conference presentation pack from Rachel and Trish in the show notes. It includes a diagram of the disciplines that form part of learning engineer.

What stood out to me was the way that both data and human-centred approaches were used alongside each other to support behaviour change. I also really applaud the practice early in the project of going to where the work happens. Trish called it 'going to the Gemba' which is a Japanese word meaning 'actual place.'

Now get ready to take notes – you are bound to find something I this discussion that you can use in your work. Enjoy listening to this episode.

Michelle Ockers:

So, we have Trish and Rachel joining us from the United States today. Welcome to the podcast Trish.

Trish Uhl:

Hey, Michelle, thanks so much. Thanks for having us.

Michelle Ockers:

And Rachel, welcome.

Rachel Horwitz:

Hi, Michelle. Thank you excited to be here.

Michelle Ockers:

I'm excited for this conversation. This is a special conversation in a number of ways. One is because we're going to be introducing something new in ways of working for learning professionals listening to the podcast, but also with the exception of JD Dillon who snuck into an episode on conferences last year, this is our first overseas story for Learning Uncut. So, I'm very excited to be truly going global and looking for the best of stories, case studies and examples to share with people from around the globe. So excited that you could be here as my first international guests. Thank you for that.

Michelle Ockers:

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

So today this story is about some work that was done at Mars and Rachel, you were working with Mars at the time. So, I'll kick off by asking you to introduce us to Mars. People probably think they know who Mars is. We've all probably had some contact with Mars brands and products. Can you talk to us to fill in the picture for us about who Mars is, the workforce, where they're located, and what sort of products you supply to the market?

Rachel Horwitz:

Sure, absolutely. It's also interesting because oftentimes in the US, I usually preface by saying I work at M&M Mars, and then people go "Oh, M&Ms, yeah, yeah." But in other places around the world, I just need to say Mars, and then people are like "Oh, yeah, yeah, we get it." So interestingly enough, Mars is a global company, the third largest food manufacturing company in the globe. It is a privately held company. So, it's still family owned by the Mars family - actually fifth generation now. And many people do think of Mars as the company that makes our beloved Three Musketeers and Mars bars and M&Ms, but truly it also is a very large pet food manufacturer. And some of our brands there are Pedigree, Whiskas, Irons, Eukanuba and a variety of other brands as well as pet food. And it also is a pet services organization. So another element or segment within Mars is around our pet services, our veterinary health. We have some DNA kits for your pets. We have partnerships with large and small veterinary health clinics around the globe. And it's also a big part of our organization as well.

Michelle Ockers:

So your manufacturing operations are distributed globally, right?

Rachel Horwitz:

Yes, manufacturing operations in about 140 sites located around the globe.

Michelle Ockers:

And what size is the workforce?

Rachel Horwitz:

About 100,000 associates - we call ourselves associates at Mars

Michelle Ockers:

Tell us a little bit about Mars University - who they are, what they do, what the role of the university is in the organization.

Rachel Horwitz:

Yeah, so Mars University is in fact our learning function within Mars and it is set up as a global corporate University. So it is set up across 11 colleges. There is a finance college, a marketing college, a HR college, and then there is a leadership college. All that look, all of the individual colleges report primarily into the function with a dotted line into our Chief Learning Officer. They are focused on global competency and capabilities for associates across the globe. So, where we can be consistent in establishing consistent capabilities, consistent competencies for the functions, we develop content and curriculum to support those capabilities.

Michelle Ockers:

So they work in separate business units. Are they in separate physical locations as well? How decentralised is it?

Rachel Horwitz:

It's actually mostly a virtual University. So we do have I would say now, we're about 50% of our content is our curriculum is digital. And 50% is classroom based that usually is delivered

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

on site or in the various regions, but we do not have a training site or training organization, anywhere within Mars, actually.

Michelle Ockers:

Thank you that helps to set the context for the discussion we're about to have. And Trish, could you introduce yourself, you know who you are, what type of work you do, what drives you in the learning profession, and then we'll start exploring where you fit into the story as we progress through from that foundation of understanding a little bit about you.

Trish Uhl:

So I'm Trish Uhl. I'm the founder of Owl's Ledge. Owl's Ledge is a consulting firm and I am a consultant. Owl's Ledge is actually a play off my surname, Uhl, which in old German means wise old apple. And just a quick fun little story there. I didn't actually come up with the name Owl's Ledge. My mother did. She had a business in the 1970s that had nothing to do with corporate training or with learning and performance. But she was the one who came up with the name. And then my father was the one who actually drew the little owl that's my logo for my mother back in the 1970s. And so when I started a company in 2003, it just made sense for me to use the family name. So it served me well because I've have pivoted many times, I've done many, many things over, geez, it'll be 17 years this year since Owl's Ledge was started.

Trish Uhl:

My background is in Learning and Performance but actually came up through the IT function and not through HR. The reason why that's relevant to this conversation is it has to do with why it is that Rachel ultimately wound up bringing me into Mars at the time was because I have a background in IT business readiness. And basically what that means is three work streams at a strategic level and then also down to execution. How do we take change management, communications and training on large global initiatives, and actually run those together as integrated disciplines in order to be able to advance change with people and with the organization? And, as we'll talk about today with the initiative at Mars, they didn't have that kind of cross functional capability, like what Rachel was just talking about with corporate University, is that pretty siloed and very much embedded in the business. What we also found was that the business also had training resources that were very localized. But you didn't have that cross functional capability of, you know, supply chain as an example, necessarily being integrated with digital technologies or, you know, so on and so forth. So it was an effort to bring somebody in with that kind of experience to be able to support Rachel in her lead role.

