Mayer *Multimedia Learning* and Accessibility Transcript

October 18th, 2022

Hi everyone, welcome. Welcome. Thank you for being here. Welcome to Mayer's principles and accessibility. We have an exciting little book chat for you today. This is our first book chat that we're doing and our second live event. If you are joining us, you should be watching us on YouTube live, so feel free to use the chat. If you have any questions, comments or you want to direct it at a specific person on the screen, feel free to include that and also know that YouTube captioning should be available.

And we're gonna start out by introducing ourselves. My team will introduce everyone and then we'll also... I'll do a little introduction for our special guest. So I'm Cecil and my pronouns are she/her. I'm an Asian woman with dark, long dark hair, and I'm wearing a white tank top today. And um. Alright, I'll let, I'll let you all introduce yourselves.

My name is Chaka. Give me one second to move to a larger screen. I swear I know what I'm doing. I'm managing the stream today, so I have a lot on my plate. But I will figure this out. I promise.

There we go. My name is Chaka. My pronouns are he/him. I am an African American male with a bit of hair on my chin and I keep it close, closely cropped all over, so pretty short hair. I'm wearing a very light blue, looks white in this, in this stream shirt and I'm wearing my most comfortable noise canceling headphones that I love. Who's next?

Yeah, hi everyone. My name is Dana Chung. My pronouns are she/her. I'm an instructional designer at Qualtrics, and I am a young woman with dark black hair and a yellow shirt.

Hi, everyone. Yep. My name is Georgette, I am a Middle Eastern woman. My pronouns are she/her, and I'm an education specialist in K to 12 education. I'm sorry, Courtney. I'm wearing a black shirt and I have a long brown hair and I'm wearing glasses today.

Hi, I'm Courtney. I'm an instructional designer at Brigham Young University. I'm a white woman in my mid 20s and I have curly brown hair and my pronouns are she/her.

Hi, I'm Rachel. I am the accessibility and inclusion specialist at Space Center Houston. I am a white woman with my brown hair pulled back. I have some cool earrings on and a black top and a black sweater.

And just to provide a little bit of background, Rachel is our one of our two very special guests today. I don't think we'd be able to do this event without her. She is definitely the expert on accessibility and we are all learning from her and so we'll have a great opportunity to do that today. Rachel has over 10 years of experience in museums and over 15 years of experience in accessibility. Specifically her masters is in nonprofit management and special education focused on nontraditional studies, which are like museums, the Space Center such and she was published in one of the most prestigious museum journals, Curator on museum accessibility. She's created sensory bags used at the Monterey Bay Aquarium, and she likes to also volunteer for organizations such as Easter Seals and the Very Special Arts through the Kennedy Center.

So that's a little bit on Rachel. Thank you for joining us here. I'll introduce Mark and then I'll let him describe himself. Let me just move over here.

Alright. OK, Mark, if you wanna come come on up. Thank you. Mark Hodgson, he has over 10 years of experience as an instructional designer. He's worked in higher education, government, business learning and development departments. He currently works for a large health insurance company, I'm sure you've heard of it. In South Carolina. He specializes in making technical training for information technology professionals and he also has the ATD Associated Association for Talent Development. Certified certificate from. Alright. He has the master instructional Designer certificate from ATD and he recently completed his masters in AI and machine learning from Colorado State University and is open to opportunities where he can apply his new skill set with instructional design. So hey, Space Center, Houston, Chaka and Rachel. Let him introduce himself now.

Hi everyone, I'm Mark Hudson. I'm a white middle-aged male with brown hair, a small goatee and some Sony headphones on and I'm calling from my my home studio office.

Awesome, great. I think we've got through all of the introductions. Yes, we did. And just to provide a little context for what inspired our very informal book chat with y'all today as you, if you've been following us, you know, we've done a lot of different posters and carousels that Dana and Georgette especially have created on Mayer's principles. These are research-based principles that he has been working on for, I wanna say, over 30 years. And therefore how we can optimize learning, essentially. And they should help inform how we design our learning. However, there's also been some controversies when we have posted our Mayer polls about whether or not they account for accessibility. And so we're kind of going to dive into what. What the principles mean, what are the boundary conditions, how they should be interpreted? And then we'll have Rachel here also to let us know how we can also account in accommodate for accessibility. So without further ado, let's go ahead and get started. Georgette Eldrazi will be giving us a recap of our first two principles. I'll let you take it away.

