

**SOFIA LEIVA:** Thank you, everyone, for joining today for the webinar "Tips for Creating an Accessible and Engaging Virtual Classroom." My name is Sofia Leiva, and I'll be presenting today. And today I'm also joined by my colleague, Georgia McGoldrick, who is on our product team and is here to help answer any questions you may have about 3PlayMedia and video accessibility.

So on today's agenda, we are going to be covering why accessibility matters in the virtual classroom, how you can use the universal design principles to create an engaging virtual classroom, how to host an accessible virtual classroom, video accessibility in a virtual classroom-- a deep dive into it. And then we'll finish off with some accessibility tips for non-designers before getting into the Q&A.

So before we begin, I'd love to hear how you're all currently handling virtual classrooms. So in the chat window, you can comment if you're doing them live on video. Or are you prerecording them? Let me know. What tools are you using?

Cool, so a couple of you are using Zoom, and you're doing them live. Some of you are using Canvas, WebEx. Some of you are also doing prerecorded videos. It looks like many of you are doing live. Great.

So the tips we're going to learn today can be applied to both live and prerecorded sessions. So hopefully these will help you elevate your class and create an accessible experience. So let's start by talking why accessibility matters in a virtual classroom.

Let's start by first defining what accessibility is. So in order for something to be accessible, it must offer an equivalent experience to everyone, including those with a disability. And this can refer to physical locations. But in the context of online accessibility, it refers to a disabled user's access to electronic information. The content and design must also provide the most convenient and all-encompassing experience possible to prevent any level of exclusion.

Now, here on the screen, I have the word accessibility. And then I have an acronym, A11Y. And A11Y, or ally, is just another term for accessibility. And it depicts that there's 11 letters between the A and the Y. It's maybe how you'll see it online.

Now, why should we make a virtual classroom accessible? One, obviously, is because you may have students with disabilities who will need to have equal access online as they do in

person. And two, it's also because accessibility benefits everyone. And we'll look at some [? tech ?] stats later that help to show this in the classroom space.

Now, accessibility in a virtual classroom means that the tools and platforms you use are accessible. Your video that you use to present your lectures is accessible. And the documents that you hand out are also accessible. And we'll touch on each one of these.

Now, let's look deeper into video accessibility, because as you've all indicated, you're either doing prerecorded classes or live classes. And that's really important to make it accessible.

So accessible video is going to include captions and transcripts-- audio description, which is an accommodation for a blind or low vision users. And basically what this does is it describes the important visual elements in the presentation or in a video for blind users. And it's also going to have an accessible video player that can add these tools to the video.

Now, like I said, accessibility really has benefits for everyone. And video accessibility in particular, has many benefits for students. So a study by Oregon State University uncovered why and how students use captioning for learning. And what they saw is that 98.6% of students find captions helpful. 65% of students use captions to help them focus. And 75% of students said that they use captions as a learning aid, many of them using transcripts has a study guide.

In a study by the University of South Florida, St. Petersburg, they looked at how students were also using captions and the interactive transcript, which we'll talk about later, in the classroom. And what they found with IT classes was that captions really did pack a punch. So students who used captions saw an increase by a full letter score of their grade from the beginning of the class to after. So those who took advantage of captions and interactive transcripts really saw a good benefit.

Now let's dive into what it means to create engagement with UDL. So UDL stands for Universal Design for Learning. And it's a framework that accommodates all different types of learning. So UDL really looks at the different parts of the brain. It's going to tap into the why network, the what network, and how network. And what it means in an educational space is that you're going to create multiple ways to do the same task. And you're rarely going to do the same task the same way. So we'll see what that means in a little bit.

Now I want to throw a poll here on the screen. And the poll asks how do you learn best? And

the options that you have-- it's multiple choice, so pick the answers that best fit for you. And so it's going to be do you learn best visually? Are you an oral learner? Do you learn best verbally, so using words, writing? Are you a physical learner? Logical-- so mathematics, using logic? Are you a social learner? Or are you a solitary learner where you prefer to work on your own.

I'll give you a couple of seconds to answer this. And as I'm seeing the answers come in, it's really just across the board. This is to prove a point, that not everyone learns the same way. And so what UDL is going to do is it's going to tap in to these different ways that everyone learns and create an environment that is going to bring success for all students.

