SOFIA ENAMORADO: So thank you everyone for joining us for the webinar entitled "Toolkit for Inclusivity in Higher Education." I'm Sofia Enamorado from 3Play Media, and I'll be moderating today.

I'm joined today by Sheryl Burgstahler. Sheryl is the Founder and Director of the Disabilities, Opportunities, Internetworking, and Technology Center and the Access Technology Center and an affiliate professor in the College of Education at the University of Washington in Seattle. She's also the author of *Creating Inclusive Learning Opportunities in Higher Education.*

SHERYL BURGSTAHLER: So this is December 3. I'm honored to present on this day. I don't know if we all know, but this is the International Day of People with Disabilities. So what an honor to be here and present on that day.

It's nice that we can still celebrate things like that even though we're in the middle of a pandemic and economic crisis and so forth, but it's nice to be able to just keep some things going on here by participating online. Every day I'm thankful for Zoom and email and social media and so forth for the many things that we can do without leaving our homes. Not that it is a great situation, but it actually does help a significant amount.

So I'm Sheryl Burgstahler, and my email address so you can email me with questions or anything, for that matter, is sherylb@uw.edu so I might hear from you. Just remind me that you were at this talk today.

So I direct two units like Sophie said, two units at the University of Washington. Together they're Accessible Technology Services, so you can see our focus is on technology but not exclusively. Our IT accessibility team is actually funded by the University of Washington. So state funds are used for that. And we outreach then to faculty, students, and staff and make sure that the technology that they try to use is accessible to them, to everyone, including students with disabilities.

We also evaluate software products that are being considered by the University or sometimes we already own or are licensing to make those products more accessible to our population.

But the DO-IT Center is the one that most people have heard about as far as connection with me, and it's the other part of my organization which is focused on projects that are funded by external funds, mostly by the National Science Foundation, US Department of Education, and corporations and so forth. We get funds from a number of areas.

I started dabbling in grant writing back in 1992, and my motivation was that I had been there, I guess, eight years at the university, and I really wanted to do more as far as accessibility and technology for people with disabilities. I did direct Accessible Technology Services and Network Services, and so we were supporting people that were networking their laptop computers to the network and so forth. But I wanted to do more in the accessibility world.

And looking around campus to what people do and they live their passion, they usually get their own money. That's kind of the key to get the money and to also get fund projects that are of interest to the University of Washington. And so I've done both, and so that half of the organization has been funded with external funds since 1992.

So even in 2007, we actually started a DO-IT Japan project. And there's a center over there at the University of Tokyo. Started in 2007 and is alive and well and is serving students in Japan, of course, and making technology more accessible in that country. If you want to know more about it, you can go to their website. It's easy to find.

Not so easy to read, though. You have to understand Japanese. So if you read Japanese, you can read what's said on there. So I'm not one of those people, so I'm not sure what they say on their website, although there are a few English words that are in there every once in a while, like Sheryl Burgstahler and DO-IT and so forth.

And then in 1999, most relating to what we're talking about today, we started the Center on Universal Design and Education with funding from the US Department of Education-- actually, several grants to support that center. So it started in 1999, but we continue to grow the resources that we offer. It's all about universal design, which we'll talk today, and applying it, the framework of universal design, to every

[INAUDIBLE] in higher education. So not just to teaching and learning but to other things that we do. So we'll be talking more about that. So that's me.

We take a student-centered community building approach in all that we do. Some people think, oh, we're doing so many different things. Well, we do a lot of different things. They're usually specific grants funded by some organization that want to give us some money to do something, but they all revolve around this model where in the center we have a circle with the words success of people with disabilities, particularly in higher education and careers. That's kind of what we're zeroing in on in the DO-IT activities is increasing that success, but we realize that there are multiple stakeholders that have a role to play in contributing to that success or not. And so like people with disabilities themselves-- so we work with teenagers with disabilities to help them get ready for college and then to go on to graduate school or on to careers.

Family members are important stakeholders. So we work with families, some of the parents of students who are in our program, helping them help their child transition to adult life.

Peers and near peers and mentors and allies, informal support groups. And so we have an online mentoring community for teenagers and young adults who have disabilities so they can share their experiences and receive advice from mentors as well. And gradually as they're more-- they have more activities and more experiences behind them, they become mentors to the other students in the program.

And then community groups and special programs and service programs on our campuses like Disability Support Services. We promote universal design with that group as well and help and sometimes get contact with their faculty to help them use universal design for learning and other universal design principles to make their courses more accessible.

So postsecondary administrators and K-12 teachers and all employers need to make things accessible for people with disabilities and to welcome them into their application process and simply to make their application process accessible to people with disabilities, which has not always been the case and still is often not the

case.

And then technology vendors-- we work with Microsoft and Google and other technology vendors to help them make the products more accessible and legislators and policymakers and funding agencies to encourage them to support projects that help individuals with disabilities be successful in their academic studies and careers.