Thanks, Cecil. OK, so the first principle that we're going to be talking about today is principle 3, which is the redundancy principle. The redundancy principle states that people do not learn better when printed text is added to graphics and narration. People learn better from graphics

and narration than from graphics, narration and printed text, especially when the lesson is fast-paced. So this principle talks about the different components that are on a screen.

When a learner has like a visual setting, so for example if a video is playing and there is animation and there's narration and there's on-screen text, there are too many visuals for the learner to take in, and this takes away from the main focus of the learning content, which would be the animation and the narration itself. The on-screen text would be redundant because they would be or the words that are on the screen would be exactly what's being narrated. So the learners would have limited capacity to process all of these visuals on the screen. What we could do to make learning accessible is to provide the optional feature of captions. So by adding captions, this gives the option for learners who need it.

One thing to note, the boundary condition of the redundancy principle is that the redundancy principle may be less applicable when captions are shortened. So when there are like a few words or something specific is being placed on the screen specific word or phrase. Or when learners are unfamiliar with the with the words and the lesson. So maybe this the the language being spoken isn't the learner's first language, so they would need words for additional support or when there are no graphics and so then learners would have to heavily depend on the the words being spoken. And in this way the text would also provide supporting material.

One of the other principles that is closely linked to the redundancy principle is principle 8, the modality principle. So the modality principle states that people learn more deeply from pictures and spoken words than from pictures and spoken words.So in principle three, in the redundancy principle, we're talking about animation, we're talking about on-screen text, and we're talking about narration and the modality principle. They're being compared, so we're comparing pictures. And narration or pictures and on-screen text. So to deliver a learning experience, narrated animation should just be presented. And to to be able to apply the modality principle, the text should not be there, it should just just be the narration itself. So in a in a learning experience where the presentation is instruction or the instructional material is fast-paced, this is fine. Or the modality principle would apply because because the content would be in a learner's first language, so they would already understand what's being presented and so therefore the content wouldn't be too complex for them to understand and they could follow along easily. I'm going to pass this on now to Dana so she can start moderating the questions.

Yeah. Thanks, Georgette. Again, I'm Dana. I'll be acting as the moderator for this discussion with our panelists. So just kind of as an FYI panelist, it's gonna be like a discussion and you can kind of jump to this top row where I am if you have something you'd like to contribute, but just to kick us off.

The question is, what do you think it looks like to address these ideas while also being inclusive?

Uh, so. It's a lot of information. To start, so I just will kick it off with the the concept of captions. It's not as simple as on or off. There are considerations like closed captions versus open

captions. So depending on the setting of the learning, for example in a museum if you have one type of projection system or or viewing you know, system like a TV versus a theater that can determine what kind of captioning you use. Your audience can determine what kind of captioning you use and one tip with some of that is if you have the resources and depending on your audience, again you can have individual tablets or iPads for students that might need them. This not only creates you'll hear a lot of multiple modes of access.

So [and shaking his head]. We do this a lot at the Space Center. In our programming this allows for different ways to be accessible. So not only can that help with captioning options, this can help with audio. So you can plug in headphones and a student can can use audio features. So this kind of I feel like addresses you know, giving options for how to receive the information and you also want to be prepared that sometimes too many options can be overwhelming for some students. So. That can be kind of a whole nother conversation, but I'll just kick off the discussion with that.

Mark, I moved you up in line because I was going to actually say something similar to Rachel, so you can go ahead.

OK, alright. I would like to add that I think this is an area where e-learning particularly shines. So in almost all like modern e-learning designs, we give the learner as much control as possible. If you compare that to like a classroom experience where the instructor can't stop for every individual, that's something that e-learning does really well at, as well as being able to turn on and off the captions and as far as inclusivity.

I guess the other thing to add in there is just test your stuff. Like that's what I've gone through with my material is just actually install the jaws screen reader, run through it and see how it works. Sometimes you'll find stuff that you didn't know and you'll always gain some more insight by getting into learner's shoes. Actually wanted to like sort of raise a question to everybody that's sort of related. We were thinking about this in terms of how people learn, but I guess… The the place that I always think of when I'm thinking about this is a theater environment. And so I was gonna just open it up to a broader discussion about how we live our lives. Because the goal of accessibility is that everyone should feel like they belong in a space. And so when I walk into a theater, I definitely feel like I belong because I have solid vision, solid hearing.

