



## Leading Learning Podcast Episode 267

Sae Schatz (00:00):

The technology you are using today, the landscape, the world today will probably be completely different in five years. So we need to be constantly learning, unlearning, relearning. And the only way we can cope with this increased breadth, depth, and pace is to have this flexible learning ecosystem around us to help us get to this constant learning and development that we're going to need.

Jeff Cobb (00:29):

I'm Jeff Cobb.

Celisa Steele (00:30):

I'm Celisa Steele, and this is the Leading Learning Podcast. Welcome to episode 267 of the Leading Learning Podcast. This third episode in our seven-part series on the frontiers of learning technology features a conversation with Sae Schatz. Sae Schatz is the director of the Advanced Distributed Learning Initiative, a government program for science, technology and policy related to distributed learning.

Celisa Steele (01:00):

And she's an editor and contributor to the e-book *Modernizing Learning: Building the Future Learning Ecosystem*, published by the ADL Initiative. Before joining ADL, Sae worked in small businesses, as an assistant professor, and in corporate training. Through it all, her focus has been on learning, technology and systems. Jeff spoke with Sae in March 2021.

Jeff Cobb (01:31):

Now I'm thinking that most of our listeners will at least be somewhat familiar with ADL because you are the people behind things like SCORM, which I know we'll talk about some here in a minute. But, for those who may not be as familiar or a little hazy on it, can you tell us about ADL, the work that it does, and about your role there?

Sae Schatz (01:48):

Sure. ADL, the Advanced Distributed Learning Program, it was created back in the late '90s, back when Netscape Navigator was the hottest commodity and rotating GIFs were in fashion. The idea back then, of course, was to help encourage the use of this crazy new modality, online learning, across the government and society and, in particular, defense

Sae Schatz (02:09):

because ADL is really a defense program. But we agree to cross all those other sectors. Now originally, back in the day, a lot of the work focused on what we would call now traditional e-learning, like learning management systems with SCORM, and that's become the de facto form

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for those interoperable learning management systems for traditional coursework. Then you mentioned this already, right?

Sae Schatz (02:33):

SCORM was one of the major products from the ADL Initiative back in the day. We do a lot of other things now too, and, for the folks listening, they probably are most interested in our R&D work. So those are different topics like digital learning interoperability, data, emerging platforms, and of course learning science for all these different modalities.

Jeff Cobb (02:58):

I know, like I said, people are probably familiar with SCORM—for anybody who's not, Shareable Content Object Reference Model is the acronym there. They're a set of specifications for, among other things, ensuring portability across e-learning systems. You're also the people behind xAPI. Again, something our listeners have probably heard of but may not be fully versed in.

Jeff Cobb (03:18):

But also cmi5, which I'm personally very interested in, where things stand with that, where we're going. Could you talk a little bit about those specifications, and how they're evolving, and maybe how some of these other areas you were just talking about are evolving as well?

Sae Schatz (03:33):

Oh, absolutely. I would love to talk about data interoperability specifications for digital learning. Before we bore everyone, I promise this is actually a really interesting and exciting topic. So, as you mentioned, there's xAPI; there's cmi5; we're working on a lot of other interoperability specifications right now too, like for learning content metadata, learner records, competencies.

Sae Schatz (03:57):

And these are all ways for us to be able to put the building blocks together for the future. And I realize that that was a lot, like that's a lot of geekiness right there, and I'm delighted to go talk about the weeds of it, but the real punchline is, you have been, what we all have been talking about, all these really cool emerging concepts, for years, right?

Sae Schatz (04:22):

Lifelong learning, Chris Dede's discussion on the 60-Year Curriculum, ubiquitous learning across all different kinds of platforms, augmented reality, virtual reality, XR, data-driven learning, AI-driven personalization, learning analytics, competency-based learning, and then I'm sure you can fill in a bunch of other things here.