We have two basic approaches. When we're working with the students themselves, we're promoting self-determination, basically a collection of skills and attitudes about being independent and making decisions in your life-- in your adult life. Doesn't mean that you don't get accommodations along the way, but it does mean that you can advocate for the accommodations you need in a specific setting.

We're not talking about that today. We're talking about the second category of things we do, and that's when we're working with faculty or staff or institutions, technology companies, all those other stakeholders. We promote universal design, and so that is what we're going to be talking about today.

Some of you have heard of universal design. So I'm hoping that this overview maybe gives you kind of an outline or a formula for how you can put all the pieces together and think about this approach more broadly.

So what do I mean by an inclusive campus? That's what I think we're shooting for is to have inclusive campus. So what would that mean?

Well, to me it means that everybody who meets the requirements with or without accommodations is encouraged to participate. Well, in what? Well, in a course, in a student services organization, in athletics, in the dormitory and those activities there, everywhere. And then these people, everyone who's qualified to be in our institutions, feels welcome.

So if you're offering an event and all the chairs are crammed in the front space, and the only place for a student in a wheelchair to sit is in the back, that doesn't make them feel real welcome. It's like they didn't think about me coming here. And so sometimes I have actually been called-- my staff have called me the police, the furniture police, because I will tend to go and take some chairs out so that a person

in a wheelchair could actually see a spot where they could sit other than in the back.

And then the person with a disability or whatever difference-- everyone, actually-- is fully engaged in accessible and inclusive activities. So accessible in that you can use them, inclusive in that you can use them side by side with people who don't have disabilities.

So what I'm trying to promote to you today-- I think you're an easy audience-- is this basic idea to promote on your campuses and ours that we want a paradigm shift to a more broadly defined inclusive campus. Often inclusive campus does not include people with disabilities in the dialogue about them, at least on our campus and many others.

So what do I mean by that? Well, a paradigm is a theory or a group of ideas about how something should be done or how it should be made or how it should be thought about. So just this broad way a community looks at things.

And the dominant paradigm is a collection of values or a system of thought in the society or organization that's widely held at any given time. It provides an almost unconscious, internalized framework that affects the way people think things should work and often goes without question. So it just kind of becomes a practice that's a common practice that barely needs to even be mentioned because it's just the way that we think.

So talking today, we'll cover some things that could lead to a paradigm shift where universal design becomes a common way of thinking about everything. And we'll talk about how you might do that.

This is not new. The first paradigm shift related to people with disabilities was in the area of curb cuts on sidewalks. On the left-hand side of the screen, I show a picture that was in the front page of the *UW Daily,* which is our student newspaper here at the University of Washington. And what it says on the back of the chair of a wheelchair user is "ramp the curbs." Get me off the street. Now, this was 1970, and he was wearing this sign around trying to get curb cuts, little ramps cut into the sidewalks so he could get up to the sidewalk rather than always have to be in the street.

Well, I'm sure a lot of people either laughed at that, like this preposterous idea at a campus like the University of Washington. If you've been here, you know how hilly it is. That's never going to happen. Or thinking about how much money it would cost, and some people were probably thinking, and how many people would really benefit? How many people in wheelchairs do we even have?

So that was his protest, and he and many others were successful in getting curb cuts to be a common practice. We now expect that when a new sidewalk is created, there will be a little ramp there, a curb cut. And who uses them? Well, people with disabilities but probably more often people with delivery carts or parents pushing baby strollers or, unfortunately, skateboarders. And so it shows how universal design can benefit everybody or at least most everybody.

So that's a paradigm shift in a small, targeted area. But wouldn't it be nice if we had something similar related to making our campuses inclusive of people with disabilities and others?

So now we will go on to the body of what we're going to talk about here, and I have a couple references. I have to promote my new book, of course. It actually is available hot off the press. Actually, the formal publication date is December 8, but it is available now.

It's called *Creative Inclusive Learning Opportunities in Higher Education-- A Universal Design Toolkit.* And so much of what I'm talking about today goes through the chapters, is woven through the chapters of this book. And there is a good deal. I think everybody wants a discount, right? And so you can get a 20% discount with the code I-N-L-E-H-E, all capital letters, if you order it from Harvard Education Press. So that's the book, and I'm just relieved that it's over. But I hope it helps campuses make some practical steps toward inclusion that fully includes people with disabilities.

And then the resource, the primary one is our Center on the Universal Design in Education at uw.edu/doit/cude. And by the way, the book is an item marked new on that website. So if you go there, you'll get more information about the book and how to order it.

And so that's the main resource. Now, we don't just promote or include our resources that we've created over the years. We link to other resources out there about universal design for learning or other types of applications for universal design and engagement. You can engage with us on this topic of universal design and higher education by joining our Universal Design in Higher Education Community of Practice. It's an online community, email based. And it's not high traffic, and so you're not going to be bombarded, but you'll hear about conferences and you'll hear about some of the stories of other people around the world who are applying universal design to higher education. And so you can send me email, sherylb@uw.edu.

So let's start with just a one-minute history lesson on the evolution of responses to human differences, including disabilities. There are books on this, so this is the one-minute version.