Michelle Ockers:

You talked about integrated disciplines there and I think the idea of integration and working cross functionally is really important and in a very structured way comes out, will come out in the story today. So thank you for laying the foundations. I want to shift back to Rachel now and ask a little bit about the challenge that we're going to be talking about today. The challenge is about traceability and anyone listening who's worked in the food industry, I think will have a sense of what traceability is about, but Rachel if you can introduce us to what traceability is and you know why it's important and how it impacts Mars?

Rachel Horwitz:

Yes, absolutely. So, traceability in essence is being able to trace our products and materials from farm to fork. So when you think about cocoa, or you think about your pet food, everything from where it comes from, to how it gets into our factories, to how it's being made, to then where it goes even ultimately out to the pet store, or the convenience store, that it's being sold and then ultimately into somebody's home. And so we want to be able to

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

we want to be able to trace all stages of the process and the materials from start to finish. This is important that Mars because of variety of challenges we face possibly whether it's related to recalls of food product, government regulations changing and needing to understand various starting points of where our ingredients, how they're made, where they come from, based on regulations. And even also for from a sustainability perspective. Mars is actually very focused on sustainability and being able to understand the evolution or revolution of our products in a sustainable nature was a lot of the key aspects that lead to wanting to create a consistent approach to traceability within Mars.

Michelle Ockers:

So Rachel, this is something clearly that is impacted. Not only all 100,000 Associates at Mars but in a quite a complex way everybody involved in supply chain. There's a lot of parties involved right.

Rachel Horwitz:

Yes, there are a lot of parties involved - everyone from the farmers to the logistics people driving the truck to our employees or associates to our, to the convenience stores and those that eventually even eat the products as well. So it really is a full cycle impact of everyone who touches our products.

Michelle Ockers:

So Mars clearly already had traceability management in place, Rachel. Why was there a need to do something different through the initiative we're talking about today?

Rachel Horwitz:

Yes, Mars had always placed a very important aspect to traceability, but it hadn't been approached in a globally consistent manner. So traceability was done differently at the different sites on 140 different sites differently across the regions and even across the segments. So there were there was an opportunity to be much more efficient. Mars looked at traceability as that key opportunity to be able to do that in a more efficient manner.

Michelle Ockers:

So give us an idea of the initiative. Talk to us about the overall initiative, because the work on the learning and change management program was one part of a much bigger initiative here that miles undertook.

Rachel Horwitz:

Yes. So the initiative itself was to really streamline the processes, the systems and the roles as it related to traceability across the organization. So it was bringing a consistent system into place that would be able to track it, bringing consistent global processes into place that could be enacted, as consistently as possible at each site and even understanding what are the roles and responsibilities cross function. So from procurement to R&D, to the supply chain, and helping to establish consistent clear roles and responsibilities across all of those.

Rachel Horwitz:

The Learning and Development piece actually kind of was a wraparound to all of those because it was being able to develop new skills, new knowledge, new ways of working, due to having new processes systems and rules and ways of working.

Michelle Ockers:

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

I think Trish, you set the context really nicely for why you're engaged to work with the team on this. Was there anything you wanted to add to what Trish talked about earlier around the range of expertise, the need for integration, you know, the college structure that you spoke about Rachel, any other triggers for engaging Trish to support the learning strategy and change management components of the initiative?

Rachel Horwitz:

Yes. So at the time, when I was at Mars, my role was to lead learning and development globally for digital transformation. In essence, that was our digital technologies, our IT piece. I immediately thought of bringing in Trish because of her expertise in overall IT but also in analytics. And when I thought of how are we going to be able to measure the impact of learning, and be able to really demonstrate how we can add value, this was the project to be able to do it, I knew that we would be able to truly provide some analytics as to the performance and outcomes of the people doing their work differently. And we could directly attribute it to some of the learning that we put into place, which isn't often our case, within Learning and Development. It's often a little bit more nebulous than that. And this was a real way to be able to say, look at the performance, look at the learning to be able to analyse where people are succeeding and where they might be falling down, and how to then create mitigation or other learning and development initiatives if needed, ongoing.

Michelle Ockers:

When you talk about data, of course traceability is very data rich and very data reliant as well. So it's almost like a natural opportunity to look at how can we use data effectively to support performance and to support learning as part of that as well. So Trish, tell us about - we haven't talked about timings yet. So maybe if we get clear on that as to when the project was kicked off, and Trish then when you were bought in and how you started. So if we start with Rachel, when was the project kicked off?

Rachel Horwitz:

The project was kicked off around August 2018. And Trish came on to the project at in October 2018.

Michelle Ockers:

Okay, so just two or three months. Trish, tell us about what happened when you started - what stage were things at what did you see how did you get your work underway?

