SAMANTHA SAULD: Thanks for joining this webinar entitled Tips About Accessibility for Online Learning Instructors. I'm Samantha Sauld from 3Play Media, and I'll be moderating today. I'm joined by Dr. Cheryl Burgstahler.

Cheryl Burgstahler founded and continues to direct two centers at the University of Washington, the DO-IT Center and the UW Access Technology Center. Dr. Burgstahler is also an affiliate professor in the College of Education.

Her teaching and research focuses on the successful transition of students with disabilities to college and careers and on the application of universal design to instruction, student services, technology, and physical spaces. And with that, I'll hand it off to Sheryl, who has a wonderful presentation prepared for you all today.

SHERYL BURGSTAHLER: Hello. Well, I can see that some of you have been responding to the poll. And looks like what I expected, that we're not a super homogeneous group. But for everybody, there is some connection to [INAUDIBLE].

And I can't see your poll results right now, but I'm hoping that they will-- there we go. Things that are coming in, and I'll just make a little comment on them. About half of you so far, more than half, 65%, 57%, almost 60%, have taught an online course. That's good.

It helps understand the little tips that I'm giving, because they're things that you've done before probably, or things that you've done similar things, but maybe can make them more accessible. Helping to design a course that someone else might teach, this is a good talk for that group as well. And they're about 40% of you that have done that.

And have you trained instructors? A little smaller percentage, but actually over a third of you have actually trained instructors about teaching online. And creating technology resources and so forth-- a lot of us have done that and have probably learned that there's so much stuff out there, what do you choose?

You make your own resources, of course, but then you have to update them. But if you choose other resources, which ones do you choose that would be appropriate to your faculty? And so that's about 45%.

And then addressing accessibility in the design of online components of a course. About half of

you have already done that. So that's great. I hope that you'll find one or two things, maybe a little bit more, you might want to use, even some resources that might be useful. And you've taught instructors how to design accessible online courses, a smaller percent, as I'd guess, about one fifth of you. And then created resources for teaching an accessible online course. Over a third of you have done that, which actually is a higher number than I would have expected.

So I'm going to share my screen and show-- so you can follow along with these PowerPoints. As has been mentioned, you will be able to get a copy of these. And also, you'll see the resources that will be presented. So I'm assuming you can all see these PowerPoints right now? All right. If not, let me know before I go on here.

But some of you have probably heard me talk before. So I always have something new and a little bit different perspective, but it's an evolving process. And you may or may not know that I really try to focus on the area of how we can take a lot of technology tips, a lot of things out there, really technology content, and distill some things, but also come up with things that the faculty members can actually do without being overwhelmed.

And so I'm going to be talking about tips about accessibility for online learning instructors, particularly for online learning instructors that do not have expertise in this area. Obviously, there are some that do, and that's great. But most do not. And in this day, we are seeing thousands of faculty members who have not taught online before, converting their courses on campus to online instruction. This is not a time to give them a long list of suggestions or point them to the WCAG 2.1 accessibility guidelines and just say, do this.

And so what would we tell them that would be useful? That would do two things. That would help them make the course more accessible, but then also it would kind of lead them down the path of increasing accessibility in the future, and at least acknowledging that accessibility is something that should be considered when you're designing and delivering a course.

So I'm the director of accessible technology services here at the University of Washington. I've been around for a long, long time doing various things in IT. And my email address is sherylb@uw.edu, Sheryl Burgstahler.

So we're going to be talking about tips for online learning instructors, and again, that may not have experience in this area. And we don't want to overwhelm them. I do have a book as a

reference, *Universal Design in Higher Education-- From Principals to Practice.* And there are over 40 authors and co-authors in this book that has been published by Harvard Education Press. I'm writing a follow up book that will be available pretty soon. It's called *Creating Inclusive Learning Opportunities in Higher Education-- a Universal Design Toolkit.*

And I also have an online discussion list. It's not a real high use one, and so you're not going to be overwhelmed with messages in your inbox. But you can send me an email message, and I hope you join that community.

So as was mentioned, we have two units at the University of Washington and in ATS. One is the IT Accessibility Team, and that is funded by the University of Washington. It's been around since 1984, using different titles, of course. But a group that is funded by the University of Washington to reach out to faculty, students, and staff, and help make our IT campus-wide more accessible to people with disabilities. And that includes all three of our campuses and also to visitors to our campuses.

And then there's the DO-IT Center. That started in 1992, supported with federal, state, corporate, private funds. We expanded to DO-IT Japan at the University of Tokyo in 2007 and developed the Center on Universal Design and Education in 1999.

All of these projects are funded by the National Science Foundation, Department of Education, and foundations in order to make programs and resources accessible to people with disabilities, and to support individuals with disabilities as they pursue college and careers, and use technology as an empowering tool.

So the project that I'm highlighting today is our AccessCyberlearning project. Which, we've had two grants so far from NSF to help us help the developers of technology for online courses and other digital learning that is accessible to students with disabilities. And so that's an ongoing effort we have. And we get into a lot of the technical details, but our whole purpose in that project is to make sure that the next generation of tools are accessible to students with disabilities.