There was a time, and actually sometimes today around the world, where people with disabilities and some other underrepresented groups were just eliminated or excluded or at least segregated in a program, whether it's a school program or other mainstream aspects of a society. Just exclude them or eliminate them. Get them out of here [INAUDIBLE].

So then toward the middle of the last century there became a greater focus on curing people with disabilities, rehabilitating them so they use the function that they currently have and are successful in a world that may not be very well designed for them, and then accommodate them in cases where they can't do something in a class or whatever.

And so if notice all three of those things-- there's nothing wrong with any one of them, by the way. And you know [INAUDIBLE]. But the problem with it was is that that just focuses on the individual. And so some people said, well, is that really fair is that we just look at the individual as if it's their problem that they can't use the building that I just designed? Or maybe we should own part of that in our design to make it more inclusive of those people that might need accommodations as things are now.

And so that led to social justice, an idea promoted a lot in the civil rights

movements for women and racial ethnic minorities, and people with disabilities kind of took on that same charge. Yeah, social justice. We have a right. We have a right to be here and engage in programs on your campus.

But that led to a couple of approaches, one of them the idea of inclusion that people with disabilities should be able to be included in what we do. We shouldn't have to just create a whole different experience for them because they can't do the standard that a faculty member created and wasn't very well designed for that particular person.

And so including people in everything that we do and then universal design. So where does universal design fit in? Well, universal design is kind of like a response to social justice. If we believe in social justice specifically with respect to people with disabilities but other groups as well, then shouldn't we make things welcoming and accessible to them when they show up? And then the answer to that is yes, we should, and universal design provides us with a framework that we can use to make that happen.

And so for the next section of the presentation, I'm going to go through this framework that I came up with for universal design. It's not all my own ideas. I worked with a lot of other people, and I did a lot of research, informal research about frameworks. What's a framework? We need a framework.

And a lot of people say, well, the framework of universal design. It's like, what's that mean? What does that mean? Well, this is what I concluded in looking at a lot of people that are engaged in this area of application, what they've said.

And so I came up with this framework for the Universal Design in Higher Education. All the pieces that apply are around somewhere because universal design has been around for quite some time, but to organize it into a framework I thought was useful.

And so the framework includes the scope. What are you going to apply universal design to? In this presentation, we're mainly talking about higher education in everything that we do. But you also could narrow it and say, well, we're just going to apply the framework to our online learning program. That would be a reasonable thing that you're doing. Or the business school where you have a lot of enthusiasm

for this thing or something.

So you figure out what your scope is, and you figure out what definition you're using. There are various definitions floating around about universal design and various approaches to universal design as far as applications. So which one are you going to use, and what are the principles then that support it and guidelines? And then what practices will that lead to, and what process can we go through to apply universal design in all that we do?

So let's go through each one of those a little bit. The scope-- again, we're looking kind of at all higher education, every application we have, but you could apply it to instruction or more specifically online learning, to services, to the technology.

You'll see at the end of this talk I'm going to give some examples. I direct Accessible Technology Services. So I have, in my direction, used the framework in as far as the accessibility of IT around our campus, but I'm not in charge of the whole campus. And so the other efforts as far as instruction and services have been a little bit more hit and miss.

Physical spaces-- how can we go beyond ADA compliance and apply universal design? But even things like a project or conference exhibits or presentations, professional organizations that might be associated with people in our communities at our postsecondary institutions. So you pick the scope first. That's one thing.

But besides the application area, you can think about the students. What are we talking about as far as inclusion? And I think defining the student body as diverse as you can is really important. And that would be diverse with respect to race, ethnicity, cultural background, sexual identity, socioeconomic level, age, marital status, religious beliefs, values, academic interests, work experiences, and specific abilities. Or you could say disabilities there, but I kind of like to use the positive of that. What are a person's abilities? Which is generally more important when you're designing something that what their disability is. And so there are a lot of ways people are diverse, and our student bodies, of course, are more and more diverse every day.

And then you just zero in on ability, the last one on that list. Then I usually have faculty members try to think of ways that people are able or disable to do

something. And so we have a double-edged arrow here with able on the right and on the left not able.

Everybody in this webinar today and everyone in our classes, in our communities would fit on this double-edged arrow somewhere when it comes to different abilities like to understand English or social norms. There are some disabilities that impact a student as far as understanding social norms, and they have to be taught those social norms in a way that's more specific than most students because they don't pick them up. But it also could be because a person's from a different culture. They were born in a different country, so English is their second language.

And so all these abilities are not necessarily related to a disability, but often they are. So the ability to see-- many of us started way over on the right of the double-edged arrow here, being very able. And then as we get older, more people wear glasses and so forth. So our ability slides, which is often the case.

The ability to hear or walk or read print, even the ability to write with a pen or a pencil, communicate verbally, tune out distraction, ability to learn-- a lot of learning disabilities associated with that ability-- and to manage mental and physical health. Those are all different categories of ability, and everybody, again, fits there.