Sae Schatz (04:42):

The question really becomes how do we take all these amazing puzzle pieces and put them together? And that's really where all of these different interoperability specifications come into play. Think of that sort of like Lego blocks. The reason that Legos work is because you have the exact same little connections in the same sizes in the same places.

Sae Schatz (05:06):

But the blocks themselves can be all different shapes and formats, and you can build your own little castle, however you want it to be. But the art is in that way that they're interoperable. And so that's why all of these discussions on data standards and APIs and interoperability specs are so important.

Jeff Cobb (05:25):

I love that analogy with Legos—that's so right on. I think people will get that and how all of these things fit together. And interoperability, obviously, it's just going to be so hugely important. It already is important, but I mean, as we get more and more complex with how systems are fitting together going forward, for things to be able to talk to each other and share data is so important.

Jeff Cobb (05:45):

And now you and I are talking here as part of a podcast series we're doing on the frontiers of learning technology. I've always thought of ADL as being out there on the frontiers of learning technology, which is one of the reasons why we called you up and hoped you would talk to us here. But when you think about that phrase, that phrase "frontiers of learning technology," what comes to mind for you?

Sae Schatz (06:09):

We are very focused right now on building out what I like to call the future learning ecosystem. Now, admittedly that's a bit of jargon. So what I really mean is the K-to-gray, technology-enabled, data-driven, heterogeneous system of systems, which is a big mouthful. But just imagine a technology-enabled lifelong continuum of learning that's driven by data and that's personalized to you,

Sae Schatz (06:37):

that has good quality learning science. We really are able to train, educate, have informal learning, have employment, all informing our lifelong journeys. That's the vision. And it might sound like sci-fi, but I really think we can get there. We actually wrote a book about this recently, and it's available on our Web site.

Sae Schatz (07:01):

Oh, and I should mention by the way that, as a government program, almost everything we produce is open source, Creative Commons. And this book too, it's available for everybody to read and share and reuse. The book is called *Modernizing Learning*, and it talks about this roadmap to get to this future learning ecosystem idea.

Sae Schatz (07:22):

It talks about the technology, the data, the data issues like privacy and security, the learning science that needs to go with it, and the organizational dynamics.

Jeff Cobb (07:33):

The vision that you're laying out in that book—and, of course, just with your work in general—is just so compelling. I liked that you brought up—you said it was maybe a little bit jargony, buzzy—the *ecosystem* word. But we do hear that more and more about building out the ecosystem that's really going to support where we're headed in the future with learning.

Jeff Cobb (07:53):

I'd love to dig into it a bit more. If you're going to build the ecosystem, if you're going to build—and I know you'll talk about this phrase a little bit—Total Learning Architecture, what are the steps? How do we actually make progress towards building out this future of learning, reaching this frontier of learning technology that we're all heading towards?

Sae Schatz (08:11):

That's a great question—because we're never going to get there all at once. It has to be a journey. And the great thing about this is, you can take one step along that path and have benefit. You don't have to get all the way to the end and have this very complex system to realize the benefits of this. And I would say that the first step along the path is simply data interoperability.

Sae Schatz (08:35):

Or, the way I usually like to say it is, imagine all the learning islands that are out there right now, right? You have a course over here. You have an e-learning over there. You have some microlearning over here. You have a training event over there. And today, generally speaking, they're pretty siloed. The one particular course—let's say some e-learning course that you're doing—it doesn't know who you are when you go into it.

Sae Schatz (08:58):

It didn't know the 15 other courses that you took beforehand or the videos you watched on YouTube or the microlearning or the mentorship. And after you leave that course, generally speaking, you're going to get a certificate, but the data gets thrown away. And so we don't have a way to have that relay race, where we're passing the baton of data, of information about the learner from place to place to place.

Sae Schatz (09:23):

So instead of having these learning islands, we want to connect them up. We want to get to that modular open systems architecture, that interoperability. Once we have the interoperability—and we're going to get to this in a second, with the Total Learning Architecture because that's the how—but just understand the concept first, right?