So when it comes to accessibility, what do faculty members really need to know? They need to know a lot if they're going to make a course that's fully accessible in every way possible. But they don't need to know a lot in order to have an impact. By an impact, I mean that their course would be more accessible and thus require fewer accommodations for students with disabilities where they'd have to approach the Disability Services office to get those

accommodations.

So I have a list of campuses on the screen right now. And you don't have to know exactly all of them that are on here. But it starts with Harvard and the University of Cincinnati. And we have South Carolina Technical College system, Florida State University. You'll see campuses that are similar to your own on that list. And what they have in common is that they have received accessibility complaints through the Office of Civil Rights or the Department of Justice, saying that their IT is not fully accessible to students with disabilities.

So one thing people who are developing online courses need to know is that there is a legal obligation to make our resources accessible, but that does include providing accommodations. But again, what you can do upfront requires fewer accommodations.

So in all of these resolutions that various campuses around the country, and there are hundreds of them now, have resolved their-- made their resolutions with the Department of Justice or Office of Civil Rights, have used as their definition of what it means to be accessible when we're talking about IT. And so that would be online learning, of course.

Accessible means a person with a disability is afforded the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use.

The person with a disability must be able to obtain the information as fully, equally, and independently as a person without a disability. Some people are frustrated by this definition, because it doesn't say, well, you have to comply with WCAG 2.0 or 2.1 or so forth. I'm actually one that likes the way the federal government defines disability and considers it in our legal-- in the legal domain because this is about civil rights. And so it just means that everything we do-- everything we offer should be accessible to individuals with disabilities.

And that's what we're trying to accomplish. So what, specifically, is the legal basis for all this? Well, you've probably heard about the Americans with Disabilities Act of 1990, and perhaps the amendments of 2008. But actually, the requirement goes way back before we had a worldwide web. Section 504 of the Rehabilitation Act of 1973 is also civil rights legislation that requires that we make whatever we offer available to individuals with disabilities. And post-secondary campuses and online learning programs are covered entities under that legislation.

Then the Americans with Disabilities Act-- 1990, 2008. And many of us have state and local laws that we have to comply with, as well. And sometimes, those are stricter than the federal ones, and so you should be aware of that. That's one thing that's just important to know-- not in detail, but a fact we should know. There's a legal component to this. I don't like to start with that with faculty, but it's important to know that we're not just providing a social service here. We're meeting our legal obligation to make whatever we're offering accessible to the students in our class.

So I actually have the distinction of teaching the first online course-- fully online course at the University of Washington. That was 1995, so I was just a young teenager at the time, of course. But I taught it with Dr. Norm Coombs, and some of you know him. He's been required for quite a while, and he happens to be blind, himself-- was a professor at RIT. And we taught the course, Adaptive Technology for People with Disabilities. He and I had given a lot of on-site presentations and workshops before this, and our question was twofold. One, can you offer any sort of a class online that's similar to, equivalent to-- whatever you want to call it-- an on-site version of it? Knowing that in this class, we always had people try out assistive technology and look at alternative keyboards and things.

And then the other one is, could you make it accessible? Could you make a course accessible to people with disabilities? And what would you have to do to do that? This was in the olden days, so we didn't have many tools. Electronic mail, discussion list-- we had a Gopher server. Some of you may remember that. Before the worldwide web, University of Minnesota presented a tool. It was more like an outline, but you could link to different things on the internet. Telnet, which allowed us to move files back and forth when we wanted to-- images and so forth. And then a log on to actually log onto systems like NASA and so forth with telnet. File transfer protocol was the protocol that we can use to move text around or files around-- all sorts of different files from one system to another.

So we had online materials. They were all in a text format back then because they were provided on Gopher or they were documents or whatever, and we used postal mail. We mailed publications, and we could mail them in alternative formats. We used captioned and audio described videos that were created for the DO-IT program using VHS format. Some of you may remember that. And they were captioned and audio described, so they were fully accessible.

So we had a very accessible course, and we were proud to say when the people within our

online learning program here at the University, which wasn't called that at the time, but they asked, how many students-- you went to all this work. How many students did you have that had disabilities? And we were actually very proud to say that we didn't know. A few of them had disclosed. We had no idea about the others because our course was fully accessible in our technology we used and the practices we employed to a person who has a disability, but also, someone from a different country with the English language learners or it was in a different time zone, et cetera.

And the reason I point that out is really nothing has changed in a major way. We have many, many, many more tools, and that means we have a lot of ways that they can be inaccessible, particularly with graphical user interfaces, but you'll see in one of my recommendations is maybe not use so many tools, and it'll be more accessible. And students-- so they don't have to use a lot of different tools in your class. But also, you deal with accessibility issues in a shorter number of tools.

So a good way for people to look at accessibility, I think, is not from the Disability Services perspective, where they have documentation to show you have a disability and they have to have medical diagnosis and all these things. That's not what the average online learning instructor, like myself-- we just need to think about having diversity in our class. And you can think about this in terms of all kinds of abilities, where you're not able, if you're at the left-hand side of this double edged arrow, or you're very able on the other end of the double sided arrow.

And so the ability to understand English, for instance, might be related to cultural or what your first language is or whatever. We have a lot of variety there. It might have something to do with a disability, but it doesn't really matter. Just-- we need to think, as instructors, that we have this continuum of ability. And even ability to understand social norms-- that, again, could because of cultural reasons, because of a disability, and so forth. But also, the ability to see and hear and walk and read print, to write with a pen or a pencil, to communicate verbally, to tune out distraction, to learn, to manage physical and mental health.

