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Delivering News for Technical Writers on the Move

Accessibility in Technical Communication

In this issue, we discuss the importance of universal design and accessibility. From the aviation field to the library, we uncover common problems and solutions in accessible content creation.

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UNDERSTANDING AND INCORPORATING CONTENT ACCESSIBILITY IN TECHNICAL WRITING

By Terry Fogle

When content is accessible, it allows all users to access the information easily and effectively. Making content accessible is no longer just the responsibility of designers and coders; it's now a consideration for anyone whose job is to develop content for an end user, and that includes technical writers.

To incorporate content accessibility standards, a writer must broaden the scope of typical writing considerations (audience, syntax, structure, deadlines, etc.) by adding accessibility awareness to their toolbox. This article will explore the history and importance of accessibility and establish accessible content guidelines for technical writers.

Did you know?

Nearly 1 in 5 people have a disability within the United States (U.S. Census, 2012)

What is Accessibility?

The term “accessibility” most commonly references people with disabilities. This group of users is most likely to face content usability challenges and may rely on assistive devices (for example: screen readers, etc.) to access information. According to a 2010 U.S. Census report, nearly one in five people (approx. 57 million) are deemed disabled in the U.S. (Nearly 1 in 5 People, 2012). This is a large audience with unique interaction requirements. Jared Smith, an associate director of Web AIM, points out that, “statistically, most of us will experience a disability at some point in our lives.” (The Writer’s Guide, 2016).

Since there are many different types of disabilities, people who rely on content accessibility fit a variety of profiles. For the 40 million Americans over the age of 65 (2010 Census Shows, 2011), reading fine print can be challenging. People suffering from arthritis or carpal tunnel may have difficulty using a computer mouse. Over eight percent of men in the world are colorblind, according to the National Eye Institute (Facts about Color Blindness, 2015), and are visually challenged by certain colors on web pages. Those who are blind or deaf also face unique challenges posed by their disabilities. Imagine, for example, trying to place an online order when you can’t see, or participating in an online seminar when you can’t hear. The sheer number of needs can overwhelm even the best technical communicators and promote a strong case for writing accessible content. Temporary disabilities, such as broken bones or occupational injuries (repetitive stress, carpal tunnel, etc.), should also be considered. Impediments could also be environmental, such as a noisy manufacturing floor where listening is difficult or low lighting that affects screen visibility (Miranda-Hess 2013).

Accessibility is not a new concept. In fact, the Section 508 amendment to the Rehabilitation Act of 1973 has been in force for 20 years now (officially enacted in 1998). The law applies to all federal agencies when they develop, procure, maintain, or use electronic and information technology. It was enacted to ensure information accessibility to people with disabilities, including employees and members of the public, and requires accessibility compliance for organizations wanting to conduct business with the U.S. government (Section 508 Law, n.d.). Newer accessibility standards in effect today include the “Web Accessibility Initiative – Accessible Rich Internet Applications (WAI-ARIA)” and the “Web Content Accessibility Guidelines (WCAG)” that provide timely guidance for web content usability.

Why Consider Accessibility?

Creating accessible content can be beneficial to the technical writer as well as the end user. Technical communicators may strengthen their professional expertise by understanding their readers’ diverse needs and how to meet them. This not only looks good on a resume but can help the writer stand out in a competitive crowd.

Brenda Huettner, a technical writer and usability and accessibility consultant, is quick to point out the economic benefits of an accessibility plan: “From a business standpoint, why would you want to exclude any percentage of your potential audience?” (Miranda-Hess 2013). Huettner also believes that, “places that provide accessible experiences are where people are going to go to get their info or services or products.” (Conti 2016). Greater accessibility allows a company to broaden their reach, which translates into a quick return on investment.

A technical writer must also be familiar with the legal ramifications when content is deemed inaccessible. An example of this is the 2006 court case involving the Target Corporation. The National Federation of the Blind filed a class action lawsuit against Target, claiming that blind individuals couldn’t independently purchase items from the company’s website. The lawsuit claimed that Target had violated the Americans with Disabilities Act of 1990, and the courts ruled in favor of the National Federation of the Blind (A Cautionary Tale, 2009).

