Back to Basics: Digital Accessibility Essentials

Introduction

Welcome to the accessibility webinar series, brought to you by Every Learner Everywhere and the Northwest Higher Education Accessibility Technology Group. It's a pleasure to have you with us today. My name is Norma Hollebeke, and I'm the associate director for innovation and programs at Every Learner Everywhere. Quick housekeeping note-- we are recording this for those of you who cannot join us today. Throughout the presentation, we do welcome your questions and comments in the Q&A and chat.

Every Learner is committed to creating inclusive and accessible materials. Our slides are designed with high-contrast visuals and large text. We value your feedback to make our content accessible for everyone. You can scan the QR code to view your slides on your phone or another preferred device.

Before I introduce our speaker, I'd like to take out just a few minutes to tell you about Every Learner Everywhere and the mission of our network. Every Learner Everywhere is a collaboration of higher-education organizations with the expertise in evaluating, implementing, scaling, and measuring the efficacy of education technologies, curriculum, and course design strategies, teaching practices, and support services that personalize instruction for students in blended and online learning environments. Every Learner Everywhere is sponsored by the Gates Foundation. And here at Every Learner, our collaborative work to advance access to higher-education centers on the transformation of post-secondary teaching and learning. We build capacity in colleges and universities to improve student outcomes with digital learning. Our mission is to

partner with institutions to harness digital learning technology, driving innovation in higher education to improve outcomes for every learner.

The Northwest Higher Education Accessibility Technology group is a joint project of the Orbis Cascade Alliance and the Northwest Academic Computing Consortium to ensure that digital resources are equitably accessible to all users. And now for our speaker today-- Ana Thompson has worked in higher education for the last 25 years in the areas of IT support, accessibility training, online learning, strategic planning, instructional design, cybersecurity, ethical and practical AI implementation, and as an affiliate faculty.

As the academic and access technologist at UW Bothell IT Academic Technology, Thompson supports and collaborates with faculty members, administration, and staff to streamline the use of technology tools, pedagogies, promote accessibility, and technology digital fluency. She currently oversees a team of quality assurance, accessibility assistance, and AI processes to remediate content and participate in faculty learning experiences to create and maintain accessible digital content, and as part of the University of Washington tri-campus Digital Accessibility Initiative. Thompson has an AS in computer science, a BS in business information systems with a management emphasis, and an MS in information systems, and holds several accessibility certifications. Ana, I'm going to turn it over to you now.

Presentation

Great. Thank you so much for the intro. Really appreciate it. OK. Let me share real quick. Here we go. OK. Can everyone see the agenda? Yes, excellent. Thank you so much. Thank you for being here today, and thank you for inviting me to speak and share a little bit of some of my experience with accessibility.

So the things that I'm going to be talking about and addressing today are just a four categories. Why accessibility, why now? Some accessibility essentials. Check it, then fix it. And where do we go from here? And today's session is designed to be as an introduction and a refresher at the same time.

And we're going to step back from the more technical side of accessibility and focus on the fundamentals, like what accessibility means, and why it matters, and some of the most common things to look for in digital content, and some tools and resources that can help us create, check, and remediate so content is accessible.

So there you go. So then I'll start with some accessibility terms, just because not everyone may be familiar with them. So you may hear about WCAG or W-C-A-G. It stands for the World Wide Web Consortium Web Content Accessibility Guidelines. And that is the technical standard that the Title II follows and requires.

So the Americans with Disabilities Act Title II rule is the federal update to the American Disabilities Act to meet these standards. And the version that is currently the technical standard for this version right now is WCAG 2.1, level AA.

Digital accessibility is the practice of designing and developing websites and mobile apps and other electronic content so people with either visual, auditory, motor, cognitive, even mental disabilities can use them without any barriers and without any sort of remediation on top of everything.

Next one is structure with semantic meaning. It's like, what in the heck is that? I get that question a lot. So that stands for is the coding behind your digital content and identifies elements of that content and inform their function. In other words, there's the little tiny bits of code, sometimes referred to as tags, depending what interface you're working in, that says, OK, this is a heading. This is heading 2. This is a list. And this is a table.