Ohh, and I'm Chaka again by the way. I'm supposed to… I'm gonna try to reintroduce myself so that at least until I've spoken a few times so that my voice is is known, but so when I walk into a theater, I do feel at home, but I have had many friends that feel like there is… Not enough… Ability to…

I have friends with either that are either deaf or hard of hearing, and when they walk into a theater there, the first thing they say is they want captions, always, and… What's interesting about the redundancy principle is that if captions were always on for everyone, it actually might be too much information for some. So it adds another layer that makes it harder for people to

Connect. Because you have three sources of information. You have visual art. Well, you've got the… The movie on the screen, you've got the audio that's playing and you've got words, and this is an issue for me. I get very easily distracted and I feel like I miss things when I have all three of those. But the idea that you can have behind the seats in the row in front of you, a screen that is permanently there, that starts off with captions on, that you can turn off if you don't want them. And your experience can be what exactly what you want it. I feel like that should be something that is talked about in every environment.

 I'll jump in real fast. And in Chaka, I think you brought up a great point and I just wanna also rewind and. Make sure we're also having similar we don't have the exact same definitions of access versus inclusion, too. So for me personally and in my profession, I boil it down to access as the ability to get through the door and inclusion is the sense of belonging. So just has more context I think for people. You can have accessibility and not have inclusion. They they aren't mutually exclusive. You know they don't. One doesn't automatically make the other one a positive if you will. So I think it's just. Something to consider going forward and I just did wanna bounce off of what Chaka said as far as… Potentially having too many modes of access, if you will.

We also part of the part of the thought process behind having captions default on is that you want to avoid situations where somebody has to disclose their disability. So if captions are not off, are not on and somebody needs them, they would have to inadvertently disclose their disability and ask for captions that they may not be comfortable doing. 1 great suggestion I got actually from somebody else was depending on what like Chaka said, like the venue is, you could also schedule and put on schedules what what showings have captions what showings don't have captions depending on what flexibility you have. So for example I worked at a, at the Eugene Science Center where we, in Oregon, where we did a sensory program and we had a planetarium and so every other planetarium show was one was a low sensory planetarium show and one was kind of a regular planetarium show and we were able to offset and also say like this is what you can expect. So that's just kind of 1 tip that I wanted to add to that.

And I think, kind of building off of what Rachel is talking about, where there are situations where we want captions to be the default because we want to be not only accessible but accessible but also inclusive. There are ways to make captions better that still kind of address these ideas of cognitive load. Because the foundation of the principle is about this idea that we don't want learners to be overburdened with extra cognitive processes. So having the captions be shorter not not… not that they have fewer words, but that if you were captioning what I'm saying now, you wouldn't put an entire paragraph, you would put a little bit at a time, and it would be moving along. Kind of at a talking pace or having punctuation things that make it inherently easier to read for everyone makes it more universally inclusive. So that you can make it the default without reducing learning as much as if the captions were bad and bad captions are bad for everyone. So, the better we can make them… The more… The less there will be a reduction in learning if we're talking about a learning environment.

And just to add a little bit more to what Courtney was saying kind of what it's based off of the redundancy principle in the middle modality principle and I may butcher this name that it's Baddeley's model of working memory basically says that we have two different or is it also. Referred to as like the dual channel processing hypothesis and it basically says that we have one one loop for post processing like, of phonological loop. So that would be like words, verbal words, text, stuff like that. And we have a different auditory processing channel. So it's saying that we have two channels. So the redundancy principle and the modality principle are based off of this idea that both of these channels are very limited. And so if we just do narration and animation like in the modality principle, then we are, we're kind of splitting the cognitive load. On both of the channels. And yeah, I was gonna ask Rachel.

Sorry, I didn't really read Courtney's thing was a little fast. I was gonna ask Rachel… So knowing that for learners who have this is the boundary condition for learners who can see and hear. So this doesn't address people who cannot. It's it's basically pointing to like, if we show like a educational video, we should start with the subtitles off by default. Do you see kind of a problem with that? Or does it depend on how large the audience is, whether or not we know there are other needs? Or do we always act as if, like, do we always do universal design regardless of the number of learners and how much information we have about them?