With so many accessibility considerations, it can be challenging for the technical communicator to identify accessibility requirements. Huettner warns that the writer must not assume these guidelines alone will increase content usability for everyone. She believes it is “compliance with the guidelines” that broadens the scope of content accessibility. She also says the writer must consider how creating accessible content for one group may make it less accessible for another (Miranda-Hess 2013). Once the scope and needs of the audience are understood, a good starting point is to establish a set of guidelines.

Content Accessibility Guidelines

The following guidelines can help incorporate a content accessibility strategy. List compiled from: “Writing for Accessibility (Creative Commons, 2017) and “What is Accessibility?” (The Lone Technical Writer, 2017).

Alt Tag

An Alt Tag is a text tag that describes an image or photo. Use the alt tag on all images so information can be processed even when the image can't be seen.

- Describe the image in detail in a brief caption.
- If the image serves a specific function, describe what's inside the image in detail.
- Include the data for a chart or graph in the alt text.
- Remember, every browser handles alt tags differently. Supplement images with standard captions when possible.

Closed Captioning

When including videos as content, ensure closed captioning or transcripts are included. Don't rely on the video alone. Ensure the information is also available in other formats.

Colors

When creating charts, graphs, and visual presentations, remember that color can determine a document's accessibility. Use textures and patterns to supplement charts and graphs with color coding. Also, keep in mind common color combinations affected by colorblindness. Blue text with a purple background will be muddled and unreadable to many readers.

Content Hierarchy

- Put the most important information first. Place similar topics in the same paragraph, and clearly separate different topics with headings.
- Consider starting with a simple writing outline to help create a hierarchy and organize ideas in a logical way.

Descriptive Links

Title links in a way that clearly explains the associated action or destination. Try to avoid links titled "click here" or "learn more."

Directional Language

Avoid using content that requires the reader to see the entire layout/design of a page and avoid using directional instructions (see examples below). Remember that content may need to translate to mobile applications.

- **Yes:** "Select from these options." (with the steps listed after the title)
- **No:** "Select from the options in the right sidebar."

Document Accessibility Features

Describe content accessibility features including: how to use keyboard shortcuts and mnemonics; how to change font and color on a web page; how to customize menus and toolbars, if needed; and how to use an alternative style sheet if it becomes necessary for a reader to format their own files.

Forms

Label "required" fields with clear titles and appropriate tags. Consider specifying relative rather than fixed widths and heights for table cells. A fixed size may cause formatting issues if a reader resizes a window.

Headers

Use headers effectively (page title = heading 1, top-level sections = heading 2, subsequent headings = heading 3, etc.). Headers should always be nested and consecutive. Consider the benefits of creating style templates to ensure effective and clear header use.

PDFs

Using PDFs ensures document content and style remain readable regardless of platform. However, PDFs don't always work well on speech synthesizers that can't interpret this file format.

Plain Language

Use familiar words when writing and keep sentences short when possible. Avoid jargon and slang. When using an abbreviation or acronym, spell it out on the first reference.

Screen Reading Technologies

Screen readers rely on the correct formatting to relay information correctly. Here are a few considerations:

- Screen readers can't vocalize merged cells, so don't use these in tables.
- Screen readers move through a document like a cursor, vocalizing information it approaches. To ensure everything is read in order, align tables and images with the text.
- Headings not only visually breakup information, they create metadata that screen readers rely on. By using heading styles in documents, screen readers can recognize and vocalize division in information.
- Screen readers can't interpret graphics images.

Text Size, Alignment, and Spacing

- Text should not fall below a font size that leaves it illegible to the naked eye.
- Keep text aligned left whenever possible. Justified text affects the spacing between letters and words which can make the difference between a readable document and a bunch of gray lines.
- Consider defining, text, color, and spacing in a style sheet or template to capture content accessibility for continual usability.