The word tagging, it's-- and I mentioned already tag. So tagging is the action of applying this coding or this tags to types of content, most often using PDFs, because the way the content identifies via tags. And they're very similar to HTML tags or code.

Assistive technology, what does that include? So assistive technology are applications used to interact with digital content used by persons with disabilities but not always. Even persons without disabilities may use assistive technology to help them be better and faster, et cetera. And they could be screen readers, text-to-speech tools, features that zoom or recolor content. And then there are some others as well.

OK. So Title II establishes a specific set of standards for public entities. And as I mentioned before, the technical standard's WCAG version 2.1, level AA. Although, there are states like California, Connecticut, Georgia, Louisiana, Massachusetts, Nevada, New York, Pennsylvania, Washington, and Vermont, to name a few, that have already adopted the next version, which is 2.2, which was published in 2023.

The scope of this Title Ii includes web content and mobile applications provided directly by public entities, as well as content provided through contractual or licensing agreements. So there, any applications that you purchase or services that you purchase-- so includes those.

So just as a review, for public entities in areas with populations of 50,000 or more, the compliance date is next year, April 26, 2027. And for entities in areas under 50,000 persons in populations and special district governments, the date is the following year, April 26, 2028. So the important takeaway for today is not to memorize the regulation. We have a reason, right? And that's one of them. But we also have an opportunity, is to build better practices now.

OK. So there we go. This was the one for me. Anyway, so today isn't about becoming an accessibility expert. It's about learning what to look for, what you can do about it, and where to go if you need help.

So we're going to talk about briefly why this work is especially important and timely. Because I don't know if you-- I tend to think this way, and some of my colleagues do as well-- is that for the past 30 years, we haven't done that much progress in accessibility for all the content that's out there. So because of that, we have been accumulating an accessibility debt, a very, very gigantic one.

So why do we do this work? Because people with varying levels of ability, they need to be able to perceive, understand, navigate, interact, and contribute to digital environments. And accessibility, it's something that should not be added at the end. The goal is to think about adding accessibility from the start.

And this also improves the user experience more broadly. So it helps and it benefits those persons, even that don't have disabilities either, because it leads us to create content that has clear structure, readable text, where the links are descriptive videos with captions and well-organized content. So our goal is accessible content from the start and providing the best user experience.

So when we talk about accessibility, it helps us to remember that disability is not one experience. There are different types of disabilities, including sensory disabilities affecting vision, hearing, touch, physical ones affecting mobility, the use of hands and arms, cognitive disability, or persons who are neurodiverse-- maybe they're experiencing dyslexia, which is a reading disorder, dyscalculia, which is a disorder in which it makes it difficult to understand and read math.

So the reason that this matters for our work is that different barriers affect people in unique ways. And many times, and most often, you will find that a person doesn't have

just one disability if they have disabilities. They may have several. And it may manifest in different ways.

Like, a visual interface may create a barrier for someone who uses a screen reader or text-to-speech tool. And this visual interface may also-- maybe if this person has a brain injury, it may cause a migraine, for example. And this could be something that was acquired, maybe due to an accident, or maybe the person was born with this issue. A complicated interface may create barriers for someone who's neurodiverse. So it's a lot of things to think about in terms of disabilities. And this is why it's so, so important.

Not only we have types of disabilities, but disabilities have different states. Some are permanent. Some are temporary. Some may be situational. So I really like this graphic representation because it really illustrates the idea that access needs are limited to permanent disabilities, right? And I originally got this from the Microsoft inclusive design toolkit.

So the very same barrier, as shown on the graphic, it can affect someone with a permanent, temporary, or situational limitation. For example, looking at hearing-- someone may be permanently deaf or hard of hearing, or someone may else maybe temporarily have an ear infection. Someone may be in a loud environment, where audio is very difficult to grasp.

So this is useful because it reminds us that accessibility is not about designing only for small groups of people. It's about recognizing that human beings, they have different levels of ability. And that changes across people, across situations, and sometimes across the same person's life. When we design for accessibility, we create content that works better for everyone.