When I'm working with faculty, I often talk about people to think about-- because they look at a list like that and they go, how can I deal with all these things? And if we're focused a little bit more on disability than the other categories, I tell them to think of specific students who might be in their class or might use their service.

And I think of four, and these are actually people I know because they're involved in our programs. But Anthony is a quadriplegic due to a physical disability and does not have a usable voice. But he has technology where he can access the full keyboard, and he can use that technology to interface with a telephone because he provides phone support for a computer company that sells assistive technology for people with disabilities. And often Anthony provides phone support to parents whose young child has just been diagnosed with a disability similar to his own, and I'm sure that it's reassuring for them to see such a successful young man using technology to have a good job.

And Jesse has multiple disabilities where she has difficulty getting information into the computer. So she uses dictation software, but she also has trouble reading, and so getting information out of the computer. And so she uses speech-to-text software to read everything on the screen to her, all the text. And so she's somebody to think about and the technology she's using.

Adrian's deaf, and so that drives home the idea of making sure we have captions and transcripts when audio content is included at all.

And then Nicole is blind. And so she, similar to Jesse-- not exactly the same technology-- but uses technology to read the content on a screen to her as well. But she also has technology that allows her to convert her publications to braille and print them out so that she can read them in a hard-copy format.

So you just kind of think, OK, I just assume these people might come to the service. How can I think ahead of time so if they did come it would be accessible to them?

So we lead to the definition in our framework. And I use the basic definition that was developed by the Center for Universal Design because it's very broad. It talks about any product or environment anywhere. And so the definition is universal design is the design of products and environments to be usable by all people to the greatest extent possible without the need for adaptation or specialized design.

This, again, comes from the Center for Universal Design where the focus was primarily architecture in the early days but also commercial products and just gradually got applied to other things. In the early days of the internet, those of us interested in accessibility, many of us, including myself, gave talks on the universal design of web pages. And there were no Web Content Accessibility Guidelines or anything, but we came up with our own because universal design was a good fit in talking about that.

Also in the days of applying-- early days applying universal design to instruction, we built on those guidelines. And then along came along universal design for learning more focused in that area, which was a good thing.

So what I'm hitting at today is that I don't think universal design is applied enough on our campuses. We need to kind of look for bigger and better things because it's

such a good fit for many things.

As a quick example, real-life example, I was going to a conference one time, and I only came the second day. And so all the name tags were taken on the registration table except mine. And so I picked up mine, and it had a little pin on the back. And I said, oh, I've got a collar today. Do you have a clip? And the lady there was very frustrated because they had tried different things in the past, and they thought this was a good solution.

And it wasn't a good time because she was kind of frustrated. But I sat there in the conference room and I thought, now what's wrong with this particular name tag? It's not that having a pin on it is a difficult thing to use, but it's not what everybody wants to use. And so you could have multiple name tags on the table. A lot of people apparently like lanyards. That's the most popular. Got this on my little screen if you can see my image here. And a lot of people like pins. Some like clips. I do, especially when I have a collar.

And so what I did is then think about how we can make a universally designed name tag. And not to spend too much time on this but give a quick little demo is this what we came up with. So we thought, what are some of the problems with existing name tags? Sometimes the name is too small.

So we have big names. You can see this has my name on it, a very large name. Now, that's helpful for someone with a visual impairment, but it benefits other people as well who might be a little distanced from that person.

Apparently people really like lanyards. I'm not a big fan of lanyards because the name is so low on the body, and I think your name should be by you because I know my name. I want to know what somebody else's name.

And the other thing that can happen with lanyards is the name tag flips around, and so you just have a white space. It's like, do I know this person well enough to flip the name tag? And the answer usually is no. And if it's yes, I already know that person's name, so I don't need to. Although there's a simple solution to that is we just put the name and information on the back. It's just double sided. I'm not a big fan of lanyards, but I think people that want them should be able to use them.

But this part-- and this is commercially available. It might be difficult for you to see, but I'll describe it. On the back of the plastic name tag, it has a clip. So there's the clip I was hoping for. It also has a pin. If you can see, there's a safety pin that runs through that clip. And so I could pin it to a sweater or whatever. But the other interesting thing is the clip then at the top can be clipped to the lanyard, and so I could use it as a lanyard if I wanted one day and then use the clip or use the pin or whatever.

So that's maybe a long story, too long, but the idea is you have to ask the right questions. And at a conference with name tags often people say, what's the most popular one? People like lanyards. Let's do that. Rather than ask a different question-- how in our name tag design can we meet the needs of most people or more people, maybe all people, and so forth? And so that's a way of thinking, a universal design way of thinking is to try to meet the needs as much as possible of everyone.

Universal design is not the only proactive way of designing things. There's accessible design, which typically applies to people with disabilities. Universal design is about everybody, that everyone's need would be met. Will it always be possible? Well, maybe not. We're probably not going to think of everything, but that's what we should be shooting for.

Usable design, on the other hand, is whether you can use a product. And so for a product like a piece of software, can you use it? We've all had terrible experiences with some stuff where we just can't figure out how to use it. It's just not intuitive. Well, universal design cares about that and tries to build that into the design.