Visual Elements

- Ensure high contrast between font and background colors.
- Since images don't always load or may not be seen, don't rely on them as the only method of communication. Keep a good balance between images and verbiage to help convey the message.

Technical Writers and Accessibility Awareness

Many technical writers already practice accessibility awareness. Creating effective content is what they do every day. These technical writers are great at recognizing when and where accessibility standards should be considered, and possess the following skills:

- Strong analytical skills that allow them to understand new products or applications with minimal information or training. They intuitively have a keen awareness for user profiles, requirements, etc.

- The ability to work comfortably with subject matter experts to gather information to translate into usable content.
- A natural connection to the end user and writing to a user-centric audience (Gafney 2004).

Where additional on-the-job assistance is needed, software companies like Microsoft and Adobe have added accessibility features to many of their software applications. These tools allow the technical writer to check content usability directly during the writing process. There are also accessibility checklists available online that can be used to rate web page accessibility strength. Accessible content creation requires dedication and a thoughtful awareness of accessibility guidelines, but the results are well worth the effort: improved usability for the end user and a rewarding career for the technical writer.

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ISOLATION AND ONBOARDING: GENDER BIAS IN AVIATION TRAINING DOCUMENTS

By William Hart

Training documents provide written instruction and reference guides for job functions. This is often the first opportunity for readers to understand expectations and learning objectives. But what if these readers felt isolated because examples and scenarios did not include them? Is the training document counterproductive if it creates a disconnect due to bias in the writing? Based on interviews with female and male aviation employees, research indicates the existence of gender bias in the aviation field (Germain, Herzog, & Hamilton, 2012).

The presence of gender bias, no matter how subtle or blatant, deserves the attention of scholars. Workplace discrimination is a major impediment to gender equality (Gorman, 2005). Although women receive different training experiences compared to men (McDonald & Hite, 1998), there appears to be little research on how this bias may isolate and limit access for women who pursue careers in male-dominated industries. As women continue to press against the glass ceiling, technical writers must identify opportunities to remove gender barriers from technical documents to include a more diverse audience.

This article will examine gender bias in Federal Aviation Administration (FAA) recommended training documents by analyzing preferred nouns and pronouns. Gendered pronouns (e.g., she, he) are excellent markers for gender in text because they are easy to detect and occur with a very high frequency in most contexts (Pennebaker et al., 2003; Twenge et al., 2012). As a first step, I examined the FAA's list of recommended aviation handbooks, manuals, and guides, addressing two research questions: (a) How frequent are male-specific pronouns used in training documents compared to female-specific pronouns? and (b) Does the training material have a tendency to tilt toward the preference of male pilots based on he-contexts versus she-contexts?

To obtain the sample of training documents, I located documents posted on the FAA website by selecting "Training & Testing" on the homepage. Next, I selected "Get pilot training information." Finally, I selected "Aviation Handbooks & Manuals" from the bulleted list. There are other documents on the FAA website that are worthy of analysis, but these documents were chosen for their location under "Aviation" and their placement as a list of training resources. Of the initial 38 documents listed, 22 documents were selected because they were listed as "manual", "handbook", or "guide." Documents range in date of publication from 1941 to 2017. Each was downloaded for further analysis on January 16th, 2018.

Next, a content analysis of the selected texts was completed to identify similar patterns. Using Microsoft Office's Word "Find" feature, each document was searched for gendered pronouns (he, him, his, himself, she, her, hers, and herself). For each document, I attempted to determine if one gender was referenced more than the other. I asked the following research questions:

1. Which gendered pronouns are referenced the most: male pronouns (he, him, his, himself)? Or female pronouns (she, her, hers, herself)?
2. How often are nouns/job titles referenced with gender terminology (i.e., airman, flagman, etc.)?
3. What conclusions may be drawn from examples in the documents?