OK. And before moving on, I'm going to take a quick break, see if we have any questions. Do you have any questions in chat?
Yeah? OK. I'll continue then.
All right. So the next topic I wanted to address and is something that you might be familiar, or maybe not, is universal design for learning. Universal Design for Learning, or UDL, came from universal design, which was related to accessible access to physical spaces. Universal design for learning, as the name implies, was coined to be applied directly to learning, to education.

And UDL encourages us to design learning experiences so the content has usable by everyone, to the greatest extent possible, without requiring individual adaptation. There are three broad principles, which are multiple means of engagement, representation, and action and expression. In other words, it gets us to think about how learners engage with the content and with each other and with their professor or teacher, how information is presented, and how learners can demonstrate what they know.

And the goal of UDL is learning agency, helping people become more purposeful, resourceful, strategic, and action-oriented learners. And digital accessibility is not separate from teaching and learning. Accessibility is one part of designing environments that reduce unnecessary barriers to participation.

I went too far. There we go. So I kind of mentioned the connection between UDL and accessibility. So let me make it a little bit more explicit. Accessibility and UDL are not identical concepts, but they overlap in a very, very helpful way. And they both encourage us to think about barriers before someone encounters them.

So instead of asking, how do I make an exception for this student or for this tool I want to use? We can also ask, how can I change the design so that fewer people encounter this barrier in the first place? That shift from reacting to barriers to preventing them is

the major theme of accessibility work. OK. I'm going to stop real quick and check if there are any questions.

Hi, Ana. There was one question that was in Q&A. And I'm trying to link up a resource, but it might be helpful for you to clarify. There's a question from Doug that asks, what does the new Title II rule about accessibility say about electronic documents, such as content created in Word or PowerPoint and then posted or shared via a website?

Oh. So documents, electronic documents, could be Google documents, could be Microsoft documents, PDFs-- what it says is that it needs to be accessible. What does that mean? That if someone is using assistive technology, a screen reader-- and that's the example I use the most because it covers most things-- is that a screen reader should be able to access that document and announce everything back, as if the person was reading it themselves, and be able to see it clearly themselves.
And that means that if there are images, there should be a text alternative that is announced, describing that the image, and not describing every single bit of the image, which I'll go into later, but describing what that image is communicating or what its function is in that context. And if there's a table, it should allow a person to navigate that table.

And part of accessibility is also that you shouldn't have to use a mouse. You should be able to navigate with just a keyboard. Because users of assistive technology, specifically, screen readers, that's how they navigate through the content, by using different combinations of keys on the keyboard. And that's how that works.
So documents have to be well-formatted. All the content needs to be meaningful in order for that to be accessible. And Title II says that it should. It needs to be. I hope that clarified that. Yeah? OK. Great. Thank you.

All right. So here's the big picture. So accessibility is much more than remediating or fixing documents or PDFs or web pages or website. Remediation is important, but ideally, it isn't where our accessibility process should begin.

We learn about accessibility so we can improve how we create content as we create it. The goal is born accessible content. That is, content that is created accessible from the beginning, rather than be repaired or fixed later. That can save time, reduce frustration, improve experience for users, and make accessibility much more sustainable.

So there are many accessibility requirements, but not everything needs to be tackled all at once. Today we're concentrating on high-impact practices, things that appear again and again in documents, web pages, learning materials, presentations, and other digital content. And I'm going to do a quick overview of how those practices connect with WCAG 2.1 AA.

So let's start with an overview of that or a quick refresher. And let's start with style and structure. And I want to give credit to a past presenter of NWHeat who shared this idea of organizing the content this way from WCAG, because it made a lot of sense to me. So thank you to her for sharing this organization of content.

So under style, we'll first talk about typography. What it says is that we should use legible font and an appropriate size, avoiding using all capital letters, unless you're using an acronym or if there is a very specific reason. Next, color-- never relying on color by itself to communicate meaning. And make sure there is sufficient-- and I will say even strong-- contrast.

For readability, use whitespace strategically. Avoid justified text. The recommendation is, left align is best. And if you center titles or headings, that's OK. But when you have

blocks of text, they should be left justified. Use plain language where appropriate. Make sure that it is in logical reading order.