All of these things are characteristics that individuals might have, and they will be at different levels of ability. The reason I like to bring this up is sometimes, faculty say, well, should I survey my students and ask them what disabilities they have and what needs they have? And I say, well, I'm not opposed to surveying your students, but universal design that we'll talk about today is about just anticipating that you have students with these characteristics, and prepare

for them to at least minimize the accommodations they might need when they get into your class.

So an accommodation-focused approach is to just wait until you've created your course, and if a student with a disability enrolls in it, and you adjust an existing product or the environment for a particular person. So online, the common accommodations regarding IT, particularly, are creating accessible documents because many faculty members use inaccessible documents. And so the Disability Services Office will remediate those, perhaps, or use some online tools to do so, and so forth. And the other one is captioning videos for videos that you're using in your class that do not automatically have captions.

But sometimes, it is the design of the product or environment we should be looking at, rather than the student with a disability, once they enroll in the class. And I like this image. Some of you have seen it before, I'm sure, but it's from the Catalog of Unfindable Objects, and it is a coffeepot that has the spout and the handle on the same side. It would be very difficult to use, and I think it's a perfect example of a product that's not really very well designed. There are a lot of people that would not find this product usable, and so it would be good to maybe look at redesigning the product, rather than figuring out how we might use this one. Like maybe we could actually turn it on its side a little bit and pour coffee out of the side-- take the lid off-- or of the back, maybe. Maybe just even, in that case, put a piece of duct tape over the spout so that stuff wouldn't come out of it and end up on your hand.

Anyway, so the whole idea is, let's look at the product now, and that's what universal design is about. It doesn't mean we don't have to provide accommodations for some students. It means we should take responsibility for making our course or anything we're offering accessible as much as possible on the front end in planning. So universal design has been around a long time, applied to the physical environment and to commercial products and to technology and, of course, to online learning. 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.

So what can we do now to make our courses more accessible? There are a lot of other terms that are used for this and similar concepts that involve proactive design. Universal design is as broad as any of them, arguably, because universal design requires that you make your course accessible. So technically accessible to a person with a disability or other people using maybe low bandwidth technology, for instance. You make it usable-- so it's actually functional for them, besides being accessible. But you also make it inclusive. You don't just create a different

website for a student because they're blind and use another website for everybody else. So you try to be as inclusive as possible.

Accessible design is usually used to talk about accessibility to people with disabilities, and universal design goes beyond that, as I just said. Usable design, in and of itself, is about how a person uses a product and can you get from point A to point B in an efficient way, looking at the functions of that particular technology. Inclusive design is the part of design where everyone's working on things together. You have a small group, and you don't separate people by disability type or some other unreasonable way, and then ask them to do that. You kind of include everyone in some way.

Universal design can be used right alongside of design for all. As far as I can tell, they're used to mean the same thing. And barrier-free design, sometimes too, but often, barrier-free design talks about the physical environment for people, usually with mobility impairments.

So a lot of ways to talk about what I'm talking about today, but then one of the most important things to think about in universal design is when we use a universal design strategy, it also benefits a lot of other people, even if we're thinking about a person with a disability. Captions, for example. Sometimes, people think about captions-- well, they're for students who are blind-- I mean are deaf, excuse me-- or have a hearing impairment. But they benefit a lot of other people, too.

People who cannot hear the audio, maybe because they have the audio turned off because their baby is asleep. English language learners benefit from captions, so they can see the spelling of words. People that are in a noisy environment, like an airport, can look at the captions and follow along. If you have a slow internet connection, you can benefit by just reading the captions. And if you want to know the spelling of words, like maybe you're looking at a lecture in chemistry, you want to know what those words-- how those words are spelled when the faculty member uses them. And if you want to provide content-- find your content quickly. If you have a long course and a lot of videos, wouldn't it be nice if you could search through the captions if you have the correct tool to find the content you're looking for.

Our smartphones are a good example of universal design in that they build in a lot of accessibility features, but they're also assuring compatibility with assistive technology-- any special technology that people with disabilities might be using to access it, including screen readers-- technology that people are using because, in that case-- perhaps, because they're

blind. Can they still use that technology that they're familiar with, with the smartphone?

So in applying universal design to online learning, three things to think about, as far as the design, is providing multiple ways for students to gain knowledge by using videos and text and other ways to gain knowledge, maybe through a discussion. Different ways to interact, different ways to demonstrate knowledge by providing alternative ways of assessment-- lots of different ways of assessment. So in all of these cases, of course, you want to use accessible practices, as well.

So the whole idea in an application to instruction is expressed by this Vietnamese Buddhist monk who said, 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 fertilizer or more water or less sun. So we look at the environment, then, in that case, rather than blaming the product-- the end product, which is the lettuce, in that case.

So let's take a look at some of the end users of our online learning. Let's imagine three people are in your class. Just assume they're in there, and then plan accordingly. And so we have Anthony. He works at a company that creates and distributes assistive technology, Prentke Romich. He has a disability that requires that he use grammar and spell checkers-- just standard ones that other people use. He uses a synthesized voice on a communication device because his voice is not understandable by most people. And he can use a touch screen, but he also uses computer-based environmental control and phone access.