Trish Uhl:

So a couple of different things. Rachel's done a great job setting the foundation of the scope of the project. But what about the implications of the project? Right? So how was success going to be measured? And what was the impact on the on the workforce, and you brought up some great points, Michelle. And that is, it's all about data. So traceability, track, and trace is all about speed. It's all about being able to respond at speed. And the only way that an organization can respond at speed to any of the shifting global conditions is to have the right information at hand. And not only to have the right information in the right systems at hand, but to have it at that point of work in that moment of need for the people who need to be able to access it to make some kind of a critical decision. And so really, what it came down to, what traceability was and the impact on the workforce, was that now you had people in different parts of the business that weren't used to handling information or data. And what the big thing about any traceability project for any type of organization is having access to the information and the systems because a human being actually took due diligence to enter that information there.

Trish Uhl:

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

And as Rachel said before, it's not that these things weren't happening, they were happening, but it was how do you make it more efficient? How do you make it faster? And especially if we're changing the technology systems that people are using all the way down to the front line, right, so you're talking about operators in a factory. So you know, in a factory setting, you're talking about warehouse employees that are moving goods, because I think you can also appreciate this Michelle, with your experience at Coca-Cola, it's not just the ingredients, right? The actual raw materials and the finished goods, right. So the actual food stuff and in this case, whether we're talking about people food, we're talking about pet food, but it's also the packaging and the containers that that food is in. All of that has to be handled with due diligence, right. So all of those physical products, whether we're talking about a bag, or we're talking about a box, but anything that's got contact with that actual food item, and then the ingredients and then the food itself. Now people in this setting in food manufacturing have an appreciation and an understanding, and of course with the pride that I saw with every associate that I interacted with it Mars in being able to do their level best to handle the food and the physical goods in a safe way.

Trish Uhl:

We now under traceability needed to have them have that same level of attention and due diligence to the information that accompanies those physical goods as well. And I think that's so much of a signature of digital transformation, regardless of your organization or the type of industry or sector that it's in, is we're now finding that it's not just the tangible that's moving through supply chain or moving through our organization as an output. But it's the information, it's the data flows as well. And it has everything to do with fast response. And so real quick, so some of the things as an example, some of the global pressures would be things like trade, would be things like geopolitical changes. There's all sorts of different ways where you need to have a better understanding of the supply chain and where things are sourced, where things came from, where something was specifically manufactured, who all was involved in case you need to be able to, as Rachel said, trace it back, right. So if we need to go from farm to fork, and then from fork, right, somebody consumed something and then all the way back to somewhere, you know, between that fork and the farm and go backwards. That's what track and trace is all about. And you can only do that with the right information with the right people.

Michelle Ockers:

Okay, so thanks for that. In terms of the changes you saw, you talked about coming in and looking at impact first, and what was some of the changes you saw to how people would work and as a consequence of that, some of the shapes in behaviours knowledge skills.

Trish Uhl:

So one of the one of the big things about it at the beginning, and Rachel and I were really adamant about this. And we it took making the business case over and over again in order to get it to go through which is normal for many organizations, right? And, I want to set that tone in that context for anybody who's listening that, you know, L&D doesn't necessarily get a free pass, even with massive projects. You've got to make a business case.

Trish Uhl:

And for us, one of the early business cases in the assessment process was going to the Gemba, which is the whole concept of going to where the word happens, right? Like, how could we help put a strategy together on how people were going to work differently and change their ways of working if we didn't understand their current state of how they work. And you can't understand somebody's current state of how they work unless you're with them in their environment. It's not a conference call. It's not a Zoom call. It's not a conference meeting, right? Because when you take people out of their environment, you take them out of context. And when you take them out of context, there were things that they

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

don't even think about to tell you because there are things that they actually do on the job. That's muscle memory. So one of the first things that Rachel and I did was we actually started we went to the Gemba, we went to where the work happens. And we went into different settings, in order to be able to speak with people, to stand with them, to sit with them, to watch and observe what they do on a regular basis.

Trish Uhl:

And so some of the ways, you know, again, kind of going back up to those batch operators. Again, you're talking about a lot of food moving again really, really, really, really fast. And an impact that you're making with that person is they've got to monitor what's happening with that machine. Batch operator then is the one that mixes the initial ingredients together, the raw materials together. Some of that stuff, like in the case of pet food, you're talking about meat, right? You're talking about raw meat, which has its own level of safety around it. So you're talking about somebody who already has their attention on something that's really very critical. And now we're asking them to change the systems and the procedures and the technology that they're using and go deeper in the data that they're providing at that particular point in time.

Trish Uhl:

So we had to figure out how to do that right, what was going to be the future state and how we're going to help people connect with why that's important, like why that matters to them, why that matters to the person or the pet downstream that's going to consume that product. And that was that was really huge, again for us to be able to stand in those environments and really get that understanding. Because we were immersed in it right along with other people, even though that's, of course not the job that we do on a regular basis. But so critically important, because otherwise, how can you really have an appreciation of current state and future state and what it's going to take to get people there?

Michelle Ockers:

So Rachel, would you like to add anything around that process of going into the workplace to get the context - what and how that set the project up or any observations you had anything you learned that you didn't already know about your people and how they work that was important for the project?