Sae Schatz (09:40):

Building our learning islands together. But once we've connected that trade route across our learning islands, let's say, then how do I make sure that the apples that I'm selling on my learning island are commensurate with the oranges that you're selling on yours? In other words, how do we have that semantic interoperability, or that common currency, across the different islands? This is where competency-based learning comes into play.

Sae Schatz (10:08):

If we are using competency-based learning—and I'm sure everybody is already familiar with it, there's so many benefits to using competency-based learning just by itself—but data interoperability is another one because then we can make sure that we're all working off of that same common list, that same common definitional list and machine-readable list of what these different knowledge, skills, abilities, job requirements are. And by doing that, we create that common currency across islands.

Sae Schatz (10:39):

Finally, the third step I would recommend to everyone is we need to upskill our learning professionals. And I don't say that because there's something wrong with the way that teachers or instructional designers or trainers are performing today, but rather we're in a whole new world, right? We're not living on our own little island anymore, but instead we have this whole world we need to navigate.

Sae Schatz (11:00):

We need to have learning engineers, people who understand technology, learning data, learning analytics, learning science for learning at scale, lifelong learning, and all of these other capabilities so that we are really using our toolset to the best effect.

Jeff Cobb (11:25):

It's such an interesting point. To be a learning professional these days, somebody who's involved in creating, facilitating, delivering learning experiences—I mean, it's a whole new game. It's nothing like it was 20 years ago, even five years ago. I mean, it's changed a lot. I like that you brought up competency-based learning, and, you're right, that's something that certainly folks who are listening here are probably well tuned into.

Jeff Cobb (11:47):

It's funny. I mean, it's kind of an obvious point once you realize it, but it wasn't until I was doing some work recently where we were looking at personalization, competency, that it started to click with me how important the data structure underlying that is and how competency can help inform personalization and vice versa.

Jeff Cobb (12:08):

And I know that feeds into—because I picked it up, I think, from really reading about what you're doing with Total Learning Architecture and how that all fits together. Can you talk now a little bit more about that TLA, that Total Learning Architecture concept?

Sae Schatz (12:20):

Absolutely. This is one of my favorite topics because it's all about this data interoperability, this baseline, enabling infrastructure to make this big vision work. Specifically, the Total Learning Architecture is a set of specifications and standards. So we're talking about IT and data standards for learning technologies.

Sae Schatz (12:42):

And this is all open, standards-based, common things that everybody can implement within their systems. It's the blueprint, so to speak, on where those little circles and the Lego blocks go. At a very basic level, the Total Learning Architecture incorporates four data standards. So standards on how you get runtime data out of the system, right? So what's that performance that's coming out of your learning management system or your simulator or your electronic grade book?

Sae Schatz (13:12):

Ideally, we want to have very good quality, very granular data so we can learn a lot about each person. That's where the xAPI, or Experience Application Programming Interface, specification comes in. Second, we need some way to know what is the thing that that learner or that

employee is doing, right? So what's the course, or what's the video, or what's the simulation that he or she is going through?

Sae Schatz (13:38):

And so that's where we get that course metadata. And I keep saying *course*, but really I mean any kind of learning experience—could even be on the job, right? So some way to define what that thing is that they're doing. Next, we need something that describes the person themselves. Now I'm going to say *learner* because I'm very interested in training and education,

Sae Schatz (13:58):

but really this could be a learner, worker, military record. It could be a personnel record. It could be an individual capability record. What we're really talking about is some way to define somebody's education, experience, and employment history, kind of the three Es of their life. What are their capabilities?

Sae Schatz (14:17):

And then third—or then, finally, this is fourth. I can count. The fourth thing on the list here is that we need those competencies again, right? So we need that common currency, that Rosetta Stone across the other pillars. And that sounds pretty simple, right? These are four data pillars. We describe them. We make sure our systems are integrated with them.