And so he uses a lot of technology, but one of the amazing things is even though he can't use his voice, he provides phone support, particularly to parents whose children are using assistive technology. And he uses his synthesized voice and his connection to a telephone on his technology, and it's pretty exciting to think of a parent that has a child that's diagnosed with cerebral palsy or some similar condition, and can realize that a person can have a very technical career and live independently, like Anthony can.

So Nicole-- she might be in your class. She's out of school now. She had a computer science degree at Stanford and works at Google. She's blind, uses speech output, Braille translation software, and a Braille display and printer. So we want to make sure what we have is compatible with all of that.

And Jessie, who graduated in informatics at the University of Washington and works for Amazon. Her learning disabilities require that she use speech output, speech input, and

grammar and spell checkers, but, of course, very independently. She could be in your class or someone with that range of issues.

So thinking about assistive technology, sometimes people think they have to learn a lot about it before they can make accessible practices. But not necessarily, unless you're going to become an AT specialist or an accessible technology specialist-- then that would be a good thing to do. But for most of us that are teaching online, we just have to think of a few things about assistive technology-- mainly, what are some of the limitations of assistive technology?

For instance, some assistive technology, particularly for people who don't have full function of their hands-- there are thousands of devices for them. You can assume that all those devices are configured in such a way that they can emulate the keyboard. But don't assume that they can emulate the mouse. So what does that mean for designers? Probably not the faculty member, but for those supporting faculty or technology designers is that designing websites and software-- it is important that they design it in such a way that all of the functions can be accessed using the keyboard alone. It's fine to create functions that you typically use a mouse for, but as long as there's a keyboard alternative, you can meet that requirement.

So again, you don't need to know about all the details of those assistive technologies. Assistive technology cannot read content presented on images because-- although there's some technology that can do a pretty good job, but the technology can't totally see those images. So it's important, if you're using a picture that has valuable content in it, that you provide alternative text. In this case, when I showed the coffeepot, I noted that the handle and the spout are on the same side. I did that because I'm assuming some of you can't see the screen. And so I just provided some alternative text so you knew what I was talking about and why this wasn't a good design. I didn't have to say that it was red. I didn't have to have other details about it-- just the part that was important for my talk.

Assistive technology, particularly a screen reader, can tab from link to link and read those links. So a person who's blind, using a screen reader that reads aloud the text on the screen, could actually skip from link to link. [INAUDIBLE] do that. Well, just like those of us that can see the screen. Sometimes, you just want to look through the page and see what it links to. Say, click here, click here, click here. They're going to have to go back and read all the surrounding text in order to access-- to know what that link is going to. Well, if you have a long web page, that's kind of a burdensome task, and they may just sort of give up. So just use it for your text on your links-- descriptive text like, say, DO-IT website, instead of click here.

That same technology can skip from heading to heading in a document. And so this is real important, then, that we format our headings like using styles in Microsoft Word so that we can structure it into hierarchical headings. Because again, that screen reader user would be able to skip from heading to heading and read those headings, and they could decide where they want to start reading. They wouldn't have to start at the beginning.

And of course, cannot accurately describe audio. We have captioning today, but it's live captioning, meaning that we have a person that's captioning, so it's going to be pretty accurate. And so the computer generated captions are not usually as perfect as we'd like them to be. And so this is why we encourage people, for instance, who have created YouTube videos to go back and edit those captions that YouTube provided that kind of are rather humorous and don't have punctuation and so forth. It's fairly easy to edit those.

So that's what we need to know about assistive technology. That's about it. The major point here is that if we provide-- we'll always provide accommodations for students with disabilities who need them. It's a legal responsibility for programs. And if we employ more universal design in higher education or universal design techniques, then the number of accommodations and the difficulty of the accommodations will be lower. And so you want to reduce the number of accommodations, and it makes a course more inclusive. Students don't mind asking for accommodations, but why should they have to when it's something that just should be part of your course.

So I'm going to quickly go through a document that is created and constantly updated. It's been recently updated. If you've seen this one before, you might want to take a look at the new one. It's called 20 Tips for Teaching an Accessible Online Course, and I have a URL here, but that will be provided to you after this presentation.

So this is a short two-page document, and so I don't get into a lot of details. But I do link, in the document itself, to resources explaining why this is important and more details about it. So there are 20 tips. As far as web pages and documents and images and videos, it's kind of the IT part about it. Using clear, consistent layouts and organizational schemes-- also not having too much content on any one content page in your learning management system. That's a good example. That can help everyone, not just individuals with disabilities.

Structure your headings and lists. Just like headings, your lists can be structured. If you don't

just put, for instance, a bullet point in manually, but you use the structure within Word or HTML or other document format-- use that structure, then a person knows that, oh, there are seven items in this list if they use their screen reader and they'd say, oh, and this is a list now. Just kind of guide through the document.

Use descriptive wording for hyperlinked text, as I already mentioned why. PDFs should be avoided as the primary source of content, and put the major content in an LMS content page. The reason I'm saying this is you can make your PDFs accessible. It does require some knowledge about how to do that. And heaven forbid if you create an inaccessible PDF, to remediate it into an accessible one is very difficult. And so I'm not saying you should never use a PDF. And some faculty want to use it for their syllabus.