Rachel Horwitz:

Yeah, a couple things come to mind. First off, we were fortunate to see a variety of sites, site locations. One manufacturing site already had the end state. So we are observing those associates, we were able to see what it looks like once traceability has been fully executed within a site, and then compare that to another site where they did not have that same process. So we were able to really visualize the gaps. When you think about, you know, the gaps in knowledge and capabilities and skills, were able to see that you know, and see how things people would be able to have to do things differently. So that was one important aspect that I thought of. And then the other one is the fact the appreciation, and Trish said it earlier, before that we actually would have to design training and curriculum that would meet the needs of two distinct groups of workers - those that do have access to computers to do the work on a day to day basis, and those that do not. And so while some of the content would be the same, we had to constantly think of two tracks. And in what way are this? Is this information going to get to these associates? How are they going to be able to practice and apply it especially if they're given the information, let's say in the middle of a shift change? And then they have to go get it and do it at that point in time because they only have one centralized computer versus those that work on a computer on a day to day basis. And they can test and apply, test and apply, learn and apply. And so those were two things I would say we had to really keep in mind. And we're really eye-opening experiences by going to the Gemba and really experiencing what it looks like on site.

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

Michelle Ockers:

Absolutely. So and, and I don't mind which of you takes this question. So you've gone out, you you've had a look at context, at impact. You've been able to compare a couple of sites to get a sense of what's changing here. And from there, you have to figure out how you're going to tackle learning, what the strategy looks like. What did you need to do next to develop your strategy, and what was that strategy?

Trish Uhl:

So we had to keep cadence actually with the technology team because ... so the new technology systems, the business process and the business policies that were going into place were going into place, right. Like all of that was happening. And IT at Mars is, Digital Technologies is the name of the business unit of which Rachel at that time was a part. They were using an actual agile methodology, right? So you had different iterations that were happening at speed across multiple sites at one time. So this was not you know, we used to have a commercial here in the United States like this is not your grandfather's Oldsmobile, like this is not you know, the old school like, like traditional training and development is not going to cut it. E-learning not going to cut it. We need a we need a strategy that is a huge combination of not only instruction, but instruction, communication, information, motivation. I mean, all of the 'tions' in an integrated format that we're going to be able to be lean enough to be able to keep cadence with what was happening with the rollout team, with the with the deployment team, and lean enough at that time to, you know, just good enough because we knew that any piece of what we implemented was subject to change. So as they brought the initiative to a location in a particular sprint, an actual agile sprint, we had to learn to be okay with anything that we did being wrong. And that it was all subject to you know, letting it go and that can be such a big mental shift for those of us in in Learning and Performance. We're so used to trying to come up with the right solution the first time through and then proving what we came up with worked. That's not gonna fly in an environment like this. Again, I think regardless of the scale of somebody else's organization or the sector industry that they're in, and whether they're working on traceability or not, like this is now the name of the game in order to be able for learning to keep pace with the business. It takes you know, almost 180 degree different perspective on our ability of being able to keep up and continue you know, transcend, take the things that are working with us and jettison, let go of the things that don't and not be so associated to anything that we create or strategies that we implement. We have to be willing to learn and fail forward.

Michelle Ockers:

So can you give us an example of something that you tried, something that kind of was just good enough, but for some reason you didn't continue with that, became disposable and you moved on from?

Rachel Horwitz:

I guess something that was tested and retested was our role as L&D and how we integrated with the rest of the function. So as is typical, they came up and said "Hey, you know we have this project. We want you to recreate our training materials and roll it out." We had to move with them and help get them comfortable with the idea of working with us iteratively not handing us the thousand power page PowerPoint and then us turning it into training. That was what they were used to, that's what they expected - and we said "No, you know we'll do it along with you, we'll be along on the journey, we'll test, we'll throw away, we'll storyboard. That constantly had to be reaffirmed throughout the entire thing. The relationship between Learning and Development, and our stakeholders and functional experts was constantly tried and tested along the way.

Michelle Ockers:



Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

So you needed to get everyone comfortable, including the people you were delivering to, your stakeholders, with the idea that some things were going to potentially be disposable. So it wasn't just the learning team that had to be comfortable with just good enough and iteration, but also your stakeholders who were wanting to work in a different way or used to working in a different way.

Rachel Horwitz:

Exactly. We actually called it disposable learning.

Michelle Ockers:

Wow.

Rachel Horwitz:

Which they tended to like, but at first, they were scared of that term, but it's really what we call it.

Michelle Ockers:

So apart from yourself internally at the time at Mars, Rachel, who else was involved? What other learning professionals internally were involved? What was everyone doing? Talk us through the team and the roles on the project.

Rachel Horwitz:

Yeah, so again, internally, being used to working IT college work with IT, and Supply Chain work with Supply Chain, and Procurement work with Procurement. I had to build a coalition, a global coalition team comprised of all of those different colleges, and we all have to kind of put away our functional hats and just put on our traceability hats. And regardless of who the audience was, we all have to come together and create curriculum and understand what the learning objectives were across all the functions instead of just thinking about it in silos. So while I led the charge, I had to really work with my partners who usually, we worked, you know, separately, to look at it holistically and look at it across the way. And then in addition to Trish, we did have external instructional designer we partnered with who also understood the traceability project and the approach from start to finish and helped us with creating the storyboard to disposable learning materials. And they had to be comfortable with putting out an alpha version for a pilot instead of a final version for a pilot. So it was definitely a lot of changes.