Sae Schatz (14:36):

But then as you start to think about, "Okay, well, how do I connect these hundreds of systems, maybe owned by different vendors, different companies? How do I make sure the data's flowing across them? How do I make sure that security and privacy are maintained? How do I abstract up information?"—because the data that you need in a course or in a particular experience is very different than the data that you might need as a senior leader in an organization or longitudinally—

Sae Schatz (15:04):

then it starts to become complicated, as you define these business rules and these policies and the interface specifications, how everything works together. And that's what the TLA is really meant to do. So, at the end of the day, it's this blueprint of IT and data specifications for learning technologies to build out this ecosystem.

Sae Schatz (15:25):

And then also it's the reference implementation, the prototype or the model home, so to speak that we're working on currently to make sure everything works correctly, to test things out, and to make sure that we're getting all those business rules correct.

Jeff Cobb (15:40):

I came across your work on TLA recently, when I was doing research. I was thrilled—though not surprised—to find that ADL is working on this because it certainly fits with what I would expect from your organization. My immediate reaction was, "This is fantastic. What this is promising is just what we need. It's going to connect all the dots."

Jeff Cobb (16:01):



But, at the same time, I was like, “Well, wow, how do we actually do this?” It sounds great. It looks great on paper. You provide some great resources for it, but how do you actually get started? How do you really start making movement towards Total Learning Architecture?

Sae Schatz (16:16):

I think this is great because, I mean, this is a lot, and there’s so many things right now in the learning and development space—it’s really exciting. And we need to make sure that we’re on a path that is going to be achievable. We can’t implement everything all at once. So we’ve actually produced, and people can find it—I’m sure you can link it in the show notes—

Sae Schatz (16:38):

we’ve actually produced a system administrator guide that lays out specific steps for your techies out there to start to implement. But the short answer is, number one, start with getting good runtime data out of your training or education or other kinds of learning and development systems. We need to do a good job of measuring what the individuals are doing, what they’re learning, what their performance looks like.

Sae Schatz (17:02):

Now we’re using xAPI for that because it puts things into that interoperable format then. Once you get that data into your learning record store, then the next step is that you want to start connecting other different training and education opportunities together. So let’s say you have your learning management system, you have maybe a mobile learning app on microlearning on your smartphone,

Sae Schatz (17:25):

and maybe you have some videos. What you want to do is start to connect those up, all the data that you’re getting into those possibly separate learning record stores, federate them together so you’re getting rich data across your own learning islands. And then also you want to start making sure that you’re implementing the metadata that describes what those different experiences are.

Sae Schatz (17:46):

We’re currently working with the IEEE Learning Technology Standards Committee on the P2881 learning activity metadata. So it’s a standard for defining that metadata. There’s already some standards out there, but this is an updated version of that. And you can do this within your own system, right? Eventually we want all of our learning islands connected across everybody, across different organizational boundaries.

Sae Schatz (18:11):

But step one is just getting your own data in these formats and starting to manage it across your own internal silos.

Celisa Steele (18:20):

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Ashish Rangnekar (18:27):

BenchPrep is a pioneer in the modern learning space. We have been digitally transforming professional learning for credentialing bodies, associations, corporations, and training

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Ashish Rangnekar (19:16):

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Celisa Steele (19:32):

We are truly grateful to BenchPrep for helping make this series possible, and we encourage you to find out more at [benchprep.com/resources](http://benchprep.com/resources). Now back to the conversation with Jeff and Sae Schatz.

Jeff Cobb (19:47):

What trend or trends in learn tech do you think have the most potential for really significant positive impact in, let's say, the next three years or so, the relatively near future?

Sae Schatz (20:00):

So I'm going to cheat a little on this question because my answer is that it's not as much the technology. I mean, there are so many cool technologies out there right now, and you know that I want to talk about data and emerging tech. But honestly at the end of the day, I think it's really about using the systems that we have to best effect.