And so a good example of that is Hadi on my staff, who happens to be blind, told me about some software not long ago where the company made it accessible is they just created the product willy-nilly, and then after the fact they just created shortcut commands for people who couldn't access the pull-down menus and some of the other navigation features.

Well, he said they end up having to have about a hundred of these shortcut commands. And then so technically he as a person who's blind and using a screen reader could access the software, but that's not very usable. It's not reasonable for

him to have to go through that extra work. And so that would be a product that is accessible but not usable.

And then the third category is inclusive as far as being a universally designed product. Inclusive design then is just making sure people are working together using the same product and so forth. Maybe a lot of different features they're using, but they can be part of the group.

And then barrier-free design is usually something along the lines of accessible design. Sometimes it just refers to barriers in the physical environment to people who have mobility impairments.

And then design for all, as far as I can see, is the same thing as the universal design. And there are many other words that can describe it.

So I want to emphasize this idea that universal design is inclusive, and it also goes beyond the ADA compliance. And so here we have an image of a front door to a building at our campus, a very new building. It has two steps going into the main entrance and then a ramp that goes along the side, has railings. My guess is that this is an ADA-compliant ramp, and it's definitely accessible. It's very usable, but it's not inclusive. If I'm walking side by side with someone using a wheelchair, we won't continue our conversation when we go different ways to get into the building. So it's not inclusive.

Where this design, which is a sloping ramp going into a building-- very wide ramp, if you notice, a gentle slope. I can walk side by side with someone who's using a walker or wheelchair or whatever, and we can continue our conversation. And it's wide enough that people coming the other way can go past us.

Now, there are plenty of steps in this building, but the steps are the secondary choice. The primary entrance to the building is the one that's most accessible.

So one desire and accomplishment with universal design is that it impacts accommodations. Today, an accommodation model is what most campuses are using. That's part of universal design as I define it, but we have a circle here with universal design and a big circle of accommodations inside that. That would be a campus that's focusing primarily on accessibility as far as providing

accommodations as their primary approach, where the one on the right is a more universally designed approach where accommodations are minimized because so much is built into the environment, into products like courses and so forth.

And so that brings us down to principles and guidelines. And to follow this particular framework, there are actually three sets. And my guess in this audience, there are many of you that know about one set and maybe not the other two. So I'm not going to go into great detail, but there are seven principles to the original universal design definition for products and environments that are very applicable to higher education. And then the three principles of universal design for learning, which really nail down the special things to think about as far as teaching and learning activities and resources. And then the fourth one is the Web Content Accessibility Guidelines, and the principles-- there are four principles that underpin that one. So I'm just going to go through this briefly so you kind of get the idea, and then I'll tell you the good news after I go through these three sets.

The principles of universal design are very inclusive. And they talk about flexibility in using things like a computer; equitable use so people have access to things; simple and intuitive like that software example I gave you; perceptible information, that a person who's blind, for instance, can perceive the information; a tolerance for error and low physical effort, unless you're teaching weightlifting; size and space for approach and use. All of these would apply to any product or environment but particularly to the physical environment, like computer labs and engineering labs, maker spaces, things like that.

Then universal design for learning is very popular, particularly in K-12 but more and more in higher education, for teaching, universal design for learning activities, and things like that. So three principles-- that an instructor offers multiple ways of representing things, multiple means of engagement, and multiple means of action and expression.

I work with a lot of faculty, and they have trouble with some of these words and what they mean. And so it may not be exactly the same thing, but I usually restate that as the faculty member providing multiple ways to what-- to learn, maybe using a video, using handouts, and so forth, discussion groups, lecture, all those sorts of things. So multiple ways of learning, multiple ways to interact with each other and

with you as a professor, and alternative ways or multiple ways to demonstrate their learning. So you have a portfolio of things that will test what a person has learned rather than just essay tests periodically in the class. And so that's what we look at.

But the basic idea is this, according to a Vietnamese monk who probably wasn't talking about universal design, but I thought about it the moment I saw it. "When you plant lettuce, if it does not grow well, you don't blame the lettuce. You look for reasons it's not doing well. It may need more fertilizer or more sun or more water."

So the idea is, let's say in an online course, that when students aren't doing well you first ask yourself, could I design this course a little differently so it would be more accessible to them and they would be able to learn this? You get tons of questions about assignments. Could I define that differently next time I teach a class and so there wouldn't be so many questions? Things like that.

And the last one is the principles for universal design of IT. And these underpin the Web Content Accessibility Guidelines. They can be applied to websites, of course, but also any other digital tools. And so these tools and content, they're supposed to be perceivable, operable, understandable, and robust.

At quick glance, you can see there's a lot of overlap between these three sets of principles, but I think it's good to just kind of touch on all three to make sure we don't forget about some things. For instance, I often listen to presentations on universal design for learning where they're really using practices or technology that's not accessible to students with some types of disabilities. So we want to make sure that we apply all of those.