Michelle Ockers:

So from the perspective of the learning team, how, how quickly were people comfortable with that more agile approach with the disposable learning approach? Were there any challenges with that? Or did everybody kind of just get on board with that?

Rachel Horwitz:

No, it took a lot of stakeholder management and discussion and alignment and realignment. It seemed that you know, at one point in time we're all synced and then somebody's like, well, but what happened to Procurement? Where did they go? I haven't heard from them. Are they still on board? You know, it's it was constantly renegotiating, realigning, I would say, with our learning stakeholders and even our cross functional stakeholders. Who's in charge of this? Who's doing this? It was really a new way of working.

Michelle Ockers:

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

Yeah. Okay. So let's, let's continue to talk about ways of working and moving on to Learning Engineering as a way of working which Trish, I believe you introduced to this project. It was not a specific term that I had understood as a label before we started having the discussion around this episode, so I think it will probably be new to a lot of our listeners, although when you unpack it, they'll go "I recognize all these little bits. "So Learning Engineering, what is it Trish? Tell us about it.

Trish Uhl:

Yeah, it's big. So it actually comes from outside of the learning field of practice. It actually comes from outside of the L&D industry. And Learning Engineering is a term that was coined quite some time ago, but the entity that has actually been defining what are the capabilities as part of Learning Engineering as a discipline and Learning Engineer as a role has actually been the global organization IEEE. Now IEEE is an organization that most people associate with engineering. We think about software engineers in particular - people that develop, you know, different types of technologies. Well, they started actually a consortium back in 2017 and decided that Learning Engineering needed to be this integrated multidisciplinary approach to solving learning as a capability in an organization or learning as a capability with a team of people or with a particular function. So that was where Learning Engineering actually came from.

Trish Uhl:

For me, the minute that I became aware that IEEE was working on this and again, my background is it not HR, and I came to learning and performance up through the IT organization rather than through the HR organization. So I have friends who are you know, members of IEEE. So I had exposure and visibility into what was happening in that world and then found out that they were putting their lens on the learning function, and again, learning culture and learning capability.

Michelle Ockers:

So, Trish, the disciplines, you were talking about it being multidisciplinary. Can you introduce us to the disciplines involved within Learning Engineering?

Trish Uhl:

So within Learning Engineering it actually comes down to again, looking at learning as a continuum. It's not just the training piece that happens, but what happens before, what happens with the instruction, and then all the way down into what happens with the actual changes in the organization that you're focused on. And so the different disciplines that would go into that are things like the learning sciences, data science, computer science - it's the different technologies. You're going to have a human centred approach. You're going to have design thinking that's going to be part of it. Change management, that's part of it. And we've heard of these capability areas in other models and in other frameworks before. Very, very true, we can find them in the work that actually the three of us have done with the Learning and Performance Institute and the Capability Map.

Trish Uhl:

What Learning Engineering does is it actually puts an overlay of looking at the learning continuum, then, through the eyes of an engineer. And what happens with an engineer, for those who are not familiar, is engineers look at a continuum as input, output and then in the middle is throughput, right? So what do you put into a system? And then what's supposed to be the output or outcome of that system? And then the throughput are the bits that happened in the middle in between. And so an engineer is looking across input, throughput and output for points of failure. So they're looking for where is it that this system, this continuum over time, especially as systems don't exist in isolation, right. So learning doesn't exist in a vacuum. It exists within an organization - a living, breathing organization. And in

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

this case, a significant organization with, you know, a huge global footprint and 100,000 people. So conditions are going to change, which means that your points of failure are going to get triggered.

Trish Uhl:

And so if we look at it from the lens of an engineer and say, okay, we can use these disciplines integrated together, the ones that I just listed previously, in an effort to mitigate risk, right. Think about risk when it comes to food manufacturing and what we're talking about with track and trace and traceability. Where are the points of risk? Where is something likely to go wrong, that we don't meet the goals of the organization and when you're talking about food safety and you're talking about quality food production, that's a high-risk environment. You don't get a second chance down the line. Right, like, we have to be diligent about making sure that we're moving in a cadence over time towards hitting the goals. Now, that doesn't mean right solution right time out of the starting gate. But it means that we have to be able to measure progress as we go to see if we're on track or not, to identify risk, to take a look at issues and then be able to address those and continue to go. So you're doing things at lightning speed, but again, it's really more about risk and failure points than actually producing some kind of instructional materials. That's a whole different paradigm shift.

Michelle Ockers:

For our listeners, Trish and Rachel have provided a presentation pack that they are using at a conference to talk about this initiative and it includes a really nice one-page diagram from the IEEE that breaks down the disciplines in Learning Engineering. So go and take look at that to get your head around that. I can see in my head, I can see how you could come at looking at the systems, the processes, the kind of overall solution that's being implemented from a learning perspective. How did this impact how you went about and identifying the requirements for learning and designing them? Can you give us an example of what that look like? When you start with points of failure and looking for points of failure? What does that mean from a learning perspective?