Sae Schatz (20:23):

I am a big fan of Ruben Puentedura's SAMR Model. And I don't know if you've heard of the SAMR Model before, but it's the Substitution, Augmentation, Modification, and Redefinition Model, and basically it says, "Look, we get some new learning technology out there; the first thing everybody does is just replace the old way of learning with this new technology."

Sae Schatz (20:45):

Take e-books for example. Okay, great. I have a digital e-book now, right? So I've taken my paper textbook, and I've turned it into a PDF. Ta-dah! And it's just kind of a substitution. As a next step, maybe we get to a place we're like, "Oh, look, we can highlight, and we can search." But it's still just the basic augmentation of the old school way of doing things.

Sae Schatz (21:08):

A lot of times we get a new technology, and we're very excited about it, but we stop right there. And we're not getting the bang for the buck, and, in fact, usually it's more expensive than the old way of doing things. And we're just basically replacing the old way, but we need to push ourselves. If we get up into modification, we start to think about new ways of accomplishing a task.

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Sae Schatz (21:29):

So, if we go back to the e-book example, what if you don't just have something you can search for and bookmark, but you actually have interactive videos and quizzes that you can share across your course. And you have learning analytics embedded into the e-book, and maybe it even adapts to the individual's, I don't know, reading level or their role within a company. Then you start to really get some value.

Sae Schatz (21:51):

And maybe we could even get to that redefinition phase, where we're truly rethinking the whole way we do things. Like maybe, instead of an interactive textbook, we've actually developed a maintenance manual that's connected to all the people who do maintenance on a particular type of aircraft or something, and, when you go look things up, you can actually see your peers and leave notes, and it's changed the nature of learning for that particular task.

Sae Schatz (22:19):

So I would say that's the challenge. Let's figure out how to really creatively—using good-quality, evidence-based learning science—make best use of what we have.

Jeff Cobb (22:29):

Well, I love it when there's any sort of model or framework that really helps us just think more strategically about where we're going with the technologies. And that's certainly a great one for doing that, and we'll make sure we definitely spell that out and link to any resources around the SAMR Model in the show notes. We do want to encourage folks to be thinking strategically about this, not just technology for the sake of technology.

Jeff Cobb (22:52):

That's the relatively short term we were just talking about, though I think, obviously, the model applies over the longer term. You should always be thinking in a strategic way about technology, but, given the opportunity, which I'm going to give you right now, to put on your futurist hat, punch your card into the *Star Trek* Holodeck, however you want to think about it, when you look at it in the more distant future and just imagine what's possible out there, what do you see?

Sae Schatz (23:16):

Oh man, I see so much as possible, and I don't even think it's going to be that distant of a future. I really think we're going to see this certainly in our lifetimes. I think the best model that I can vision from pop culture would be the *Ender's Game*, sort of continuum of learning, although hopefully less creepy.

Sae Schatz (23:34):

So what does that mean? Okay, so we got this learning ecosystem again. I mean that you have this childhood through lifelong learning continuum that is technology-enabled. So you have all these different technologies, right? So you have computers; you have augmented reality; you have virtual reality; you have mixed reality; you have simulators; you have all different platforms that we can envision, right?

Sae Schatz (23:58):

And they're all collecting data about what your performance is, what you're experiencing—ideally in a way that's not unethical, so some way that we have self-sovereignty of the data, some way that we have trust and management and privacy of those data—but in a way that we're able to then create those individual profiles, so that we can truly personalize learning and development

Sae Schatz (24:22):

and maybe even things like career trajectories or other kinds of opportunities, based upon your personal profile, and where we're integrating (and I said this earlier, right?) education and employment but also other kinds of experiences. So if you're a parent or if you've climbed a mountain or if you spent a year touring Europe, these are experiences that shape you as a person

Sae Schatz (24:45):

and that may get to some of those, what we sometimes call those soft skills, or those very important competencies that are hard to measure. So, again, that competency-based learning comes into play, right? Where you have these personal profiles, we're able to truly see what you can do and also you can see what you can do, right?