What I'm saying is also, you probably created that syllabus in Word or some other similar word processor. Copy and paste that content within the content management page so it's all in text-- that's HTML, in the case of a learning management system. It's all in text, and format the headings and so forth as I've mentioned. And then, if you think, well, I'd really like to have the students be able to print it out and look nice and pretty. Well then, attach a PDF. Make it the secondary source of information, unless you want to spend some time in learning those skills.

And again, I'm trying to reach out to faculty that probably aren't in the mood to learn a whole bunch of new skills. So I'd just say, avoid PDFs. Then they'll say, well, what about if I'm using PDFs from another source, like another website? Look around. Sometimes you can find an article that is in PDF-- an inaccessible PDF document also available in accessible version. And sometimes your library can even help you find that. And then link to that accessible version. Otherwise, I suggest for a new [INAUDIBLE] one not getting a lot into accessible design. That might be-- you can use that resource, but anticipate that the Disability Services Office may need to provide an accommodation. But this student might have access to some of the tools that might work for them, as well.

Text descriptions of content in images is really important, and usually, the learning management system these days will prompt you to put that text description in. Some people will say, well, it's just a DO-IT logo. Why do I have to describe that? It's not adding content. Well, you need to make it clear to the screen reader that it doesn't, and there are multiple ways to do this-- that they don't have to access that content-- but one simple way is just to put that the alternate text is DO-IT logo. And so they know, oh, there's nothing in there that I've missed.

Use large, bold fonts on uncluttered pages and plain backgrounds, like I'm doing today-- high contrast between the front and the back and so forth. Also, high contrast color combinations, avoiding problematic ones for those who are colorblind. People who are colorblind-- that's not a disability, but it can limit people in accessing your content-- particularly combinations like green and red, but others, as well. And there are many resources on the internet where you can find out which ones are to be avoided. But just avoid certain combinations. But also, a good way to be sure you're not creating problems for people who are colorblind is never use color alone to show where they go. Click on the red button. Maybe you click on the red button that's round or something. Give some other way to identify that place you want them to look at.

Caption videos, of course-- especially ones that you use a lot. Audio description-- we add extra text for someone who's blind, if you need it in that video for them to understand it. That's good, too, but that's harder to do. But we have a lot of resources that you can link to and see how you can do that. Usually, you would hire some company to do your audio description, and there are lots of them that do that. In case of videos that we have, we do have a contract with 3Play Media to have-- so we have a discount on getting our videos captioned. But then also, we'll teach faculty how to caption videos and so forth who want to do it themselves. So all of that works.

Use a small number of IT tools. I think one of the major problems faculty get into-- they think they have to use a whole bunch of these way cool tools with their students. Maybe keep it kind of simple, and particularly when you're first getting started in online learning-- that minimizes, also, the number of things you have to check on, as far as accessibility. And it's important, as you know, that content and navigation are provided with keyboard alone, and these other things we've been talking about so far, and so it would be difficult for a faculty member to check it and see if something is accessible.

Sticking to the tools that are provided in your learning management system is a safer way to go. OK, and assume that students have a wide range of technical skills. I'm teaching an online course, and what I do-- some people say, well, all of the students know how to use Canvas. No, no, they don't. And some students-- this is the first time they've used it. This is the first time, in your class, that they're using Canvas. And so what I do is I just provide some resources. There are tons of them-- tons of help files your institution has and your learning management system company.

So what I do is I just, for the students, say, if you're just getting started using Canvas, in this case, here are some resources you might want to start with to get you started in using Canvas. Then I can point to the beginning resources and the things that will help them get through the basics for the first days of class, at least. Make sure that the content is presented in multiple ways. And so if you're showing a video, also provide that content with some online content that you actually provide in text. And sometimes, videos like the DO-IT videos come with a publication, and so you can point to the publication, as well as the video. Some people will benefit from using both. If it's the same content, students might want to use one or the other, but you should provide both.

Options for communicating and collaborating so that students can communicate one-on-one or as a group. And again, all of these should be as accessible as possible. One thing on your syllabus, when you talk about how they can get in touch with you-- be sure to give them multiple options. People like me often like to use Zoom. I want to kind of see each other and so forth. I need to remember that my students may not all feel the same way.

And so on my syllabus, I'll say, if you'd like to meet one-on-one with me, we can do that via Zoom or some other conferencing software. We can communicate using chat. We can communicate using email or the bulletin board system provided within my learning management system. You decide. And so I let the student decide. Why might they choose something like email? Well, kind of imagine for a minute-- maybe their assistive technology makes it slow for them to compose their thoughts. Maybe their voice is not very clear because of a disability or because English is not their first language. And in email, they can compose their messages and feel more comfortable with their communication with their faculty members.

Providing options for demonstrating learning. Some classes, we just have a few big high stakes projects. I like to have-- in my class, I have two high stakes projects, but I also have a lot of low stakes projects and discussion lists and so forth, and so everything isn't resting on one or two things. And provide options for demonstrating learning. You might have a test, but use different formats in it-- multiple choice, short answer, essay, so forth. But also, could they develop a product for themselves? A PowerPoint presentation, but allow it to be a video or some other things. Giving options for demonstrating what they've learned.