And so what that amounts to is a framework, then, that has all of these principles listed together. I'm not going to list them all, but they're the three principles of universal-- seven principles of universal design, the three of universal design for learning, and then the WCAG principles, four of them. So you just put them all together.

And I have not been able to find an application where you couldn't get some guidelines from these principles in order to apply what you're trying to [INAUDIBLE]. And so the nice thing about these three sets too is they're very well developed and have been applied a lot, and there's research behind them. Not always the

conclusive research which we would like, but there's at least some evidence. And they have been modified over the years so that they're really carefully carved out.

So here's the good news I promised you. I think you could take all those principles, and particularly in teaching but also in student services and things, could summarize what you do this way, and you'd cover all those principles.

So the first thing is to provide multiple ways for participants to learn and to demonstrate what they have learned. That could even be in a presentation or a course where students have opportunities to learn things in different ways and to show how they've learned in different ways. And then provide multiple ways to engage.

These first two are really equivalent to the first three-- the three in universal design for learning, right? But the last one is really important too, and that brings in universal design and WCAG to ensure that all these ways that we're talking about here and all the technologies and the facilities and the services and the resources and the strategies that you're using are accessible to individuals with a wide variety of disabilities.

So someone applying universal design for learning might look at some practice that they've developed and then ask themselves, well, which UDL principle does it relate to, but then also how accessible is this to people with disabilities? And so take another round of looking at what they've come up with.

So there are a lot of practices, then, that would come next in the framework that could be used. And they are the four main categories that I see are instruction and services and information technology and physical spaces. I also mentioned at the beginning of this talk things like professional conferences and so forth could be included as a fifth area.

And so what you can look at-- the checklists that are available on our universal design in education website are checklists for how to apply it to instruction. So how would you apply these principles to class climate and interaction; physical environments and products that you're using for instruction, including manipulatives; the delivery methods; the information, resources, and technology;

giving feedback; assessment; and again accommodations because I see accommodations as being part of what you're providing when you can't make a product or environment fully inclusive of everybody.

And so that's a lot of detail that you can take a look at if you go to our center website. Most of these checklists were created in collaboration with a lot of stakeholders and a lot of editing and sometimes tested with stakeholder groups.

And then the last thing for the framework of universal design is, how do you apply it? Well, I think the first thing to do is to identify the application and what best practices are in the field. Faculty members are relieved to find out that I'm not going to contradict them about what kind of major practices they want to use in their field and teach in that class. But once they choose those best practices-- which many times, by the way, have never been tested on people with disabilities-- then consider the diverse characteristics of potential users of whatever it is you're working on.

And integrate universal design in higher education along with those best practices in the field. So it isn't like taking over all of your practices. It's just like an add-on. You're looking at things through a universal design lens.

Then plan for accommodations. Faculty members, for instance, should think about it ahead of time. What would a student in my class-- let's say Nicole, a blind student in my class. What accommodations would she need? How about Adrian? That's the deaf student. What might he need? And just think through those things and see if you could better design your course, but also be prepared to make sure that those accommodations are provided when necessary.

And then you just evaluate what you do, and then go back and refine. And so that's the whole framework. It's not rocket science, but what it takes is existing principles and guidelines and so forth and puts them in a little package that you could use when you're designing anything on your campus or you want to apply universal design.

Many people kind of get stuck at the very beginning. They'll give a presentation or try to promote universal design on campus, but they don't say what the definition is. And you know the one that I use, but there are others out there as well. And I find

the one from the Center on Universal Design to be the one that's widely accepted, first of all, but also it's very general to everything we do on campus.

And so that's the framework. And then if you just look at that framework but also just the basic idea of universal design in higher education, it's an attitude. Universal design-- I was talking about that paradigm shift. It's a way of thinking about things. It's an attitude about everything, whether it be at a conference and you don't like the name tags because they're too restrictive. It's rethinking, how could you design that to have more needs met or preferences met in that case?

It's a framework. We just talked about, well, there's a framework, a potential framework for it. It's a goal that you probably will never fully reach, but you're always looking to make whatever you're doing more inclusive of a broad audience. And it's a process, which we just talked about.

It supports social justice, so it's very consistent with your diversity, equity, and inclusion efforts that seem to be going on on every campus right now. And it values those things. And so it fits right in, although I warn you if you haven't looked into this that often these diversity, equity, and inclusion activities and plans are not talking at all about disability. So if you can get on these committees-- I'm on one right now. Actually, I'm on two about DI and a department and a unit. And at the unit-- well, I get on them because I want to be the little voice in the background saying, well, what about people with disabilities? Because sometimes they're recommending something to do, and it's not accessible to a person with a disability.

I have no problems in focusing on, let's say, racial and ethnic minorities. That's great. But let's remember that people who are racial and ethnic minorities, some of them also have disabilities. And so we should be thinking about it no matter what group we're working with.

So universal design in higher education promotes best practices, does not lower standards. It's proactive. You think about things ahead of time. And it can be implemented incrementally. You don't have to do everything all at once. I encourage faculty to take one baby step, do one thing this next term to make their course more inclusive. It benefits everyone and minimizes the need for accommodations.