Regarding the first and second question, there were 1,720 references to gender found in the documents. Male nouns and pronouns were identified 987 times while female nouns and pronouns, 733 times. Of these, 72.91% were coded as gender neutral due to the use of subjective, objective, and possessive double pronouns that were gender inclusive (ex: “he or she”, “his or her”, “him/her”, “himself or herself”) and 27.09% were coded as gender specific. The number of gender-neutral instances implies an assumption that readers will be both male and female. It also removes the question of whether the use of “he” as a universal pronoun could justify the bias. Of the 22 documents examined, 19 mentioned gender while three contained no mention or implication of gender. In regards to the second question, an analysis of examples within the documents revealed an assumption most pilots would be male. Some of the document examples of displayed gendered bias by assuming the trainee was male. For example, one scenario read, “You are a 32-year-old, 325-hour, non-instrument-rated private pilot. You and your wife are planning to leave after work for a...flight to attend your wife’s best friend’s 11:00 AM wedding the next day (Risk Management Handbook, 2009, p.B-1).” This implies the student would have a wife. There are other examples which reference the trainee’s wife, but never the trainee’s husband. The implication in these examples is the same. In one example, the document recommends the pilot buy a plane ticket for the wife to reduce the stress of having a wife who wants to go to a wedding but may miss it due to flying conditions. While this implies that the student is male, it also characterizes the wife as unreasonable and incapable of prioritizing safety over a social event.

There are several examples of stereotypes in professions outside of aviation found in the training documents. On pages 4-5 of the “Helicopter Flying Handbook,” an example of an ice skater is described: “As the skater moves her arms in, she spins faster because her inertia changes but her total energy remains constant (neglect friction for purposes of this explanation) (2013).” This statement stereotypes ice skaters as female; this is the only time a job title is defaulted to the female gender. In contrast, “Remote Pilot—Small Unmanned Aircraft Systems Study Guide” describes a quarterback: “A good example is a quarterback whose actions are based upon a highly fluid and changing situation. He intends to execute a plan, but new circumstances dictate decision-making on the fly (p.59). This example assumes that a quarterback will be male based on stereotypical images of football players.

Other noted gender bias includes preferred male pronouns for other aviation roles found in the technical documents. The “Flight Navigator Handbook” states, “The operator identifies radar returns on his radar scope and measures the range and bearing to the return” (2011 p.16-3). This refers to an operator as male when the correct pronoun should have been gender inclusive. This refers to an operator as male when the correct pronoun should have been gender inclusive. Finally, there were examples identified where gender-specific terms were used in the curriculum. The “Aviation Instructor’s Handbook” (2008), states,

“Sometimes, such pilots will even go along with unreasonable requests just to be a ‘nice guy’” (p.8-17). Again, a gender stereotype emerges, which assumes the pilot is male; therefore, women trainees do not have access to inclusive.

Based on the answers to these questions, the grounded theory method (Corbin & Strauss, 2008), and similar research on age bias (Atkinson & Herro 2010), three major themes were established: gender preference based on age of document, gender as information only, and gender with judgment. The first was preferential male gender pronouns in each document based on the age of the document. Gender bias was determined through quantitative analysis using a computational word count method. Second, gender as information only. Nouns, pronouns, and illustrations were analyzed in relation to factual identification of male and female historical figures found in the content. Finally, the use of gendered pronouns was analyzed for judgments associated with the mention of gender, thus illuminating any gender bias in the training documents.

“The preference for male pronouns creates a set of technical documents that assume pilot instructors students are, by default, male.”