So then let's talk about structure. Use real headings in meaningful hierarchy. A main heading should always be H1, not the title, not the subtitle styles, which they're basically decorative. That translates into text has been made bigger, basically, just for visual effect. That's why it's more decorative. So heading 1 should be the title, followed by heading 2, heading 3 levels, and so forth. So don't just create a heading by making something bold or larger, because that's going to not communicate that it is a heading. For links, use descriptive link text. The link should make sense without requiring someone to read the surrounding paragraph. And so that goes along with avoiding just sharing a long URL, because if someone has to listen to long URL, especially a link from, like, Microsoft or Google-- those are awful. You have no idea where that's taking you. For links, use descriptive link-- oh, sorry, I just said that.

So for lists, make sure you're using the built-in list option for bullet or numbered list structures. And don't create them manually. Don't just do one dot and so forth, even though in Microsoft Word, for example-- and it happens in Google Docs as well-- it's getting a little smarter. And sometimes, when we do that, it does create the list with the structure automatically. But don't depend on that. It is best to use whatever is provided in your editing controls.

Data, media-- so data, some of the things that we need to keep in mind. So document properties-- for document properties, make sure they use descriptive titles. And when I'm talking about the properties, it's not the title that you see on the document. It's what's behind the scenes, is the properties if you go into the info for Microsoft Word, for example. Or it is the title of a web page that shows up when on the search but not necessarily the top heading label, is what's behind the scenes, is the metadata of that item.

In addition to a clear title, page names, there should be a validated language attribute. So if this content is in English, it should say English for that property. For tables, important to use them for data, not for layout, not to make things look pretty and make things stay in place-- only for data. And the tables are there to be used with data so that users can understand the relationship between information in the rows and columns.

For form fields, make sure there are visible labels, and also, they are connected to the fields. And use tooltips, the little help that when you mouse over, they pop up, wherever. Those are always helpful. Make sure those are accurate as well. Now, media-- audio-only content should have transcripts. And there are more and more applications that play podcasts that also provide captions, which is amazing. Videos need captions. And audio description are also required, but they're most importantly require or should need to have them if the video that is being provided is mostly visual, if the captions don't describe what's going on, and it is not communicated either through the audio.

So for images, make sure that you provide them alternate text, which is usually a field that you can access to describe the function of that image, what the image is communicating in that context. So if it doesn't have any meaning, if it's there just as a decoration to make or to add color to or something like that to the content, mark it as decorative, but it needs to be one of the two. It cannot just be left blank. A lot of times, alt text may default in some interfaces to the file name, which is not very helpful. And remember that these foundational practices, this show up in almost every kind of digital content. OK. So before I move forward, I'm going to take another quick stop, make another stop, and check in.

There are a couple questions that have come in, one that I think I can answer. But it does say, can you please share the person you credited with the style and structure breakdown? If you can clarify the name, I can actually put in the reference.

Oh, if you could, please, because this was—

Is it Michelle from—

I think it was Michelle. She did the STEM and math one.

[INTERPOSING VOICES]

Yeah. That's the one.

I'll put that in the chat.

I just couldn't remember-- yes, please.

I'll put that resource in chat.

Thank you so much.

And then there was one other question regarding headings. If not the built-in heading styles, can you provide a specific instruction to create actual hierarchical headings?

Oh, so we're going to address that in a little bit. But in short, it's use what's built in. If you're in Microsoft Word, you go to Styles and apply the styles for heading 1 and heading 2 and heading 3. Those styles provide that structure. And they can always be edited. You're not stuck with the style that's the default for that document. As long as the style is assigned, you can change and save the color and the size and different font if you want.

And you can do the same thing with websites. You can set the styles that way. So every time there's a heading 1, it will show up the same way, or heading 2 will show up the same way, versus using a default style. And that's what that means. The styles is more than just the way something looks. The styles in Microsoft products, for example, they also provide that meaningful programmatic information that identifies the content, what it is and what its function is.