And then address a wide range of language skills by spelling out all acronyms, by defining the jargon that you're using, and so forth. In my class, I like to use low-hanging fruit a lot. And I

define that the first time I use it. There might be some people that don't know what that means, maybe because they're not from the United States or who knows why they might not know what that means. But I just define it.

Provide clear instructions and expectations. In a discussion list, for instance, I really like to provide one question that they focus on, and it's real clear that they have to put their answer in the bulletin board system. They cannot wait until somebody else responds, so it has to be a unique answer of theirs. Then they get to see the others, and they have to comment on one of the others. I tell them what I'm looking for. I have a rubric for when they post a message, but as far as commenting on another, I don't. And so I'm not judging whether it's a good response or not. I'm just judging-- did they do it? But I'd make that real clear-- the key point.

Provide examples and assignments that are relevant to a diverse audience. Provide outlines and scaffolding tools to help them be successful. Sometimes, in your-- I have a section of my online course where I call it the library, and they can go in there and find ways to even provide their own organizational schemes to get through the course. Provide adequate opportunities for practice. Sometimes I will identify some exercises as optional, and so the student that wants more practice and wants to do more and learn more about something can do that, but I don't require it of everybody else.

Adequate time is provided for activities and projects and tests. One of the ways I do that is I put detailed descriptions of all the major assignments in the class. And so they can start working on them on day one, and actually, in the online program I'm teaching in, they'll let me open my class a few days before the course starts because I want people to have more time that they want. And they can see all the assignments. They can start working on them or asking questions of me on them. Now, I can see some faculty members that want to kind of dole them out a little bit at a time and keep the mystery up. But for accessibility, this is a better way to do it.

And provide feedback on parts of a project if it's a really big one. I like to provide feedback on when they get part of it done. It's always amazing to me, because I think I give pretty clear instructions, how a few people might get on the wrong track right away. And so I can correct them. I can kind of have them move a different direction and follow some of them a little bit more because they're having a hard time understanding what I'm asking for. And so that will help them be successful.

In all of these things, don't lower your standards. If you feel like providing them with something is lowering your standards, then think about what your standards are and what you're trying to learn, and whether it really is lowering the standards or it's just different than what you usually do. Let me take a couple quick examples before we have a Q&A here to make the point that a lot of what you can do to make your class accessible is about you, the instructor, and how you present things.

First example. This is actually from a course I used to teach a long time ago, but I inherited the course from somebody else, so I was just modifying it. But in the course, there was a group assignment telling students to discuss questions in small groups and submit their answers to the instructor. And at that time, we thought it was very cool that we had a phone system where they could have these small group meetings by phone. And so the earlier instructor-- that's what he said. We'll meet by phone and do this and blah, blah, blah. This is how you access that system.

I change it ever so slightly. I think there were, like, four parts to the assignment that they had to do in this, and they had to report back on. I add one more, so I had five. And the first one was in your small group, decide what technology you're going to use to communicate with one another. And I gave them the phone option. I gave them other options. It was before Zoom was around. But they had to choose, and they had to make it so that everybody could participate in their meetings.

They didn't have to disclose their disability. I never said anything about that, but the first time I offered the course-- and then they had to say why they chose what they did. Most of them chose email because they were in different time zones. But one group-- one of the members actually disclosed that she had a hearing impairment, and it would be much easier for her if she used electronic mail. But again, I didn't require that they say they had a disability. They just had to say what technology they wanted to use.

Another one. In one assignment, students have to search the internet for examples of universally designed spaces, and then they tell in the discussion group-- they attach the image they have and they say why they consider it to be universal design, even though it's not labeled as such on the picture itself. Now you can see there-- I could think, well, who might not be able to do this assignment? Well, someone who's blind wouldn't be able to do this on their own, and so in the assignment, I said that-- I said this similar to what I have here, but what I said in the assignment itself is, if you cannot see the image on the screen, then simply

describe an environment you have been in where there's a feature that you would call universal design, and explain why. And so that built into the assignment an accessible version of it for someone who had low bandwidth, that had a visual impairment, that just simply had a really cool idea about something that they saw the other day in the environment. And they could do that.

But I also built in accessibility into how they responded. So on the discussion list, they had to present their image as an attachment or as a description, depending on which thing they chose. But if it was an image as an attachment, they had to describe it for someone who couldn't see the image and explain why. Again, and that would be a universal design feature. And so the assignment, then, built in the accessibility.

What would happen if I didn't do that? Well, the student who's blind would have to request an accommodation-- disability related accommodation for access to that assignment. It was not required in my class. Every quarter, someone has done it. A couple of people have done it that way where they didn't have the image, where they described something. Most of them, I don't think, are blind, but in my class, it's so accessible-- I never ask. It's never clear that someone is or is not blind.

So another one. I expect students should have good writing skills before they take my class, but each term, a few of them do not. What could I do? Well, there's a good case there where in your library online, you could provide some resources if you're just getting started in writing papers or you have a challenge in this area-- but be careful what you point to. I point to just a few things for the person that already doesn't have that skill. So some big, complicated document like APA writing style is not what you want to be doing at that time.