One disadvantage-- it's not really a disadvantage, but you could look at it this way-- is if you really universally design your course, you won't even know who's benefiting from it because they didn't need an accommodation. And so some faculty find that frustrating because they're happy to provide an accommodation if asked. Anyway, that's kind of, I think, a delightful thing about it. A student with a disability doesn't have to tell you about it-- it's their private information-- if you make things accessible from the beginning.

In a class I teach online at City University of New York, it's actually on universal design in higher education. I have an assignment where people go out on the internet and look for images of physical spaces that demonstrate universal design, but they can't be labeled that. You can't go to the Center of Universal Design and find something. It has to be out in the mainstream.

And I thought about that assignment I want them to do, and they have to report back and other things. But I thought, oh, who can't do that? Well, maybe someone with a slow internet connection, but certainly a student who's blind, they'd have to have help to do that. And so right in the assignment I build in this idea. I say an alternative to this assignment, an acceptable alternative, is to describe a physical environment that you thought was universally designed in some way. And so that's another thing. If you're thinking about it all the time, that's the type of thing you might come up with.

So I promised that I would talk about a model for applying this framework of universal design in higher education, and so here it is, a quick look at it. And so you start with a vision. What's your vision? The one I put in here is an inclusive campus.

And then you fill in your values. These are the values of the University of Washington of the home page-- that's the president's office-- and the Diversity page. I came up with four things. Diversity is a value, equity, inclusion, and also compliance. We're complying with things all the time. So all four are values that are related.

Then the framework, all those things we just talked about, you'd flesh them out for your practices and stuff for your particular organization. And then you'd have almost a table or spreadsheet where you'd list all your current practices. And then

the next column would be, well, what can we come up with-- the current practices. What could be new practices to replace them to embody this universal design perspective?

Then try to measure some outputs, outcomes, and whatever, and see how you view the impact. And the impacts, if you notice, are the four areas that are under values. So is there some evidence that suggests that you're making an impact in those four areas?

I'll just end then with a quick application of this model to IT, accessible IT. A lot of you are in that field. So what's the vision? Well, ours on our campus is that IT procured, developed, and used is accessible to everybody.

What are the values? Diversity, equity, inclusion, and compliance. Again, this is for our school, so I came up with this.

The framework-- universal design in higher education's scope, definition, principles, guidelines, practices, processes. We went through that framework.

Current and new practices-- we look at, what did we do in the past? What are we going to do now? And then we do some measurement, and hopefully it will impact our vision and our values that are listed above.

Now, some specific practices-- so this gets really down to boots on the ground that we employ that are consistent with this model-- is we promote accessibility of IT within the context of a social justice, inclusive campus using the universal design in higher education framework.

Build on existing policies and procedures and job and unit assignments. For instance, we model many of our IT efforts on established IT security efforts. They've been around longer-- applied this in greater detail for longer. And if you look at the security-- I'd challenge you to look at the Security page on your campus. I bet you could almost change the word "IT security" to "IT accessibility" and have your basic approach.

And we do a lot in common with them. For instance, we helped develop the wording to put in contracts for IT. We combined the accessibility and the security statements to one statement. And so we can streamline that process and also get accessibility

out, more visible.

We created a high-level task force that represents units across the campus. We assigned accessibility roles to our IT accessibility team, specific things. I brought in someone to work only one day a week on accessibility. And so he wasn't going to contribute a lot of times, so he became our video-captioning expert. So he was able to contribute. He didn't have to learn everything that we're doing on campus as far as IT accessibility.

And then we felt we needed some group that was out there in the trenches promoting IT accessibility. We call these people IT accessibility liaisons. It's a grassroots effort. We recruited about 150 so far. They participate in three trainings a year and otherwise promote accessible design.

We post resources. We have a nice website and a discussion list online and so forth.

Other things we do-- we undertake efforts that are both proactive and reactive. On the proactive side, we promote the accessible design of websites. On the reactive side, we work with our Disability Resources for Students office to make sure that they can have the tools and expertise they need to make accommodations. We go top down. We go bottom up and middle out. So there isn't any reason why you have to limit what you're doing because you don't have top-down guidance, for instance.

I prefer the middle out, actually. I think we get the most done there. That's our liaisons. They're middle managers, or at least usually, and they can affect people above them and people below them.

Integrate training and activities with those sponsored by other campus units. So the College of Education offers a course on-- courses, actually, on designing your online learning classes for faculty where they discuss accessibility in there. We also have an online course on that same topic. It includes accessibility.

We search for internal funds for some special things to offer incentives. Like we have a little pot of money where we can freely caption some videos and remediate PDFs if you can make a case for that because they have high impact. And that kind of promotes those good practices on campus.

And we purchase tools like Site Improve to check for web accessibility and Ally within a Canvas course. Our learning management system checks for accessibility. SensusAccess is kind of a quick reformatting from one format to another. So if a student is blind, is working on a term paper on Saturday night and runs into a document that's not accessible that they want to reference in their paper, they could convert it from an inaccessible PDF to a sort of accessible document but wouldn't have some of the features you'd prefer to have for a person who's blind. But again, they can use it themselves when the disability services is not open.