And I'll show you the results if you're interested in seeing. So a lot of you are visual learners. But as you can see, it is across the board.

So the three main principals of UDL are representation, which is providing information in more than one format; action and expression, which suggests more than one way to interact with the material; and engagement, which looks for different ways to motivate your audience. So let's dive into each one of these.

Representation is going to tap into the why of learning. And this is where you're going to ask, how do I engage my students? How do I make my presentation relevant to their needs and wants? And how can I show why we are learning this? And so an example of how you can use this in your presentation is at the beginning, state your goals clearly so that your students can understand what they're about to learn is relevant to their lives.

Another way is to do as many hands-on activities as possible, which is difficult in a virtual environment. But we can do things, like use polls and chat, so encouraging your students to chat if you're using Zoom or the tools mentioned. With Zoom, you can do polls like I just did. And so if you do this throughout the presentation, it's going to keep them engaged. It's going to keep them questioning why we're learning this and finding ways to apply it into their lives.

The next one, action and expression, is going to tap into the how of learning. And this is going to ask, how do I offer purposeful options to show my students? What do they already know? And how can I be flexible with how students interact with the material? And so what you're doing here is you're offering ways for students to express their knowledge.

So, for example, you can give handouts along with your presentation. One really unique tool that I've seen used is you give a handout at the beginning that's sort of an outline of the

presentation, but it has blanks. And so then as you give your presentation, students can then listen and fill in the blanks from what you're saying. And so that way, it makes them keep learning or engage with what you're presenting, as well as then have a tool that they can use after to review.

Another way is to get them to submit podcasts or video essays instead of writing material, so finding different ways for them to express themselves. Writing the material can be good for people who learn best writing. But maybe there's people who are better listeners or want to get more creative. And so by opening up the way that students can interact with the material, you're really opening up their engagement.

The last one is engagement. And this is the what of learning. This is where you're going to speak to content that is relevant to students' lives, where you're going to give student choices or have them make choices throughout the presentation, and where you want to make them think about how this relates to their lives with examples. So when you present a concept, always bringing it back to examples.

Some options that you can do in a virtual environment is give students an option of interactive assignments. So instead of just listening to a lecture, giving them the option of listening to a relevant podcast or a video lecture, maybe even doing the trivia game. Maybe during your presentation, creating sort of a journey, where they can choose the outcome of what they want to learn next. Really get creative with the way that you want your students to engage and understand the what of learning.

Now, there's an organization out there called CAST that has a lot of really great resources for UDL. So if you're not familiar with it, or you want checklists or more resources to learn more about it and examples of how you can incorporate this into your classroom, you can go to [cast.org](http://cast.org). And they have a lot of really great materials.

Now let's talk about hosting an accessible virtual classroom. So step one is you want to choose an accessible platform. Like many of you, your institutions probably already have platforms in place for you to use, so you might not have a say on all this. But you can always question the accessibility of it to make sure that all your students can have equal access to it.

So when choosing an accessible platform, you want to see if it's keyboard accessible, if it's screen reader accessible, if you can add voice recognition. Zoom actually has voice recognition in it. And also if it can support captions and audio descriptions.

Step two is you want to provide an accessible presentation. And we did a presentation on this last week that I encourage you all to listen to. But essentially, an accessible presentation is going to include images that have alt-text and that while you're presenting, you're also describing the important visual elements. So if you have a graph on the screen or a picture that is meant to reinforce what you're teaching, you want to describe that for students who are blind or low vision.

The text that you use, you want to think about the font, the color, the size, and the style to make sure that it's legible. And then the audio-- you want to make sure that your videos are captioned. You want to make sure that you use live captions if you're presenting live. You want to make sure that the audio quality is also good.

And so we have an accessible presentation checklist that you can use that runs through these elements that you can think about when presenting. When designing, presenting, and also post-presentation, it will show you the different things that you can check off when you're listing your presentation. And I will throw the links in the chat window to both the webinar and the checklist.

All right, let's talk about video accessibility in a virtual classroom. So let me know in the comments, are you currently captioning your videos? And let me know if you're doing it for live presentations or non-- or prerecorded.