Sae Schatz (25:04):

And you have that opportunity to plan out. We're able to leverage AI teams, where we have AI, yes, maybe doing personalization, but also we have human and AI working together, helping you complete your tasks. And we are using all of this capability to make sure that we have truly effective learning, not in a linear sense where you've spent an hour here at this course or you spent four years getting this degree

Sae Schatz (25:34):

so you are qualified, but rather truly based upon your performance and truly based upon where you need to go in that nonlinear journey. I can also imagine this is all tied into the workforce. So it's not just about, "Hey, learning and development is over here." And then separately after we're done with that, we go back to our jobs, and we have workforce over here,

Sae Schatz (25:56):

but rather it's this integrated system, and we're able to connect who are the people with capabilities, they're able to then go perform these different jobs, and we can do that better matchmaking, that better matchmaking that helps us solve unemployment and underemployment while at the same time fitting the places where we have job gaps.

Sae Schatz (26:20):

Ideally, we would have this as a meritocracy, right? Really helping to elevate people and give them a clear pathway forward. So I imagine the system all driven by data, where individuals and organizations and, I guess, maybe even society can really leverage this quality of data about individuals to do learning, development, employment, and hopefully this lifelong planning.

Sae Schatz (26:48):

Now, I realize that that's a big picture; that's a lot of things, and there's a lot we will need to do to be able to get there in practice. But I could imagine this talent ecosystem of the future someday.

Jeff Cobb (27:02):

I know I'm an idealist when I come at technology, what's possible with learning. I'm going to go out on a limb and guess that you might be as well. So I'm always thinking, "Okay, what's the greater good that comes out of this?" So we're better able to develop talent. You mentioned the idea of elevating people—that certainly sounds like a good to come out of it.

Jeff Cobb (27:21):

But when you think about if we get it right when it comes to technology and what we can do with learning technology, what is some of the greater good that comes out of that? How might we expect the world to improve, I guess, as a result of that? And are there things that need to happen or that we need to be doing now to make sure that we do in fact get it right?

Sae Schatz (27:43):

That's a great question. A lot of times when I'm asked, "Okay, well, why should we do this? What's the benefit we're going to get?," my first response is, "Well, we don't really have an option to wait." If you look at the way that the world is around us today, every single individual is being asked to do a broader range of things and typically at higher levels of sophistication.

Sae Schatz (28:06):

So an individual doesn't just have to do one particular task; they have to do that job, and they usually also have to have good teamwork skills, and they have to have empathy, and they need to know the latest technology, and they need to have digital and data awareness. And, and, and, and, and. While, at the same time, we need to have this higher level of sophistication of all of these, right?

Sae Schatz (28:27):

Again, this is regardless of what role you play. Almost everybody is facing this. Where it's not just, "Hey, make sure that you're making good decisions," but you need to think strategically, and you need to have good systems thinking, and you need to make sure that you are coordinating across a distributed team again, and so on.

Sae Schatz (28:45):

And, at the same time, the pace of change is just constant. The technology you are using today, the landscape, the world today will probably be completely different in five years. So we need to be constantly learning, unlearning, relearning. And the only way we can cope with this increased breadth, depth, and pace is to have this flexible learning ecosystem around us to help us get to this constant learning and development that we're going to need.

Sae Schatz (29:17):

Now, if that sounded a little too much of a platitude, let me bring it down to something that's a bit more ROI for the corporations out there. We need to make sure that we're doing a better job of capitalizing on our talent. You know the old saying, right? What gets measured gets managed. And right now we do a pretty terrible job of measuring our human capital, of measuring, what we would call in the military, personnel readiness.