Yeah, that's a great question. And again. I will always say obviously, I mean this is pretty obvious, but I will always disclaim. I am not the all knower of all things accessibility, but in my, in my, professional opinion, the whole point of universal design is that everything is inherently accessible, so we shouldn't have to worry about. I'm going to say. Screaming who comes through each door, right? So, and and have to potentially have all these different accommodations. Things should be as inherently accessible as possible right off the get go. And that eliminates these extra steps, if you will so by having captions automatically on depending on whether they're burned in or not. It can be helpful. Again, it's a gray area. There's not one right answer because of all these other factors like technology. But the idea is that someone then doesn't have to ask them to be turned on. There's never going to be a 100% right way because like somebody said, you know, somebody might be distracted by captions and that might not be helpful for them. So that's why it is such a personal… Thing as well, and why organizations do need to speak to people and and find out what they need. And Chaka mentioned personal captioning devices are also a great option. And there's various kinds that I've seen used in the museum world that I have preferences on myself, but I think… Universal design is what we should all strive for and get as close to as possible. Obviously with the ADA there's certain building requirements that some, you know depending on new construction versus old construction, and things like that that can't be changed. So things, all these things are to be considered and you know that kind of answer to the question. I would say yes or no.

I wanted to to just circle back to something Courtney said about having shorter phrases on at one time when you're looking at captioning. For me, I find that more difficult to, to parse out, I suppose is what I'm is how I'm feeling about it. Yeah, people go ahead. Ohh,
sorry, go ahead. I just like if, if it's a larger block it changes less frequently so I spend less time focusing on it.

So the the the communities that need captioning, I'll just add this and then I know we can move on to another question other topics but my kind of response to that is that the companies that need captioning. They know when capturing is inaccurate. They're not, you know, for, for lack of a better term, they're not, you know unintelligent, right? So you know, when when places try to have captioning that isn't actually accurate to what is being said, it's not only then inac... it's inaccurate, it's unfair to those that need the captioning. So there is a… There can be a right way to do it, or there can be a right way to do audio descriptions or describing what music is playing and that kind of thing. But I would say if you're as far as capturing, it needs to be. The script, it needs to be that's actually being said. And that's why live captioning is really great because it's just captioning literally what's happening at that moment.

Yeah. And to. Sorry, this is Courtney again to clarify what I meant, Chaka and Rachel. So I I work a lot with e-learning, right. It's all online learning. And part of what we do with all of our courses is that if there is a video, we always include captions and a transcript. And when you're looking at the captions with the things that we use, the technology that we use, to make the captions, it might feel like the the phrases that it's coming up with automatically seem kind of short. It will stop maybe mid sentence at a comma and then it will move to a separate section and started a new section. And part of the reason that that is occurring is that, our professors will talk for a really long time and they're sentence will be 2 minutes long and you don't want a whole paragraph at the bottom of the screen. So what I'm referring to is like a couple of seconds of text at a time and then the next set of texts will come. It should definitely be accurate, especially down to punctuation and spelling. If you're talking about terms that students need to know what they mean, like in my humanities courses, they need to know how to spell, you know, the victory Nam steel or whatever. You want to make sure it's all accurate, but shorter phrases would help, I think. I'm not the expert here, but I feel like the shorter phrases at a time help ensure that students are seeing. They have time to read it all first, and they also have, like, the time to process the words that are important, like those important key vocabulary terms.

Yeah, if you have… If it's a script and a pre-recorded video of some kind like a movie sometimes having predictive captioning is helpful like you said, like it's kind of giving you text and captioning before it's being actually said. And then there's the live captioning which is kind of the quick and then there's kind of captioning you also see in you know museum videos like in the theater that are kind of that like 2 second situation. So it's, it's a… There's a lot of options. And when you're using technologies like Otter AI or if you're using Panopto to come up with the captions for your video, sometimes I think personally for me, I have a tendency to want to combine sections because I'm like, oh, this isn't going to look good, but I want to trust that the technology knows what it's doing too, and then watch it and see, did the phrase links that they came up with, did they, did they last long enough to see what was being said? Were they too condensed? Things like that.

So I just want to let y'all know we do have some comments in the chat and I think not to totally put you on the spot, but I think Georgette or Courtney maybe little to address some of these.

The first one is from Melanie Knight, she says. I find it interesting that Mayer doesn't even mention accessibility in terms of disabilities, only in terms of speakers of additional languages. And she also says I think learning preferences are also relevant here. Even as a person who is able to hear, I prefer to. Need information rather than to listen, and so I often use a transcript instead of a video. Sorry, maybe I should stop there and then I'll. I'll read Kristen's. Kristen's messages. But if anyone, Courtney or Georgette also wanna respond to that or Chaka cause he's here, feel free.