Trish Uhl:

So two things that that people might find really familiar. So the first thing is actually going back to Peter Senge's work on a learning organization back in the 1990s. And we talked about systems thinking, and a shared vision, and team learning and mental mindsets. And it's all about organizational agility and helping people be adaptive. That was what that model of learning organizations was all about in the 1990s. So if you look at Peter Senge's work and go back you can start to see kind of the context of where this Learning Engineering piece is going because agile and learning organization from the Senge point of view are like almost like the perfect storm that's happening in the in the world today was a little premature for the 1990s. We weren't structured as an organization and kind of ready for that yet. So that's like one kind of like touchdown or touch point for people to see that there.

Trish Uhl:

As far as the failure points are concerned, anybody who works in again, like a manufacturing environment, or any kind of regulated industry, is probably familiar with lean, at least to some degree, right? So if we look at something like you know, from a lean practice, or lean as a discipline that we're looking at critical to quality. CTQ is something within lean and you're looking at what are the things that are getting us yardage down to field. So I'm an American. I still have the Super Bowl in my head from just this past weekend. And if we think about in the context of gridiron football in the United States. In a game you're trying to score a goal, and we measure progress towards that goal by a team's ability to be able to get down the field or not. Now, the other team, the opposing team is trying to keep you and your team from moving down the field. Well, we have opposing forces in our organizations that

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

are preventing us from moving down the field in order to score a goal and that goal would be whatever kind of business result or positive people impact we're trying to facilitate. And so points of failure are - we're looking for those pressures. Kurt Lewin would have called it you know, we had forcefield analysis, right? What are the things that gives us the wind at our back and propels us forward? And what are those forces that are preventing us from being able to make any progress? That's what I mean about points of failure. And one of the big points of failure that we needed to know in this project is, are people actually adopting the new technologies, the new business? That is, are they actually implementing the new policies or not? Because if they're not, then we need to get ahead of that because we need to have some level of adoption across those three areas in order to be able to get momentum at different milestones along these different sprints and these different projects.

Michelle Ockers:

So how did you know that? How did you figure out whether people were adopting the practices? I don't mind Trish whether you pick that up or Rachel.

Trish Uhl:

Data. And that's the thing that's really kind of crazy about again, and just to help people that are listening to this that aren't in this particular environment and aren't working on a project like traceability, but at the end of the day, we're talking about very common business productivity technologies that were being implemented. So we're talking about an ERP system. We're talking about, you know, your run of the mill, like, you know, Microsoft Office products and some other types of tools and technologies being implemented as well. But ultimately, what's currently available in this world today is the ability to be able to sample and analyse data from those operational environments.

Trish Uhl:

So if you're looking at, again, what's going to signal progress of going down the field towards that goal, right, of being able to score that touch down, is, you know, are people in the system? So are they entering information correctly? Is it complete? is it accurate? We can actually now use tools like Power BI or Tableau in order to tap into those integrated unified data sets to be able to draw that information back. So if we did this thing upstream, whether it was information or was instruction or was motivation, you know, through like manager engagement or you know, some other change management initiative, or through story - we used an awful lot of storytelling. Can you actually see the impact of what you did upstream actually flow through and have that downstream effect? And if you're not seeing the downstream effect, if you're not seeing that progress down the field towards scoring that goal, then where are the flags on the field? Where do we need to do a diagnostic? Where are those points of failures being triggered? How do we get more information about what's happening there? And then how do we address how do we target our time, our attention and our resources which are limited like everybody else's, in order to be able to address specifically wherever those potential points of failure or actual points of failure are?

Michelle Ockers:

Okay, I want to check whether I've joined a few dots in this puzzle properly Trish because I think it's starting to fall into place. We've talked about the lean approach, the disposable learning approach, getting stuff out there that's just good enough because that's the cadence of the project you're working with. You've talked about points of failure and understanding points of failure. So maybe knowing what the points of failure or potential points of failure are tells you where to focus from a lean perspective and where to target your learning interventions at the highest risk points of failure. So you're not trying to do everything, but you're taking this informed approach. And then you're getting stuff out there and you're using data that's available to you through the operational system to test and iterate. Is that how it starts to tie together?

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

Trish Uhl:

That's exactly how it starts to tie together and Rachel has this amazing background in design thinking. So journey mapping and coming up with personas. And, you know, again, this rich experience that we had a visiting the workspaces and understanding the flow of work for the people, you know, in these work environments, that actually gave us an idea of where the potential points of failure are because we understood people's journey. Rachel, can you tell us a little bit about that? I mean, that whole idea of, you know, how do we take design thinking and pair it up with data? How do we do things like journey mapping?

Rachel Horwitz:

Yeah. And that's what was really great about this. It wasn't just that we were able to say, Oh, you know, this is failing because they weren't trained. And therefore, you know, you go do a blanket training. That wasn't the approach. And that wasn't even necessary, because of the fact that we went and observed. And we talked to the operators and we talked to the people who actually do the jobs, and we are able to gain empathy and understand from point A to point B, what is the process that they take to do their jobs and not even just to understand, you know, them robotically, but how do they feel about it? How do they not feel about it? You know, what are some of those pain, physical or actual emotional, pain points that they may encounter along the way, so that we could design training that would meet that need.