Great. OK. So is forward-- OK. So here, talking about headings and list, I just talked about this. So no matter where you are, there's going to be always an option to use headings and lists. So I have, on this slide, snapshots of the editing options for Canvas, for example. The styles or the headings are under the Paragraph dropdown. And then you can usually find lists, bulleted, which is like unordered or the order list, which is numbers or letters, on the same, and you can find the icons for those. Similarly, WordPress is under Paragraph dropdown, and you can find the headings there. And then very similar comes for the list. Microsoft Word, as I mentioned, there is under the Styles, is on the Home ribbon. And you can set those and edit those and not be stuck with the default. But they need to be applied-- and then as well as the list in the ribbon.

And Google Docs, for example, it is also under a dropdown called Normal Text. That's where your headings are. And they can be edited, and they can be updated so that it's different from the default. And then also, you can find the icons for list to create actual lists, not what I call manual or fake list.

So headings and list best practices-- we use headings to make content easier to navigate. We can jump from heading from section to section visually. And they should always be used in sequential order because that's how they should function. So, for example, we may have an hierarchy. And H1, we want a title that says Campus Events.

Then heading 2's for the sections, each of the sections for locations, process, cost, contact us.

And under locations, we may have sub-subsections, such as, in this example, UW Bothell events, external partners. So that's the hierarchy of those. And it is very easy to skip heading levels because, maybe it's too big and you don't like it and you want to get the smaller one. Remember, you can always edit that. You can always edit the size and the color and the font. But the hierarchy should always be as is shown here. It should be used. They should be used in order. And heading levels should not be skipped.

And one thing that is important to remember is that headings always-- they show relationships. And with those relationships, it makes it so you can better understand the content, whether it's that you're looking at it or it's being read by a screen reader. This is a little snapshot on the slide that says headings and says quick links about the site, with a little number on the left of each.

And this is a graphical representation of a list of headings that a person using a screen reader can pull up by using the keyboard, because they can pull up a list of headings and have those read to them so they know what is there, and they can take a look in a way. And if they want to, they can just jump to the section they want to go to. And that's another way of saying that it's so important that headings are real headings so they have that information and that meaning and that structure so they can be recognized by technology.

So in this slide, I have examples of-- is a couple of lists. Both versions essentially contain the same information, both columns. So when the content is organized with meaningful headings and consistent structure, it becomes easier to scan and navigate, as mentioned before. So here, on this slide, we have an example of the difference between visual formatting and semantic structure.

So on the left, we have-- it looks like a list, but it's basically just lines of text. The one on the right, we have headings, and we have bulleted lists with under the headings to show that. And you can see for yourselves which one is easier to understand. An accessible document should not merely look organized. It should also be organized in a way that technology can understand, and it provides a better experience.

I'm just looking at the time. OK. So now let's talk a little bit about alternate or alt text. That is what images require so they can be identified and they can be announced properly so they're accessible. And here are some best practices for alternate text. There's a common misconception that alt text is simply a caption for an image, and it's not. They're two separate things. Alt text should describe the meaning or purpose of the image in context. The same image may need a complete different alt text in different situations or in different contexts, because the purpose may be different. You don't need to describe every detail. You just have to see what the function of the image is right then and there.

For example, if you have an image with dogs, sitting in a park on grass, and the context is about adopting pets, the alt text from that will be something to the effect, like, happy dog playing in a park or sitting on the grass, waiting to be adopted, for example. In a different context, the same picture may be used in a document that talks about dog breeds. And then more detail needs to be provided about the dog, may be the size and the weight and the color of the dog, because the function is different, even though they're the same image.

So it is important to always keep alt texts concise, 25, max 30 words. And it is important not to duplicate content, because it provides a bad experience for a screen reader user. So anything that is being said in the caption or is being said in the text

surrounding the image, don't duplicate that in the alt text. The alt text should identify the image.

And if it doesn't have anything else, it should be concise, and it should describe the image. But it's important not to duplicate. Image should be marked as decorative-- I said before-- if there's not any meaning being conveyed. If there are any acronyms, make sure you spell them out. So if I'm writing alt text that includes UW, my university, I don't put UW. I should put University of Washington, spelled out. Numbers can be spelled out or used as numbers. That's absolutely fine.