So universal design. It's an attitude-- a goal. It values diversity, equity, and inclusion. It promotes best practices and does not lower standards. It's proactive and can be implemented incrementally. You don't have to do everything all at once. You can just do more things all the time. Benefits everyone and minimizes the need for accommodations for students with disabilities.

So we're going to have Q&A now for the rest of the time. Again, I'm Sheryl Burgstahler, and I'm at sherylb@uw.edu. Feel free to send me an email message if there was something that you wanted to talk about a little bit more. Let me know. I always like to talk about this subject, and so I am very honored for it to be part of my job. So you're not bothering me. This is what I

do.

And then there's the 20 Tips publication at uw.edu/doit/20-tips-teaching-accessible-online-course. Then there's our website on accessible distance learning at uw.edu/doit/accessdl., which is A-C-C-E-S-S-D-L, Access DL-- the end there.

The next one is the web page on accessibility that we have for the University of Washington. It's at uw.edu/accessibility. We also can link to it from the UW home page. And then we have a large video collection-- 60 some videos in DO-IT. They're all perfectly accessible-- uw.edu/doit/videos. And we also use Able Player, which was developed by Terrill Thompson, who's on our team. It is the most accessible video player that there seems to be on Earth right now.

So are there any questions that have come up in chat or anything else?

SAMANTHA SAULD: Yep, we'll start the Q&A. But before we get started, I wanted to quickly mention some company updates. So we're hosting a free webinar-- our free virtual conference called Access at Home from May 27 through the 29th, and it provides professionals with tools necessary to navigate virtual accessibility confidently during uncertain times. And you'll learn from accessibility professionals in all industries on how to make your websites, communications, and videos accessible. And you can visit www.3playmedia.com/access for more info and to register.

So we can start with the Q&A now. The first question is, what tips do you have for getting faculty on board with accessibility, especially right now?

SHERYL BURGSTAHLER: Right now, my major tip is-- what we have happening on our campus now is we have a lot of departments and colleges-- College of Engineering, College of Education, the Business School-- that have come up with their resources for their faculty in converting their courses online. And so we have pointed those groups-- their technical people putting those up-- we have given them some resources to link to, including our accessibility web page, but also documents like this 20 Tips that have the short story. And sometimes we've engaged with those groups and we can tell them, well, here are a couple of things you might want to do.

One way that you can tell them to look at it is, well, maybe we should look at what the accommodations are that our campus is providing to students with disabilities that you could help relieve that office of accommodation requirements because they're now way overburdened. What are they way overburdened with? In part, to a great degree, it's

remediating PDFs and it's captioning videos. So in talking to a faculty member, what could you do in your daily life to help the Disability Services Office do their job? Sometimes, faculty members will be motivated by that. It's like, oh, I didn't realize I was making other people do more work. And so maybe I'll just focus on those two things. And as I said, my first step is, well, don't use any PDFs. Don't create new PDFs, you know, because they're creating them right and left in many of these classes.

So we keep it simple. Come up with just a few things. Faculty are motivated by different things, but I find almost all faculty do really want to be good teachers. They do want their students to learn their content, and [INAUDIBLE] appeal with that. Back in the day, when I was giving a lot of talks at conferences-- it seems like a lifetime ago now-- but particularly in the early days, I would go to an online learning conference and I would never mention disability in my talk.

I would say, how do you make your course welcoming and accessible [? to all ?] of your students, all your potential students? And I would talk about diversity-- all different types. I didn't bring in disability. Thing is, when you start talking with faculty, to tie in what they're doing already, and one is-- one thing that they do care about are things like making their course usable by someone on their cell phone-- their smartphone. And PDFs can be a problem in that case, and so forth. And so sometimes, starting there-- that's an accessibility issue, not disability related. So thinking more broadly about how do you design a good course.

Another thing is with our Teaching and Learning Center and our program on campus that supports online learning, we work very closely with them. We have a group of people called our IT liaisons-- IT accessibility liaisons. And so they're committed to promoting accessibility in their areas. Now luckily, we started this years ago, and so there's already buy-in. And so we can help those people that are helping faculty, and so as they're helping them get their materials online, they can introduce a little bit about accessibility.

A big point is to get it on their radar as something to think about and not get overwhelmed with how many things they could do. But it's hard to find a faculty member that just says, outright, oh yeah, I don't care if everybody gets it. I don't care if I'm sharing this information with everybody in my class. I just want to share it with a subset. No faculty member's going to say that. So how you can kind of tie in with what they really believe.

SAMANTHA SAULD: Great. Thanks. So the next question is, do you know if there is a requirement for accuracy of captions? For example, if we use automated captioning, i.e. YouTube, they will not be 100%

accurate.

SHERYL BURGSTAHLER: Yeah. They probably would not qualify as an accommodation, or in other words, access for a student who's deaf. They're not good enough for someone who relies on captioning to access the content. So at least on our campus, if we have a student who's deaf in our class-- any of our classes-- regardless of whether automatic captioning is used by a professor, the Disability Services office will make sure that those captions are either cleaned up or just created with 3Play Media. Or again, you can do that manually, as well. And so it's general practice and general consideration that those automatic ones are not appropriate-- not reasonable for accommodations.