Yeah, I popped my head in. Has anyone read…? So I'm, I'm taking a educational technology course right now. Alright, well, I'm in a master's program. Excuse me. And… When we were asked about learning... learning preferences, I like looked up to see because we all like. I feel like I'm a hands-on learner. Everybody has their style that they prefer, but that I read that it doesn't actually have any impact necessarily on retention. What works best is having the two modes that work together in tandem to to actually bring you the information. So are we now just going to like have a little section on debunking learning preferences? Because I'm OK with that.

I don't think maybe we shouldn't dive too far deep into that. But yeah, it's a pretty accepted consensus now in higher education that learning styles are not really a thing they do not help learning. We, we do all have preferences and they can affect motivation a little bit, but we won't go into that. But I would confidently say that learning styles have been debunked.

Yeah, I think that's true in the corporate training world as well. We've, I've seen designers pretty well move away from that and I guess I, I just wanted to add a thought about the Mayer's book on the chapters talking about modality and the research, and it's research done on neurotypical people. So I wish we could kind of like pull that out and say, well, what about people with dyslexia? What about people with autism? What about, can we do some studies on that? Because a lot of times I feel like, and this is just a sense that the outliers in the data are probably those people who aren't typical. And yeah. So definitely something that we could uncover in the future maybe.

And just kind of talking about that too. This [is] Courtney, again. While we were talking just now, I kind of looked it up because I was curious and this isn't an excuse for not talking about accessibility in the book, but I don't think the conversation was happening when this book was written. The WCAG principles didn't come out until 1999, and this book was written before that. So I think This is why these conversations now are important. We have more of an understanding of, you know, universal design and how important it is and what solutions exist, and we should be talking about combining these principles of. Cognitive processing with these ideas of, you know, being universally inclusive and accessible.

I will say, though, with the thing that Melanie was saying about transcripts when we, for all the courses that we create, when we create transcripts for our videos, we're not just doing it for students who are hard of hearing or deaf or for students who are learning a second language. We're also doing it because of technology limitations. Your Internet in rural Idaho is not necessarily going to be sufficient to watch all of the videos in your course. So there are a lot of

reasons why it's important. To include these these options and so preferences may not be just for you know, learning preferences, but also I'm at work right now or I'm on the bus and so I would prefer to be able to read this as opposed to listen to it.

So I guess that's pushing back on that idea of learning preferences not actually being applicable. There are times when what you prefer really is what matters. Otherwise we're just not going to learn at all.

And just to clarify a little bit on the modality principle, I see you know, Melanie has said she prefers to read some of the text versus listening to narration. I think a lot of people are on that boat as well. So in that specific principle, he's comparing narration and animation and then on-screen text, which would be equivalent to the narration. So in that particular research, the research for that principle. It's not comparing like say if you had like a book with with all the texts where you can easily look back on it. So there, so it is very valid. And if you're reading like a transcript on a web page, that would be very different than, than the way it's presented in the research, which, you know, probably wouldn't be very pleasant to read a lot of text just like. Moving on the script, so just to throw that in there and he is still conducting a lot of research, but it's a great point and we haven't found where he specifically addresses it. Not to say that he hasn't, but we haven't found it. And I was going to mention this a little bit later, but we do have an interview elearningdesigners.org. will be interviewing Mayer in November. We have it on the books and it's definitely at the top of the list of questions we want to ask him about.

And with that… Sorry, my brain just went completely blank. OK, we were talking with modality principle, right? Cecil mentioned the modality principle. One of the things that I love about what it talks about in the modality principle is it goes into depth about having learners be able to control the pace of what they are watching and how. When learners can control the pace, there is almost no difference between having narration and having written text. So. When we're talking about ways to make universally inclusive, ways to make this accessible. If we allow learners, especially in e-learning or in like a corporate training where someone's probably doing these learning tutorials on their own as an individual when we give them the opportunity to control the pace of their videos. Or if we break up a video into short sections that they can watch the section and then watch it again. That makes it better for everyone and that makes it so that we can have that text options and it's not going to be harmful to learning.

The segmenting principle. It's my favorite. I'm still new to this. I literally came in here as a tech guy and I'm still learning a lot of what's going on. The question that I have, and I wonder if it's addressed at all in any of Mayer's principles, is like if there aren't graphics and we're just talking about an audio book and reading, is there any research done about that? Like does it… Because it's still two different cognitive areas of your brain, right? It's one that is visual and one that is auditory. Is there any research on that yet?

So just to clarify, are you saying comparing an audiobook to reading or reading while listening to an audiobook, reading while listening?