Rachel Horwitz:

So, Trish talked earlier about storytelling. And we knew that in order to gain empathy, we wanted to actually tell real stories about the impacts of traceability on their jobs. So we actually went and spoke with people to be able to tell us what actually happens when traceability fails, and what does that look like at Mars. And simply because of the fact that everybody has such pride in their roles which we were able to gain from having the conversation. We knew that just telling those stories would be able to make it real for them and bring that pride back. And again, if we've been into the training, we've been into making it real, being able to again empathize with them was a way to either mitigate these pain points even further. So we really were able to use the design thinking approach to understand the user, the user's perspective, their point of view from holistically.

Michelle Ockers:

So Rachel, we've talked about some components of the solution that were introduced into the test and iterate process around the solution development. One aspect, which is a fairly obvious one, which we haven't talked about, is performance support. So could you share with us a little about the performance support approach that was used and the benefits of that approach?

Rachel Horwitz:

Well, I think this is a nice way to be able to demonstrate how communications, change management, and training all come together, because the performance support was coupled with communications in advance, the change management process that we were able to follow, to gain the awareness and the desire in advance of even beginning training. So again, that's where we use storytelling. That's where we used senior leadership testimonials. That's where we really looked at the opportunity to gain that awareness and desire for people to learn and for people to then be willing to learn. And then when you think about it, and we had the training approaches that were done, whether it was a classroom or in the tool itself in the actual system itself, which were then able to provide this ongoing performance support. So of course, we had our regular tool kits, but then we would have these pop ups and prompts as they're using the system which would prompt them to use it at certain points of time and would help them to then learn and generate that repeatable desired behaviour over time. Therefore being able to reinforce what we are expecting. So it

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

really came holistically through a full change management approach, overlaying performance support and training and communications from end to end.

Michelle Ockers:

So the performance support is interesting because it sort of nudges built in as well right to prompt people to take action at certain points in time. Yeah. Did you want to add anything to that Trish?

Trish Uhl:

Yeah, I think it's also really incredibly important part of the strategy too that we did, and then of course the tactics, was actually bringing it into not only their world and their environment, and that, of course, as we've talked about, there are many different environments, but also down to the managers. So it wasn't only communication, so it wasn't like communication, like, here's a technology, you know, that we want you to use for the learning function. And then here's what's coming. There was some of that, but it was also cascading communication down to the managers. So as an example like the story would be, we collected stories from the workers in the environment about things that had happened that traceability would apply to so what did traceability or track and trace mean to them? Could they think of an example where that would be hugely helpful to add speed be able to go back and trace back through the entire life cycle. And we collected an awful a lot of stories. And then we worked on producing and scripting videos that they could then watch. So if you think about, like, in this particular case with the factory, they're used to watching safety videos at like shift changes, right? So it was like, all right, so video is a natural communication tool for them. But in the context of their environment as one example, it's something that they would watch - when? During a shift change. And with whom? Well with each other because they're working together on a high-speed production line, right? You know, they're working together as a team, even though they're across this, you know, large facility, and also with whom, with their managers. And so then it was like, Okay, well, here's the video, they would have consistent messaging. It would be a story that had that emotional connection, like what Rachel was just talking about, and then that could be debriefed by the manager. Right. So then we were creating assets that the managers were then empowered to use in order to work with their people. I think sometimes in learning, we inadvertently cut the managers out. Like we overstep, you know, kind of a boundary in our haste to help, in our eagerness to help, but it was very thoughtful in how we engaged them there.

Trish Uhl:

The last thing on that too, when thinking about measurement and evaluation strategy like this is, we also spent a lot of time looking at reward and recognition. I mean, we're talking, you know, Guy Wallace would be really happy about this conversation right now, because we're talking about human performance improvement, and all of these different types of interventions. It's not just about the instruction, but we looked at how were the different work environments already rewarded, how were they persuaded or dissuaded from a particular way of working. And so we made sure that we had a strategy that was also designed to that. So again, going back to factory and the warehouse environments, especially in the factories, you're talking about, like, you know, walking down a hallway and there's a glass case of awards, or there's a leaderboard, like how are we doing today across these different metrics? As you know, a function? How are we in our particular location doing in comparison to other you know, factories or other Mars locations and that kind of thing? So how do you tie into the things that not only the flow of work but the reward and recognition that people are already attentive to, so that we can also measure using that as well to see are people striving for the new way of working or not? And if they're not what visibility you know, number one, can we get that signal really fast that feedback loop that says hey, it's not happening

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

here at the level that we needed to and then number two, get ahead of it figure out okay, well, what needs to change in order to fix it. Do you have anything to add there Rachel?

Rachel Horwitz:

Oh, the one other piece I was going to add was also the actual support that we were going to make sure from the functional experts that was offered through user acceptance testing through hyper care and all the way through full implementation. That was also something that they hadn't really considered. And we were reiterating the idea of like, a Genius Bar, if you will, that you could go to do you need that. So that was something that we implemented it as well.