Duplicate images-- if you have a logo that appears over and over on a slide or in a document, only give alt text to the first one with a description of what it is, what type of logo, or what the logo is of. And then all the other ones should be marked as decorative. And last one, never add full URLs to alt text content, because it makes it very, very bad user experience for someone who's listening to that, because they cannot be made descriptive. It's a plain text field where the alt text goes.

OK. There you go. OK, so links. Let's talk a little bit about links. That's another very high-impact area. Links should always make sense out of context. You should not depend on the surrounding text to know what the link is about. So a screen reader user may navigate through a list of links without reading every single sentence that surrounds it. So a link simply says "here" or "learn more" doesn't tell us much. Instead, the link itself should describe the destination or purpose.

So if you need to provide URLs, you can use an approved-- because I know not all URL shorteners are approved, but find one that is approved so it can give you a much smaller one that you can share. It is a good practice and is recommended to remove the https://, the www. Those are not necessary if someone were to type that link. In modern browsers, it's not needed anymore. And it's just extra text that's not needed. Also, if there's a trailing slash, you can remove that so there's one less character.

And remember that if you're using a QR code, which is great if you do-- if you use a QR code, make sure that the QR code has alt text that describes where it leads. For example, if it says on the form, scan the QR code to register, then the alt text should say something to the effect of QR code to registration page for this event or something similar. OK. Do we have any questions right now?

There are a couple. Maybe you might be able to go back to the one related to the headings. There was someone that had a question about the order, that they had mentioned that they were not in sequential order. But I believe it was more just about the hierarchy of ensuring that each of your headings follow a hierarchical structure. So I don't think there was anything that was out of order, but maybe you can clarify the logic for this.

So yeah, so the hierarchy is the order. And in the hierarchy, H1 is the top level. H2 or heading 2 is the second level. H3 or heading 3 is the third level. That is the order, and that's the hierarchy. That's how they should be used. That's the order in which they should be used.

Now, in the example in the little graphic I have on this slide, the very first heading is not a H1. It's a Heading 2. And I didn't say anything. I was waiting to see if anyone brought it up. And the first heading should on this page or this piece of content should have been heading 1, because this one is out of order, because the 2 was before the one, basically.

I see. Sorry. And I Now I'm reading the question properly. So the example against the black background, the confusion was, what is with that example? It's basically, that's a bad example and is not accurate.

Well, just the one item in the example, right? But the example, it is a graphic representation of a screen reader user pulling up the list of links, which is something that can be enabled visually in the settings for the screen reader. And that's how I capture this. And then at the same time, there is one heading that is out of order there, the very first one. So that was a bad example. [LAUGHS]

Thank you. And then there was one more question with QR codes about what to do if you're not using a URL. And Rita says that she typically says that the QR code will direct to www, et cetera.

OK. So typically, in digital content, unless it's something that's printed, what you can do-- you have a choice. You can just have the image so people can scan, or you can make it clickable so it works as a link. So you can put a link behind the QR code, which is OK. The QR code, no matter what, if you're using it as a link, it needs to have alternate text.

And it is very helpful if it also has instructions that you don't have to click on to get, but the instructions say what you should do or what it is for. Like, scan this QR code-- or you can say scan or click on this QR code to access the registration form. Good questions.

OK. So in talking about links, here's a practical link example. I mentioned before about using links that say "here" or "example" or "learn more." So out of these two list, if we compare, such as the second one, where it says sit-and-reach video example, to how it could have been, the first one, video, which is the equivalent-- they both go to the same link.

And you guys can check them out when you get the slides. They're all linked in there. But if you say video, it doesn't tell you where it's going or what it's doing or what's this

function. But if the link says sit-and-reach video example, it gives you an idea where, if you click on that, what is going to give you back or what it's going to take you. Those links make more sense, even when someone encounters them separately, if you have a link that says "example" and you have context versus "upper body stretch example."