So when I suggest that you edit your YouTube captions, what you're doing there is you're taking captions that are sort of maybe OK for some people that can hear-- people that hear the audio and read the captions, it's distracting when there's no punctuation and things, can benefit from making it better, but they don't require the captions. So why not go the next step and make them worthy of accommodations if a student is actually deaf in your class? But yes, my understanding is-- and I'm not a lawyer, and sometimes there's conflicts in what cases say-- result in-- but you should provide more accurate and synchronized captioning with the presentation is the ideal.

SAMANTHA SAULD: Thanks, Sheryl. And the next question is, what workflows do you have in place to help teachers caption courses?

SHERYL BURGSTAHLER: What workflows do we have in place? Well, one, we have a way that's just encouraging people to caption, and we encourage those that have high impact videos-- these would be videos that faculty members or staff are using in multiple classes or on their website or putting them up on YouTube. We will freely caption those videos to a limited amount. We have not a huge amount of money, and we spend that usually in hiring 3Play Media to do our captions in that case. But sometimes, we'll have students remediate captions, too, if they're just YouTube videos or it's something that we feel like we can do internally so that we can actually give some work to student helpers, but also do it in an efficient manner.

We work with the faculty when we do that, though, and so our goal is not that we will just freely caption all their videos that come along, but we'll show them the different options for captioning videos. And what has happened from that is some departments now have their own accounts with 3Play Media. So we've told them how they can do that. If they can afford to do

that, often, they'll do that. Some departments say, we don't have funding for that. Well, we can show you how you can caption them yourself, then.

We also help our faculty members decide where they're going to put their efforts-- or departments and so forth. And if a faculty member is using Panopto or they're using some other technology to deliver their presentations, if they can use automatic captions, that might be what to do, and then only to provide the captions that are acceptable for a student who's deaf as an accommodation in that class. I don't like even saying that, but sometimes you have to prioritize. But if you're going to prioritize, prioritize those things that will benefit the most people, and get those captioned. And so I do that. Use the captioning within products. If you're doing a PowerPoint presentation, for instance, the computer-generated captions for that technology are remarkably accurate, compared to some others. And so use that feature, but also figure out if you can edit if it has an editing capability.

Some things, you're going to need to use the technology resources, and there are two places to go. This is talking from a faculty member's perspective now. You can go to the disability resources office. They may have some suggestions for you for proactively making your course accessible-- [? from ?] caption, in this case. Or you might have an IT team, which would be like my team, that has a specialist in captioning that can also guide you on how to do that. So figure out where your resources are.

But as far as a workflow, if you're using videos as a faculty member or as a designer, think through how you're going to caption those. And if you're not going to caption all of them, just think that through and know that students who are deaf are going to need that accommodation. And that's unfortunate, but a reality when you have to prioritize.

SAMANTHA SAULD: Great, thanks. The next question is, if not PDFs, what would we use? PowerPoints?

SHERYL BURGSTAHLER: Microsoft products are easier to make accessible than the Adobe PDF format. And so yes, you could use Microsoft Word, for instance, to put your syllabus in. And as I mentioned earlier, Microsoft Word is probably what people who created those PDFs with their syllabus used in the beginning, and then they converted them to PDFs.

And so using a Microsoft Word document where you describe, in alternative text, any images, and you use the hierarchical structure provided with styles and you format your lists using the list structure and you describe links from that document and so forth. Microsoft Word would be

one way you could go, and then you could attach that. PowerPoint-- that can be made accessible, as well, if you're using a presentation, but it's not a great way to create content. And some faculty members are using their PowerPoint slides to be the content. So I really recommend that people put a form of that content that has more content in it within their learning management system. If you're using a Word document to create it, you just cut and paste it and put it into that screen.

When you think about using links to any document, you're adding an extra step for all of your students. They go to a page, and then they have to link to the content, whereas you put it within the learning management system page-- it's in HTML, so you can make it very accessible, and they just go right to that page and can start reading. I would use an attached Word document. Actually, in my course, I use it once as an attachment, and it's only for the syllabus. Why? Because I think that students want to download their syllabus. I would if I was a student, and edit it to make it for them. There's some things in that syllabus that don't really apply to them. Well, take that out, and maybe they want to add some detail, as far as their timeline and so forth. And so that's the only one I would use as an attachment.

But back to your question. The most accessible format-- the easiest to make accessible is the HTML, which is your learning management page-- content page, essentially. And Microsoft products would be next, and PDFs would be, in my view, the third choice. But they can be made accessible. If you go to the DO-IT website and look at some of our documents from these URLs I'm giving you, we have a whole bunch of documents, including 20 Tips.

So go there and see what we did. We have an HTML accessible form as the primary form that you go to-- format for that content. And up at the top of the page, it has PDF. So we're not saying that you shouldn't use a PDF. We're saying it should be the secondary source. Our PDFs actually are designed to be accessible because we have to kind of do things in top of the line, but you could conceivably just have that HTML version and link to the PDF, and not worry about whether it's accessible or not because you've already provided the content in another way. That's your multiple way of providing the content, and the primary way is fully accessible.

SAMANTHA SAULD: Awesome. Well, that's all the time we have today for questions. Thanks, everyone, for joining. And thank you to Sheryl for a great presentation.