Michelle Ockers:

Yeah, people can grab onto the idea of the Genius Bar right and understand what that means. Rachel, I just want to start with you in terms of kind of wrapping this up and leaving our listeners with something. You had the challenge also of bringing together and people working from these different colleges and working on this overall solution and pulling the team together. What was it and I can come from any place any part of this whole experience, from your perspective, what was, you know, that maybe the biggest thing you learned during the process of working on this particular program?

Rachel Horwitz:

It's a very good question. I would say, when I think about putting my design thinking hat, really understanding or appreciating the differences in the learners and how we were going to reach them. So recognizing that again, I was working cross functionally. So we were working with knowledge workers who had access to a computer, but then we also had to tailor the learning to those that were on the shift. And so being more able to appreciate that up front. And to think with those two hats simultaneously, was something that, finally I got to. But I really had to, if I had done it differently, I might have thought about that a little earlier, made some appreciation of that earlier, and that might have impacted some of how maybe it would have sped things up or how we would have moved things forward a little more quickly.

Michelle Ockers:

Okay, and Trish, you've introduced a few new things, probably to our listeners today, including Learning Engineering. If anyone's curious about Learning Engineering and some of the disciplines in that or how that hangs together and how to work with it - what tips do you have for them with getting started with exploring Learning Engineering and maybe starting to use it a little in their organization?

Trish Uhl:

Well, I, one of the things I love about this is that IEEE as an organization is global. And it's recognized by different types of organizations, again in different industries and different sectors around the world. And so I would definitely check out IEEE's work in this particular area. And there's a website that we can certainly include in the in the show notes. And I think what's also really important with that, too, is it's a global consortium. So people who are members of being able to bring this initiative forward with IEEE - we actually just had the first inaugural conference in Washington DC last year, in order to be able to continue to clearly define what are the disciplines that are integrated within Learning Engineering as a discipline, but it's got global representation and I think that that is so critically important that it's not just something that was like, you know, made here in the United States and then you know, sent out to the rest of the world. That it's born global and that's been such a critical part of the project at Mars was having that that global perspective. It's really interesting to be tied into a discipline like engineering, where certainly there's new ones in different practices and perhaps in different geographic locations. But engineering, for the most part as a discipline is pretty well known and pretty well mature. So having that is kind of a foundation

Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

and a paradigm shift. Lots of examples that we can use there from the world of engineering that can help us actually get on boarded to Learning Engineering as it as a discipline in our own practice.

Michelle Ockers:

Hi, and thank you for that. There was so much we covered today. If people want to continue the conversation, I'm sure lots of people are going to be curiosity piqued. you can join the conversation using the hashtag #LearningUncut on LinkedIn or Twitter. I'll share Rachel and Trish's LinkedIn profiles. And for Australian listeners if you are quick, this is going to be hot off the presses and I'll promote it in the lead up to the AITD conference. Trish is going to be in Sydney at the Australian Institute of Training and Development conference, which the podcast is actually going out. It's being published on the morning of the first day of the conference on the 17th of March. So if you are in Sydney at the conference, use it as an opportunity to go say hi to Trish, regardless of whether you've had a chance to listen well if you're listening to this, you have listened to the episode but go and ask Trish about this whole field or anything that's piqued your curiosity in this it's a great opportunity for face to face discussion and tap into Trish's experience. What are you talking about at the conference Trish?

Trish Uhl:

Chatbots for behaviour change. Also, another Learning Engineering project, but with different twists to the work that we did at Mars.

Michelle Ockers:

So Rachel, I know you were on this project for a long time. But you have, of course, as we introduced up front, moved on from Mars, what are you doing now? And what's exciting you about learning?

Rachel Horwitz:

Yes. Thank you, Michelle. So I have, I left Mars in July and took over a brand newly created role of leading Global Learning and Development for medical device company. So, I have the pleasure of being able to build Learning and Development from the ground up. And I like to say I'm a kid in a candy store. So, I have my hands in everything from the LMS and learning technologies and bringing learning evaluation and learning analytics, and change management and design thinking all together to this new organization. And it's just been a lot of fun so far. And so in that journey, I would love to eventually share some of my successes that I'm working on. Because we've got a lot of good projects happening right now. And I can be also reached on LinkedIn

Michelle Ockers:

What an amazing opportunity, Rachel and I look forward to following the body of work from both of you and maybe getting you back at some point in the future to talk about where your adventures in learning have taken you and what other great work you've been able to do. Thank you so much.

Transcribed by <https://otter.ai>

About Michelle Ockers

Michelle Ockers works with business and learning leaders to realise the untapped potential of learning in organisations. She is an organisational learning strategist and modern workplace learning practitioner. Michelle works with organisations to develop and implement



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Learning Uncut Episode 48

Trish Uhl and Rachel Horwitz – Launching Learning Engineering at Mars

transformative organisational learning strategy, and to build the capability of their learning team. She delivers keynotes, workshops and webinars for learning and broader professional or workforce groups at both public and in-house events. Michelle also mentors learning professionals at all career stages on career planning and professional development.

Michelle received the following prestigious industry awards in 2019:

- *Australian Institute of Training and Development Dr Alastair Rylatt Award for L&D Professional of the Year – for outstanding contribution to the practice of learning and development*
- *Internet Time Alliance Jay Cross Memorial Award – for outstanding contribution to the field of informal learning*

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