Sorry, sorry, can you clarify
It?

I'm sorry. Reading while listening so you where you can still control the pace, but you get it in two ways.

So that would that would… That would violate the redundancy principle if you're reading it while you're listening.
But there's no graphics...

Say what?

So the redundancy principle, Cecil, is a problem because your brain is interpreting 2 visual components at once, graphics and text. If there are no graphics, there's nothing to be redundant, so it doesn't apply.

You mean no graphics as in no written words? Or are you saying…?

No graphics, as in no images. So that's what that's what Mayer is focusing on in that chapter is images plus text are two different forms...

So Chaka's saying if you're reading something like, like a book and you're listening to it at the same time, is that what you're saying, Chaka?

Yes.

OK.

And I will say I'm I can clarify what was going on in this conversation, but I have no idea about research.

I don't know, but I feel like that kind of still violates the modality principle. Does it not? Well, you're right. I see what you're saying because you're not loading the visual... Well, you are. So when you're reading, that's the visual channel and then you're listening. That's auditory. I see what you're saying. It's tricky. Yeah, that's a good question. Very, very good question. If anybody has any ideas, you know, I know Doc Rio was also in the same program as I was. You know, let us let us know what you think about is a very good question. That's a tricky one.

I think museums are a really interesting, um, avenue for this topic too, because you have exhibits that have you know tech, you know exhibit labels that have also have images, and you also have the object in front of you. So it'd be really interesting, I think. I'm sure there's research even if it's, you know, not super prominent out there about it, but you know, visitor studies about, you know. In, in the museum world, there has been, there's now definitely levels of you know, quote unquote best practices as far as text and images and objects are concerned. So I think

teachers or any kind of educator could also take from the museum education world in that respect and that all exhibit labels really should be written at like a fifth grade reading level. And we've steered away from hopefully a lot of museums are still stuck in their ways. But you know, the long blocks of text in an exhibit label really should not be the thing. Should have good color contrast. You know, all these things like Mark had said about dyslexia. You know, what font are you using that you know, those considerations and how all of those work in tandem where people still really enjoy their visit and they get something out of it. It may not be everything, but they walk away. Not overwhelmed even, even though they were offered multiple modes of the information. Multiple, you know, ways of receiving it. So just food for thought.

Yeah. I just wanted to add real quickly that we're talking a lot about like sort of that bottom up where we're looking at the sensory information and how it comes in. But it's important not to forget the top down in terms of how these ideas connect to each other and to their previous knowledge. And then actually that's a lot of times where I try to spend most of my energy and then just sort of get all the other stuff sort of more templated out. Like I have best practices that I use sort of like recipes to make sure that I stay on track. It's not violating any of these principles, but just yeah, as a reminder that top down things so important, like the 5th grade reading level, like they don't need to be spending time figuring out what words mean if we can help it. And then short sentences, keeping things active and not passive. All that good stuff.

I think, really like deciphering what are your learning outcomes, right Mark? It's kind of like what do you actually want people to get out of this? If you're at least in the museum world, are you really wanting them to leave memorizing the weight and height of the moon Lander, like it's, right? Like or is it an experiential thing? And I think that speaks to what you said, Mark as far as top down like what are we trying to get them to know and how do then we have those multiple modes of access and how do we communicate that information.

Get them to know and also get them to feel you want them to emotionally feel something when they go through it.

Yeah, empathy is a huge theme in the museum world.

So just because it's sort of relevant, Space Center announced its rebranding today and we're focusing on… Like the way that we're phrasing it is our goal, our mission is to bring people and space closer together. And that doesn't mean that we want everybody to know the weight of the last moon lander. It means we want them to feel that they want to be a part of the space exploration journey. And so just feeling can be as important as knowledge. If that's your goal.

Um, and just, you know, going back to the principles, I feel like a part of that is if we're trying to focus on what our learning goals. You need to understand what is the purpose. What is the meaning behind these principles? What are what is he really trying to say? Like he he's giving us practical advice that is not always applicable to everyone, but the ideas behind them. Not overextending someone's cognitive load, focusing on what really matters. Because there are principles about that, those foundational principles still apply regardless of the learner,

regardless of the situation. So I think if we try to approach the, the content, the research from that perspective. It becomes a lot more usable.

I'm just going to throw it out there we have not talked about. The the last principle and we spent like 30 minutes on these two. If we want to talk about the last one, maybe now is a good time to switch to that one. Just a thought. And now I'm gonna disappear into a smaller seat.