I see some people have raised their hands. Some people are working on a live solution-- great. And others are only doing it for recorded presentations. That's awesome to see that a lot of you are already including captions. It's really, really awesome.

So let's quickly talk about live captioning versus closed captioning, because these are two different things that are for two different kinds of video. So live captioning is going to be for events or video or meetings, classes, courses that are happening in real time. It's going to be done either by an automatic software or a stenographer. In today's webinar, we're using a stenographer. And unlike closed captions, there's going to be a slight latency because of the computer processing or the stenographer typing. And so it's not going to be time synchronized perfectly to the person presenting.

Terms to know with live captioning are CART, which stands for a Computer Assisted Real-Time Translation, which is a service that is done usually by humans or stenographer and

usually done remotely. And then ASR, which stands for Automatic Speech Recognition, which is done by a computer.

When you want to have the highest accuracy for your live captioning-- and even these tips could be applied if you want to have the best quality audio when you're presenting live. First you want to make sure that you have a strong network connection. You also want to make sure that you have good quality audio. So we really recommend investing in a microphone, because the computer microphone in itself can sound very echoey. And the quality may not be as good. We use a microphone at 3Play called Yeti. And it's \$50 on Amazon. And the quality is really awesome for our webinars.

Next, you want to make sure you have little to no background noise, so making sure to avoid echoey rooms. And if you can't, or if there is going to be sound around, you can hang towels around the room or blankets to dampen the sound. Next, you want to make sure you have a single speaker and that you speak clearly and pronounce everything for the accuracy.

Now, here's the quick tip if you're using Google Slides to present, and you haven't had a chance to schedule your live captioning. You can actually turn on captions in Google Slides, and that will have automatic captions on it for your presentation. And you'll see the icon in the Control Panel once you go in to presenter mode.

Now let's talk about closed captioning. So closed captioning is different than live captioning because this is going to be for prerecorded video. It's going to be time synchronized to the word. It's going to include non-speech elements, so music or sounds that are happening around. And it's going to have 99% accuracy, which means that in a 10-minute file of, let's say, 1,500 words, there is going to be around 15 errors total.

Captions-- it's important to distinguish between captions, subtitles, and transcripts. So captions assume that the viewer can't hear. It's an accommodation for deaf or hard of hearing individuals. Subtitles are going to translate the audio into another language. And then transcripts are just going to be the text version of the audio. And it isn't going to be time coded.

For those of you who are captioning your prerecorded videos, let me know in the comments how you're doing that. Are you doing that yourself? Do you have an in-house solution? Do you use a vendor? Let me know in the comments.

So some people have an in-house solution. Some people use the vendor. I see someone does

it themselves-- right on. Great, yeah, a lot of different methods to caption your videos. And so these are three of the ones. So you can either do it yourself, you can use an automatic speech recognition software, or you can use a vendor.

So if you do decide to create captions yourself, you are going to first start by transcribing your video. And so when you do this, you want to make sure that you're including the speaker IDs and the non-speech elements. Next, you want to set timings. And so because closed captions are going to be time synchronized, it has to match up to the words being spoken.

And so for this, you can either use a software or do it manually, which, as you can imagine, could be very, very time consuming. And then lastly, you want to convert it to a format that your video player accepts.

And just to go back to this, if you do create captions yourself, we have a blog on how to do it with YouTube. So YouTube is a really easy solution if you want to create captions yourself, because you can upload your video. It will automatically caption it. And then it has an editing software where you can go back and edit it. And it'll set the timings for you automatically. And then you can download it in various formats. So we'll put a link to a blog that we wrote to do this in the chat window if you're interested in checking that out.

But if you do decide to use an automatic software or YouTube, it is important to check the caption quality of it, because automatic captions are notoriously inaccurate. So like I said, there's a 99% accuracy rate that you want to meet. This is the industry standard. It's just going to really have the most comprehension for your students. It's important.

Another thing to think about is the placement of the captions. So usually they're placed in the lower center of the screen. But if it's going to obstruct visual elements that are important, you want to move it up, or move it up to the top of the screen.

And then there's certain standards that you can find online. So the DCMP is a closed captioning guidelines of how to create your own captions, what you should caption, and how should you include non-speech elements. The FCC if you're in broadcast, has some guidelines. And then WCAG, which is an international standard for online accessibility, have some guidelines as well.