So another common thing that happens with accessibility involves underlining text. And I bring it up because we're talking about links. In digital context, underlining often indicates a hyperlink. And so if we simply underline text for emphasis, someone may reasonably interpret that as a link. And for people who may not perceive color differences easily-- because, a lot of times, links can be a different color, like the hyperlink blue, for example-- the distinction can become even less obvious.

So a good practice is to reserve underlining for actual links and use other formatting methods for emphasis, because there may be people who don't perceive color the same way. So next, talking a little bit about tables-- I'm going to repeat, tables should be used for data, not for page layout. Tables can be helpful when we're comparing information that naturally belongs in rows and columns. But they're more difficult to navigate than other forms of content, especially when they're complex.

At minimum, if we're using tables, a data table should have a header row, at minimum. But it could have a header row. It could have a header column. It could have a total column. That's fine. But I mean we should have a header row. I should also mention that it's best to use simple tables without merge cells, because that makes a complex table. And complex tables require additional structural information so assistive technology can correctly communicate the relationships and it can navigate properly. And if you're doing that in Word and someone is accessing that from Word, Word doesn't know you can do it, but it doesn't interpret that correctly, at least not yet. If that Word document is converted to a PDF, it can be fixed in the PDF. If that content is

going on a website, additional HTML needs to be added to make sure that the table is read and it's represented properly and accessibly.

Many times, we use tables because we say, oh, yeah, I'm just going to keep the content short versus long and keep it all together here. And that will be a layout table. But sometimes this content can be structured using columns, using headings, using lists. Use of color-- so color's another common source of barriers because of poor color contrast or other visual information that users, maybe they can't perceive. As a quick reference, in WCAG 2.1, as well as the following on 2.2, the minimum contrast between the foreground, which will be the text, and the background should be 4.5 to 1 for normal text, and for large text and graphical elements, a 3-to-1 ratio.

Another thing about color is that you don't have to stop using color. Color's wonderful. Visuals are great, so don't stop using those wonderful things. It's just that don't use color by itself. Make sure you have enough contrast or strong contrast, and, when you're using color, you're not using it by itself to communicate information, like the common thing that we see in forms.

Red fields are required. But if someone has a deficiency in their eyes and they cannot see red correctly, then I'm not going to be able to perceive that. So there should be symbols or patterns used in addition to that. So there could be something like a star or additional text explaining, not just depending on color by itself.

Here's an example of color contrast. So I have white text on purple. And this is one of the official UW purples, University of Washington purples. Color contrast, I measured it with this tool that I have a picture of on the right next to it, the color contrast analyzer. And it is 10.4 to 1, which is much higher than 4.5 to 1. So yay, it's great. The most contrast something can have is contrast between black text and white background. And everything else is in between.

The second rectangle here has bad contrast. It is a dark yellow with a grayish font. And the contrast is only 2.3 to 1, which doesn't pass color contrast analysers. And there are many out there that are free, and there are some that I recommend. This one right here is one that you would install on your machine. It's available for Windows or Mac.
And the way they work is that you select the little eyedropper, and you bring it over to the color you want to grab. And then it gives you the color in hex, which is a code for that color. And you go with the eyedropper and go get the color of the background, and it puts it in there. Then it gives you a preview of what it looks like. And then it will give you the results, whether it passes or fails.

And what we want to meet is, we want to meet WCAG 2.1 AA. If it's regular text-- so that would be anything under 15-point bold-- it should be 4.5 to 1. So it will tell you there whether you'll pass or fail. And large text, anything that's bigger than that-- if it passes both, amazing. Then you have very strong contrast. Do we have any questions? I think you might be almost out of time, and I think I can address these questions in chat in case you want to finish your presentation.

Yes, I did. OK. Sorry about that. OK. So let me just move forward. This is just an example of a couple of images, one seen with normal vision. And one, it is a representation of someone who has a form of color blindness called protanopia, which is a red light insensitivity, how the same picture would appear.

You can separate the colors and identify the colors, while the other one looks more monochrome. So it's another thing to think about and to see why color alone should not be used to communicate information, because not everyone perceives color the same way.