Sae Schatz (29:45):

We can do a much better job if we can better identify what the capabilities of individuals are, where our gaps are, what our jobs or tasks are, and then making sure that we're putting the right person into the right place at the right time. Or otherwise giving that person the right development experiences when he or she needs them.

Sae Schatz (30:06):

So, again, it's about leveraging our data about people so that we can have advantage. And then, if I can go back to be a little bit Pollyanna again, I'll also say that I do think if we can implement these kinds of systems, if we can get to a place where we truly have an effective talent ecosystem, then that can help us in many ways.

Sae Schatz (30:29):

We can start to move towards more of a meritocracy for job placement instead of just propinquity or a social advantage. We could start to do a better job with that matchmaking for the people with the jobs. And, again, this is not just my vision for this. The Chamber of Commerce actually has this huge initiative right now, where they're trying to build this nationwide talent pipeline,

Sae Schatz (30:51):

where they're bringing together big businesses and government organizations and really working on, again, those foundational data standards, those Lego block blueprints, so that we can make this happen. And so I think that we're on track to build this out.

Jeff Cobb (31:15):

When I think about the evolution of technology in recent years, you look at something like social media. Obviously some very good things happen with social media, but obviously a lot went wrong as well, as we found out in recent election cycles, for example, that there's some things there that need to be fixed. In the world of learning technology, what do we need to be aware of? What happens if we get some of this wrong?

Sae Schatz (31:39):

That's a really important thing for us to be asking right now because there are some really major pitfalls, and, if we're not careful, if we're not thoughtful, then we could cause some damage. The first one that I always think about is this notion of information overload. So imagine a world where we're learning all the time, where all of the training or education or other informal experiences that we're getting are coming from hundreds of different organizations, thousands of different platforms maybe.

Sae Schatz (32:11):

How do we make sure that those experiences are coherent? How do we make sure that we're not just creating all this noise? Because what happens to our brains when we have disconnected pieces of information or that we're just getting constantly bombarded by it, that triggers cognitive biases, right? That forces us to be more superficial. It encourages us to not retain information effectively or to have gaps in our understanding.

Sae Schatz (32:37):

And so I think it's really important that we get our arms around this notion of learning at scale and learning across a heterogeneous system. We need to make sure that we have semantic

coherence across it. I don't think this is an easy problem to solve, but I think it's absolutely critical. A related one is what if we have incomplete or degraded or otherwise untrustworthy information?

Sae Schatz (33:02):

I mean, certainly, you see this in social media, but it would be just as easy to have—well, I assume it's already true, right?—it's just as easy to have it in crowdsourced or even corporate-made training products or educational products or just-in-time learning materials. And more and more of this is going to be crowdsourced, right?

Sae Schatz (33:21):

More and more of this is built from many different sources brought together. How do we ensure trust in the material? Not just in the pure information of it, but even in the pedagogical or the andragogical approaches that are integrated with it. And then the last one, of course, is equity. It's absolutely critical.

Sae Schatz (33:42):

And this isn't just your classic digital divide, where some people have Internet or some people have computers, and others don't. This is really insidious because it's easy to point and say, "Well, look, everyone has computers. Everyone has access to Wikipedia or whatever. We're done." But what if some people have well formed, well validated learning experiences with quality learning content, quality andragogy and pedagogy integrated in,

Sae Schatz (34:10):

and then other people just have information—noisy, maybe separate or not semantically coherent information—we really do run the risk that you get into this almost hidden haves and have-nots. And so we need to make sure that we have quality learning experiences, quality learning data available to all the folks within the system.

Jeff Cobb (34:33):

I do think that issue of equity just does feel so important. I mean, education traditionally has been the great leveler in many ways. I think the upside of everything that's happening with technology is we enable education and learning to really fulfill that promise. But at the same time, I think, if it's done in the wrong way, we could be creating greater divides than we've had before.