Now I just want to play a quick video. And I want you to pay attention to both the audio and the words on the screen. And let me know if you see any errors in the chat window, what kind of

errors you see. So this was a transcript that was transcribed by an automatic software.

**RECORDED**

One of the most challenging aspects of choosing a career is simply determining where our interests lie. Now, one common characteristic we saw in the majority of people we interviewed was a powerful connection with a childhood interest.

**SPEAKER 1:**

[MUSIC PLAYING]

**RECORDED**

For me, part of the reason why I work here is when I was five years old growing up in Boston, I went to the New England Aquarium. And I picked up a horseshoe crab, and I touched a horseshoe crab. And I still remember that. I love those types of engaging experiences that really register with you and stick with you.

**SPEAKER 2:**

**SOFIA LEIVA:**

Yep, so what some people are indicating-- and that's definitely one of things that I noticed too-- was that there were no new speaker introductions. So we didn't know when it changed in speaker. It said new wing of the Koran and then horseshoe crab. And those were definitely incorrect. And there was also one area where it said four story instead of forester. And other people are also noting no punctuation and wrong words, yeah.

So you can see that when you do use an automatic software, it is important to go back and edit it, because it could completely change the meaning of what the video was originally trying to say, or what the speaker was originally trying to say.

All right, so now that we know a little bit about creating accessible video, let's talk about what you should do post your presentation or post your lecture, and what you should do with your prerecorded presentations.

So obviously you should first caption your lectures and also include a transcript. The benefit of this is, not only is it going to make it accessible for students who require these accommodations, but it's also going to make it easier for them to have a learning guide, or for you to create derivative content from it. So if you want to use it to format your next lecture, if your students want to go back and revisit an area of your lecture.

And one really helpful tool that really enhances the learning experience is the interactive transcript. So essentially, what this is going to be is it's going to have your video on the left side and then the transcript on the right side, or on the other side. And as you play the video, the transcript will follow along with it, highlighting the words that are spoken.

But then the other unique feature about this is you can actually search within the video. So if there's a keyword that you want to search, or if your students want to revisit a certain area that they didn't understand in the lecture, they can easily search for it. The transcript will highlight all those areas where the word appears. And then they can actually jump to that spot in the video. And the video will start playing from there.

It's a really great tool, and it definitely has had a lot of benefits. So like I mentioned in the beginning, the University of South Florida, St. Petersburg, or USFSP, looked at how students using the interactive transcript, if it was beneficial for them. And they found that 29% of students use the tool as a study guide. 38% of students said it helps them with information retention. And 29% of students said that this will help them find information. So really enhance the learning experience-- the virtual learning experience.

All right, so now let's get into the last section-- accessibility tips for non-designers. And the tools that I am using today were from a presentation done by Jamie Lin, who is an instructional designer. She has a really awesome webinar that she did for us and then a course on it, which I going to throw the links in a chat window. And these are the ones that she recommended for those of us who are not designers and can't edit code.

So number one is use a color contrast checker. So if you can make out what this image on the right says, let me know in the comments. Otherwise, you can kind of see that it's very, very hard to know or read the word because the color contrast is just really bad.

And so when creating materials, you want to make sure that you have enough color contrast that it's legible. And you can always use this free tool by WebAim to check if you're having enough color contrast for it to be visual to the eye.

The next thing is to organize your documents with Microsoft Word Styles window. So if you use Microsoft Word to create a lot of documents for your students, you want to make sure that you are labeling the heading. So that would be Heading One would do the title of your document. Heading Two would be any subheaders. And then for the body of the text, you would use paragraphs.

And so by labeling this, it's going to make it accessible for a student to use a screen reader. It's going to flow more logically. And then they can get through the document in a more logical order and a better user experience.

Microsoft also has an accessibility checker that you can access under the Review tab. And this will highlight all the accessibility errors so that then you can go back and make adjustments to it. So it makes it really easy.

The next thing, which we talked about previously, is to add alt-text to your images. And so how you can do this in Microsoft is to right-click the image and see the option to add the alt-text.