Yeah, we probably have about 10 minutes left if we want to cover that one unless anyone has any thoughts. Last minute thoughts?

Georgette, do you want to do a quick like one to two-minute recap of the last principle we have which I believe is principal four, right? is that right?

Yeah, sure, Cecile. OK. So the final principle. Oh, thanks Chaka.

The principle that we'll be talking about next is principle 4 which is the spatial contentment... Oh my God, I can't pronounce it. Contiguity principle. So this principle states that people learn better when corresponding words and pictures are presented near rather than far from each other on the page or on the screen. So basically what this principle is saying is if we're ever going to have images with like their supporting words. That the words and the phrases should be right next to them. So for example, what if we're, um... What if we have like a diagram of a plane and we want to like label the different parts of the plane? It would just make sense to put, you know, the tail next or the word tail next to the tail, the word wing next to the wing. So just that spacing between the word and the visual would be what helps you know the learner, like, actually learn.

And also then in this way when the words and the images are close together, learners don't have to use their cognitive resources and like in order to to link like, oh, where does this word belong to which image? Because they would be right next to each other.

Also, I have a question to kick it off, but Courtney, you kind of popped up here. Did you have any initial thoughts?

I just, I'm very passionate about the idea of a good image transcript. I think a lot of the times when we talk about spatial contiguity we thinking about infographics and diagrams, which are often a single image with words as part of the JPEG or whatever. And you can't screen reader a JPEG so. Image transcripts I think are so important. We know about Alt text, we know that we can add like a short description of an image, but we can also make a literal transcript that says description of the spleen and then it describes like this points to the spleen or whatever. Like it goes through all the things that the diagram is showing. And putting those visual descriptions of the thing next to the text that would have described it within the transcript applies to that spatial contiguity principle. Yeah, that was my spiel.

And I have a question for Rachel. Sorry, I didn't realize it wasn't muted earlier. So only as of recently, I learned about not just creating a video transcript, but also a video transcript with the visual descriptions, so that when you say a certain word, it also describes what scene is happening very very briefly while that sentence is being said. So I learned about this really recently from, you know, WCAG. But, I haven't actually seen anyone
do it except WCAG. So I guess the question is, how common is this? You know how important and valuable is this? And you know in… Have you seen this done in your workplace?

Yeah, so. That's a great question. Um, so audio descriptions are ever evolving? I think too, as far as, umm, best practices and practicing how you write them too, as well as just verbal descriptions. You know you go to an Art Museum. Is the way that you describe a painting subjective or objective? And is your feelings in it, or are your feelings not in it? And you know what are the what are the colorful words that you're using to make it interesting and not interesting, or make sure that they know what it looks like, but you're not telling them how to feel about it, right? There's so many things to consider with something like that, and that's an ongoing kind of workshop, you know. Practice situations and then audio descriptions. I would say that it's becoming more standard slash expected for, you know, films in… Again, museums that that come with an audio description, um, it depends on where they're sourcing the videos from. Certain places, like here since we work with NASA, there's films that are made in house versus being sourced from outside organizations. And so how you develop those audio descriptions and captioning and can can look very different and provide its own obstacles. So you may, you know, you may have to send it out to be to like a contractor to get your audio descriptions done. A little plug is that if you want to watch Crip Camp on Netflix, it's a great example of… It's about disability and disability advocacy and disability history, especially around the ADA. And my sister worked on it. She's cool and, you know, they since it was done by disabled people for just, you know, for the community, for disabled people. And they have a lot of those things like audio descriptions and, you know, people like my sister worked on the captions and, you know, it was all done in house by people that could do it. And it's a good example of how it can be done. A lot of times you have to request audio descriptions. It's, you know, it's not just offered. So I would say it's always something to be considered and I would say standard best practice is that any video has audio description available to use. But I know that's not reality.

And Cecil on, I can kind of answer that question from a, sort of, higher education standpoint At least at our institution, we are trying to make sure that all of our transcripts include visual descriptions. So not the audio caption part, but a lot of our videos might be a professor standing in front of a set of like slides that are kind of embedded in the video. And they might be like clicking through like I'm working on a humanities class, they're clicking through images of art. And they're describing like ohh, this is a painting by, you know, Leonardo da Vinci. And you'll notice these important characteristics. You'll want to include in the transcript that information that someone might not be seeing that is important to what they're learning. So I know that higher Ed, this is something new that we're doing. We haven't been doing this forever. So I know that it's definitely a push right now to include visual descriptions and transcripts.