And we give capacity-building awards to people that make efforts. Like we gave them to the libraries and College of Education to recognize groups that are making some progress.

And we recently conducted an IT accessibility challenge where people can go through this list of things and do things and then get listed at our website as somebody that has succeeded in the accessibility challenge.

So that's the end of my talk here. I want to remind you about the book if you want to get that discount I mentioned. Check out our Center on Universal Design at uw.edu/cude. And send me an email if you want to join the Universal Design in Higher Education Online Community of Practice. And I'm at sherylb@uw.edu.

So are there any questions?

SOFIA ENAMORADO: Yes, thank you so much, Sheryl. We have a couple of questions. We'll try to get to as many as possible.

The first question is, can you buy the book in an accessible format?

SHERYL BURGSTAHLER: Well, it's published by Harvard Education Press, and they have assured me that it is. I haven't tested that, but you can test it. And you can even send me an email if you haven't gotten the response that you want because then I can put pressure on specific people over there at Harvard Education Press, and I'm willing to do that. I'm hoping they're doing it.

SOFIA ENAMORADO: Perfect. The next question we had is if you had to start from scratch after writing policies, which area would you start at, spaces, IT, services, or instruction?

SHERYL BURGSTAHLER: I would start with the one where I think they're most open to this approach. Everything being equal, I would go with online learning or learning because that's what we do at a university. We should be able to offer inclusive courses, and so I'd go to that one.

But if you had people that were really motivated in the student service area or something, I would consider that in the decision. And IT is another place that's a good place to start as well, but kind of think what your biggest bang will be, and I think most of it will be in teaching and learning.

SOFIA ENAMORADO: Great. Thank you. The next question we had is, could you comment on how to make an online course more accessible to students who use a phone as their main means of participating?

SHERYL BURGSTAHLER: Oh, good question, using a phone for participating. It's kind of like-- and it's not exactly like, but it's as if you-- some of the things that would benefit your students would be things that benefit students with visual impairments that have to have a very large monitor or have to just enlarge things so big that they can't see the whole screen at a time. And so things like word wrapping and things on a website are really important so they don't have to keep looking around the page. So those types of things.

Avoid PDFs because people often have difficulty opening PDFs up on a smartphone. Those would be the two main ones other than just general accessibility that you'd want to consider. And we have a document on our website that is good for that. It's called 20 tips for making your online course accessible. So there are things there that I would apply that would benefit people that are using a phone as well.

SOFIA ENAMORADO: Great. Thank you. I believe we have time for one more question. The question we have is, what is your approach to improving software, such as engineering software, that is highly visual and highly unique in its function that may not have other comparable products?

SHERYL BURGSTAHLER: That's a great, great, great question. We're all wrestling with that. We live in a very distributed campus, and we don't have a lot of top-down rules in that regard. And so we've had to use the middle-out or the bottom-up sort of strategies. I mentioned that as far as working with the procurement office, they've been very open for us to

work with our security folks and come up with some wording to include in contracts about accessibility.

But that doesn't mean that a person can't buy an inaccessible product, and that's just where we are today. Some campuses have had groups that evaluate the software for accessibility and it has to pass this test and so forth.

The disadvantage of that, frankly, is as you mentioned, a lot of products just don't have an accessible alternative. So our approach has been to have someone like Hadi and others work with the vendors to make their products more accessible.

One thing about having something formal too is just because you buy a product that's accessible doesn't mean it's going to be accessible in the next version. And so it's a lot of effort. You have to decide whether it's worth it.

We really focus on our high-impact technology-- Workday for submitting your hours and so forth and also Canvas, our learning management system. We've done over the years a lot of work with the Canvas developers to make Canvas more accessible. And sometimes they've gone along-- in one particular case, they've come along pretty accessible. And then they came to a new version, and bang, all the accessibility features were broken.

And we investigated, and what did we find out? Oh, that guy that does accessibility, he moved on to a different company, and we don't have the time to do that right away, so we had to get this next version out. And so it's a constant battle to get more products accessible.

If the only thing you can do-- and we will do this-- is tell the company, put them on alert and say, we'd like to buy this database for our library, and how accessible is it to people with disability? So I'd be very specific and say, kind of like the four people I defined, how accessible is it for people that can't use their hands, for people who are blind, for people who are deaf or whatever?

So put the onus on them to tell you. And then if it's not fully accessible, so what is your commitment to accessibility? And along the way you say, our campus really prefers to buy products that can be used by all of our faculty, students, and staff, and that means people with disabilities as well. Because if we put people on the

alert, the next time they hear that, they might be more inclined to make things accessible.

SOFIA ENAMORADO: Thank you so much. Well, this is all the time we have, but I will make sure to save all the questions to pass on to you, Sheryl. Thank you, everyone, for attending, and thank you, Sheryl, for such a wonderful presentation.

SHERYL BURGSTAHLER: Have a good day. Stay safe. Stay healthy.