Jeff Cobb (34:56):

If you were going to give advice—in fact, you are going to give advice because I'm asking you to right now—to our learning business listeners around how to effectively use learning technology, how to focus and invest their resources, what kind of advice would you give?

Sae Schatz (35:12):

Well, I think I would go back to some of the things I was saying earlier, and I would say, as a first step, start with your data. I mean, we've all heard the cliché, right? Data is the new oil. Data is the new gold. Well, it's true, right? So you have all of this data out there, or you could have all of this data out there, but are you capitalizing on it?

Sae Schatz (35:31):

*This transcript accompanies the episode of the Leading Learning Podcast available at [www.leadinglearning.com/episode267](http://www.leadinglearning.com/episode267).*

So, just as a first step, start to really reap your data, and get a water through the pipes flowing with some of these common standards that are being used across industry, academia, and government. And you don't have to use standards that we're working on at ADL—although you can look those up and find information—

Sae Schatz (35:51):

but you can find standards, for example, from that Chamber of Commerce group, from IEEE organizations, or other standards organizations that are out there. And just getting your data, harnessing it, is step one. Step two, competency-based learning. Again, there is so much value in using a competency-based learning approach. You get a meritocracy. It's more motivating for people.

Sae Schatz (36:18):

You're better able to align the training or the education with the actual jobs or the outcomes you need. And it gives you that common currency across your different data systems. The nice thing about this, just like with the data standards is, you don't have to go out and invent this on your own. So much of this already exists.

Sae Schatz (36:37):

So like, for example, the Department of Labor has O\*NET, which stands for Occupational Network, and it has competency frameworks. And for the techies out there, there's actually an API that you can ingest this information. There's a lot of other open source competency standards that are out there. I mean, my own team has produced a competency management tool again, open source.

Sae Schatz (36:58):

These are all things that are out there in the world that you can build off of. But, again, you don't have to go all the way to phase 100 with this. Just start going with competency-based learning, even if it's just on paper. That's the second step. And the last step is upskill your learning facilitators. And when I say *facilitator* I mean your designers, your developers, your deliverers, the people who work across your learning franchise.

Sae Schatz (37:23):

Help them learn how to embrace learning data, learning analytics, improved assessment, learning technologies to really get the most out of them, like, I guess, that SAMR Model that we were talking about, and really making sure that they're embracing those learning tactics and strategies so that we're not just a sage on the stage or just information delivery,

Sae Schatz (37:44):

but we're really getting the best that we can get from individual learning and, in particular, learning at scale. And eventually from that lifelong learning ecosystem that I mentioned.

Celisa Steele (37:59):

Sae Schatz is the director of the Advanced Distributed Learning Initiative and editor of the e-book *Modernizing Learning: Building the Future Learning Ecosystem*. More information about the ADL Initiative can be found online at [adlnet.gov](http://adlnet.gov).

Jeff Cobb (38:17):

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We encourage you visit the ADL Initiative's Web site, as they make a wealth of resources available to help you, as you think about your organization's learning technology needs. We link to specific ADL resources such as the *Modernizing Learning* e-book and information about Total Learning Architecture in the show notes for this episode that you'll find at [leadinglearning.com/episode267](http://leadinglearning.com/episode267), along with a transcript of my conversation with Sae.

Celisa Steele (38:43):

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Jeff Cobb (39:00):

And we'd be grateful if you'd take a minute to rate us on Apple Podcast. Celisa and I personally appreciate it, and reviews and ratings help us show up when people search for content on leading a learning business, go to [leadinglearning.com/apple](http://leadinglearning.com/apple) to leave a review and rating.

Celisa Steele (39:15):

And we encourage you to learn more about the sponsor for this series by visiting [benchprep.com/resources](http://benchprep.com/resources).

Jeff Cobb (39:23):

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Celisa Steele (39:34):

Thanks again, and see you next time on the Leading Learning Podcast.

*[music for this episode by DanoSongs, [www.danosongs.com](http://www.danosongs.com)]*