And we get asked a lot of times what should you describe in your alt-text? Should I even include alt-text for this image? I threw in a blog that we wrote on this. But the general rule is that if this is an image that's going to be informative and it's relevant to the content that you're speaking to, then you want to provide a description if it's going to add value. If it's a decorative image, then you can just label it as decor, because as a student is using a screen reader, then they know to skip over it.

And then the second to last is to avoid using images and colors to convey important information. So you can use images and colors, like here, for stylistic elements. But you don't want to use colors to label something if it's important. If you have to use the color black, don't use colors, or don't rely on colors to serve as labels or to convey important information. And the same thing with images. If you can turn that into text, it's best to do that because it's going to be better for students using a screen reader, and just for accessibility overall.

And then the last tip is to provide clear names for links with context. So instead of saying, click here and linking "here" to see the video checklist, you want to be more descriptive. So you could say "use the video checklist when creating videos" and link "video checklist" so that students who use a screen reader will know that this link leads them to the video checklist. "Here" isn't really descriptive, so they won't know what it's leading them to.

All right, so this is the close of the presentation. I'd love to know in the chat window, what will you implement from today in your next class? Let me know.

And in the meantime, I just want to highlight some resources that may be interesting to you. So I've compiled all the resources mentioned today to a resource hub of links. It's going to be under [bit.ly/2wRoICH](https://bit.ly/2wRoICH). And I included that in the chat window. And this is going to have all the resources mentioned today, plus additional resources that can help you to create a more engaging classroom.

Thank you so much for being patient and listening to me. Now it's time to get into the Q&A

portion. All right, so the first question that we had is, what is the most efficient, affordable if not free way for instructors to provide accurate closed captions for their recorded lectures?

So like we mentioned earlier, YouTube is a really easy tool, because you can get automatic captions and then you can actually edit them within the interface and then download your edited transcript in the format. Other ones are going to be, there's one tool called MAGpie, which is available for Windows and Mac, and then Subtitle Workshop, which is available for Windows only. These are listed in the YouTube Guide or blog that I sent earlier, and they will also be in the Resource hub. So you can check those out there.

And then just a shameless plug-- 3Play also provides captions for live and closed and prerecorded videos. And it makes it really easy for instructors with our integrations, because you can integrate your video platform. And then all your students, depending on the platform that you do, what your teachers have to do is just tag the video that they want captioned. They'll say @3PlayMedia. And then we'll caption it and automatically post it back for them. So it makes it really easy. And then we also offer bulk discounts depending on the amount of content that you have.

The next question was, what are some best practice tips for providing accessible, engaging learning materials? So like we talked about, the Accessibility Checker in Microsoft is going to be a really valuable tool to use, because it's going to highlight all the errors if you're sending a lot of Microsoft documents. Making sure that you label your headers, making sure that you're using appropriate color contrast is really important, and also the fonts that you use.

Next, making sure the tools and platforms that you use are accessible, making sure that you provide assistive technology-- so captioning your videos or making sure that it's screen reader friendly. And then giving students the choice to decide how they want to turn in their assignments is also just going to provide a really engaging experience for them, and make it a little bit funner.

So someone is asking, if an instructor describes things clearly in his video and has captions, will this work in place of audio description? So that's really awesome, if you're describing things clearly within your video and then it has captions, and that means the descriptions will be within the captions. So yes, that's a really great work around for it.

Another way to do this is if the instructor writes out a script in the beginning, that he can follow along. And then that way, he'll know what to say and what to describe. So it makes it easier

when he's presenting. But yes, making sure to describe things clearly is an awesome, awesome practice.

Someone is asking if we will get a recording of the presentation. And yes, you will get a link to the recording and slide deck tomorrow. And I'll also include all the links I mentioned earlier today if you didn't have a chance to get them.

**GEORGIA**

Everyone, this is Georgia here. Looks like someone had a question about live captioning with

**MCGOLDRICK:**

Zoom. So our live captioning service does integrate with Zoom, with specifically-- I think someone also asked, are captions ASR or CART?

Our captions are automatic captions, so completely automated. And the captions for live Zoom meetings and webinars post directly back to the Zoom player itself. So those are native captions in the Zoom meeting or webinar. And, again, we do support both webinar and meeting live captions.

**SOFIA LEIVA:**

Great. Well, thank you everyone for joining--