Thanks, Courtney. Yeah, we're also starting to do that as well at, at the university that I work at.

Can I just add really fast? I forgot. Another… mode of... another tip or whatever that you want to call it. Here at Space Center Houston all visitors have access to free, have free access to Aria, which is a basically a live, live 24/7 service. That is for people who are low vision or blind and it's somebody that can, you know, you pop up on your phone and they describe to you where you are, what you're what you, what's in front of you, how to, how to navigate if you need to. So there's also other ways of providing kind of audio descriptions or visual descriptions. Obviously you wouldn't want that necessarily during a show potentially, but as far as you know self-guided learning like I think Courtney was talking about too, like you know self-paced learning potentially that gives space for somebody to use an app like Aria and, and get their information. They're, they're visual information that way as well.

You said space because we're from Space Center!

Puns.

Yeah, I just wanted to throw in a tip about, um, the proximity of labels on diagrams and infographics, because that's something my Mayer talks about a little bit. And the something that I've learned is looking at eye tracking is really important. So once you start figuring out the visual hierarchy of a composition like an infographic or just even a slide once you start seeing it in action. In terms of the the user's eyes will go in and they'll find the focal point and then they'll look around it. And once that kind of clicks in your brain, it becomes a lot more natural to say, oh, look, the label needs to go here. It needs to go, you know. I think when I started out in this world, I would put the label way over here and draw a line over like an exploded diagram. And I thought that was, you know, clever, but it actually just means you got more work for the learner to do. So, yeah, doing a visual… Understanding visual hierarchy, how it works so that you have one focal point, you go to 1st. Looking at all the literature about eye tracking, all that stuff. It works.

I will also, at this point make a plug for making sure you're doing your HTML correctly if you are using an if you're doing online learning. Because you may think that you have put your captions in a place that visually makes sense with spatial contiguity. But you want to make sure that the hierarchy of the information in your HTML is also in the correct order so that someone who is using a screen reader and tabbing around the screen will go from label to image or label to Alt text more… Easily, yeah.

Yeah, that's, that's a really good one. So if you're using word or Google Docs, you know it's just making sure you have the right heading labels so that keyword navigation works well.

Awesome. So we are about 5 minutes from finishing. So I just wanted to take a moment to thank everyone for being here and for tuning in. We will have a recording of this so this will be available afterwards and we can also put a resource, a quick Google DOC resource page for for y'all for some of the theories and different models and resources that we've mentioned. So just

stay tuned. We'll get that to you within 24 hours. Just if you don't already, feel free to follow us on our LinkedIn page, subscribe and like the video on YouTube for the algorithm. Had to say it. And you can always check out our website as well at www.elearningdesigners.org. If there are any questions, please feel free to put them in, but I'll let people pop up here for any concluding statements.

Yeah, who still says... I do, I do. Thanks Chaka. And sorry. It's not that accessible that we haven't read all these little pop up texts. It's a little bit difficult because YouTube live stream has like about 10 second lag. So when I want to put it into the chat, it won't make sense at the time that you're reading it. So yeah, pop up on here so we all can say some concluding statements and your goodbyes and I'll start putting some of our links in the chat like to our LinkedIn page.

I just want to say that everyone was freaking out about this event and I think it went great. I think we had a lot of good conversation and this is exactly what I wanted. So thank you to our lovely guest speakers and thank you to our e-learning designers crew. Y'all are awesome. Yeah, this was great. And now I'm leaving the square.

I will just add if anyone has any questions about something practical they want to learn about how to do accessibility, we are happy to write articles, so feel free to leave questions in the chat about something you want to know more about and we'll see if we can't make videos or articles about that. Thank you guys for coming.

Shall I play the outro music for them?

Yeah. Although, I said upbeat and I feel like… I feel like it was not very upbeat earlier.

It was a Taylor Swift song that had a piano cover. If you know the song, it's very upbeat, but it's still laid back. Upbeat and laid back. It's my, it's my sweet spot.

I said Beyonce!

You know what? So you can run the stream next time. How about that?

Tat will be scary. I have OBS, but I'm not sure I'm ready for that yet. Thank you all for coming along. And we'll have the recording up, we'll post it on our LinkedIn page when it's ready and you'll see it here on our channel. So thank you all, and I think that's about it.

Alright, Chaka, feel free to cut the stream whenever you're ready.