Real quick, document formats, if we're looking at documents and choices-- and like I said, we're hitting a lot of the basics here. HTML is the most accessible from the start. So if something can be an HTML page, go for that. It's followed by an accessibly-done or well-structured Microsoft Office Word, Excel, PowerPoint document.

PDF is the least accessible of the three, but if it's created from an accessible document, then it just needs a little bit of work once it's converted to make sure it's accessible. PDF forms, though, even when they're remediated, when they're fixed, they're still not fully accessible. So try to avoid those. Web forms are best.

If you have a PDF form that is only created for people to print, download them, and fill by hand, then that's different. Just make sure there's enough contrast and it's clear and all the other best practices. But for electronic forms, it's best to use web forms. Multimedia-- I mentioned before about captions and descriptions for video, transcripts for audio content. If you have infographics or charts, any of those complex images, you can use the image. Don't use a PDF, because it requires a lot of work to make that accessible. You can use the image. And then you can add alt text and a long description, text description, that communicates what's on that image. And then the same applies to other complex there. They could be maps. They could be graphs. You could provide alternate text and a long description or explain the meaning and the function of that image in the surrounding text.

Going back to PDFs really quick-- I have to make this point. They are a great liability still. There are too many inaccessible PDFs, even the ones that are text based, they're not image PDFs. This is some data from a Bothell Canvas course from last year. So 10% to 20% files were PDFs, which gave about 60% to 80% of low-scoring or inaccessible content in that specific course. It was fixed. But if we hadn't fixed it, that's how it would be. It would be very inaccessible.

Title II applies to everything we provide, distribute, or host, including faculty uploads. So always ask yourself if that PDF is the best format to use. So does it need to be readable in every device? Yes. It needs to be. So if that's the case, PDF is almost never the right format. Although, there are some uses in which PDFs are needed, so they're never going to go away.

And then the last thing I wanted to share is-- it's just a link. I'm going to put it in chat. Oh, yeah. Because I have some recommendations for tools. There we go. And I just put it in chat. And basically, it takes you to this Google document. And it has what can you do right now to get started, making materials accessible, accessibility checkers and tools, how to use those.

And this third link has a video recording of a workshop I offered a little while back in January, I think. Then here, these two tools-- the image accessibility creator is a great tool to produce alt text for you. You upload an image. It can give you alt text. It will transcribe if it has text in it. And it can give you a long description. Math Detective is similar but is for images of mathematical content or text of math content or LaTeX text equations, a little bit at a time, not, like, a whole document.

The color contrast trick I showed you here is the link, and you can download and install the contrast analyzer. It's my favorite. And here's WebAIM. It's a web-based one that you don't have to install. And it works well too, so the couple that I recommend. OK. Can we stop sharing? Sorry about that. I went over. My goodness.

There were a lot of questions. I understand. So I get it. Yeah. So I would like to thank Ana for such a wonderful and well-informed presentation. This was great. I think there was a lot of questions in there that we would have loved got to. Maybe we'll get to them at another webinar.

Conclusion

So thank you very much. Thank you to my backstage crew as well, Wendy and Emily, for posting things in the chat, and Alice for coming off and running those questions for Ana so that we could get those questions answered. So thank you, everyone. I do want to invite you all to join us for the next webinar offered in collaboration with NWHeat, Evaluating Third-Party Tools for Teaching and Learning. That'll take place on November 12. Registration is now open. We hope that you will consider joining us and sharing the opportunity with any of your colleagues that may also be interested.

Additionally, we would like for you to join us for our Strategies for Success Webinar series. Our next one is October 21. And then we have our November 1 scheduled with Luke Hobson. And then we'll have one in December that we'll have a student panel for. And we welcome you all to register for those on the Every Learner Everywhere website. So thank you to our audience. We do ask that you take a few minutes out to complete our survey for today's webinar. The link's being posted in the chat. If you got something else to do and you're zipping off, that's fine. We'll send you the link to the survey in the follow-up email.

We will be posting the video in the next few days with links to the slide deck as well. So on behalf of Every Learner Everywhere NWHeat and our partners, thank you for being here. Thank you for the work that you do every day to support your students. Have a wonderful day.