Across the span of the 76 years these technical training documents represent, gender bias can be identified in the majority, including those published in 2017. I expected gender bias would occur less frequently in the documents that were published in the past 10 years, but my findings show gender bias is sporadic. These examples indicate clear, consistent, and stereotypical frames for the gender of pilots (and sometimes the gender of other professions). The preference for male pronouns creates a set of technical documents that assume pilot instructors and students are, by default, male. There are some attempts to be gender inclusive, but stereotypes still emerge—sometimes in the same document and even within the same sentence. To remedy this type of bias, I recommend either using double pronouns (he/she) or editing the sentence to remove the need for a singular noun/pronoun agreement. While these findings reveal the need for further investigation, this study advances the understanding of how frames created within technical training documents may reflect and/or perpetuate stereotypical attitudes toward gender. As technical writers, we should strive to critically analyze training documents that can isolate and create separation. The ability to identify and remove gender bias from technical documents will help create accessible learning for any student and meet the needs of a company by creating an inclusive experience, regardless of gender.

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AN INTRODUCTION TO EIT ACCESSIBILITY

By Karl Olmanson

Ramps leading into public buildings, such as the one at Minnesota State University-Mankato's Performing Arts Center, blend almost completely into the landscape—perhaps to the point we barely notice them. Building access for everyone is important and the same is true of electronic and information technology access. While information technology includes many things—even devices such as smart phones and televisions—the focus of this article is to create awareness of electronic and information technology (EIT) regulations and how they improve access to the Internet and its primary tool, the World Wide Web. Government regulations which improve EIT access for the disabled include: The Rehabilitation Act of 1973, Section 508 of the same, and the Americans with Disabilities Act.



Above: Earley Center for the Arts, Minnesota State University

While these regulations ensure access to US federal content and support, the Internet is a global network and far from accessible for many. The World Wide Web Consortium (W3C), led by its director Tim Berner-Lee and CEO Jeffery Jaffe, is an international organization that works with member organizations and the public to develop standards for the Internet. Although this organization is not a government entity, governments around the world consult W3C's Web Content Accessibility Guidelines (WCAG). These guidelines are considered the most reliable web accessibility standards for establishing consistent usability. The latest version of the W3C Guidelines (WCAG 2.1) was issued in January 2018 and contains dozens of accessibility-related criteria. In addition to these guidelines, W3C created the Web Accessibility Initiative (WAI), an initiative devoted to improving web accessibility. These guidelines and initiatives are reflected in the government regulations discussed in this article.

Millions of people in the United States live with disabilities that prevent them from fully utilizing or even accessing the Internet. For example, people with low vision or blindness may need audio

support to use the Internet successfully, while those with low hearing or deafness will benefit from captions. Disabilities related to dexterity, mobility, and cognitive difficulties also create EIT access challenges. Anyone with these disabilities may need some form of assistance to successfully use the Internet (“Building the 21st Century” n.d.). Although the government regulations outlined above improve Internet accessibility for millions of disabled Americans, only federal institutions are required to follow them.

Rehabilitation Act of 1973

The Rehabilitation Act of 1973 is a key piece of legislation related to disability; it requires federal agencies make their public EIT content accessible to people with disabilities. At the Federal level, web accessibility is under the jurisdiction of the Civil Rights Division of the Department of Justice (“Civil Rights Division” 2018), who endorse the directives of the Rehabilitation Act of 1973, as amended by Congress in 1998 (29 U.S.C. 794d). Ultimately, this leaves the Civil Rights Division responsible for protecting the disabled against EIT federal discrimination.

Section 508

Section 508, an amendment to the Rehabilitation Act, was enacted to further ensure equal information access. Section 508 provides opportunities for people with disabilities and encourages development of accessibility technology. This means that when federal agencies use technology to communicate with federal employees, those employees with disabilities must have access to the information. Section 508 also requires that anyone with disabilities—even if they are not a federal employee—who is looking for information or services from a federal agency, should have access and usability comparable to everyone else. This doesn’t apply in situations where the cost or labor involved to provide the service would be prohibitive (“Section 508 Law” 2018).

Because technology and content are always changing, Section 508 was reviewed in January of 2017 and refreshed to keep IT requirements current. For example, Section 508 requirements were adjusted to align with the Web Accessibility Initiative’s WCAG, an attempt to create an internet-wide standard for accessibility. All federal departments and agencies were given one year to comply with the approved accessibility requirements. Implementation of these revised Section 508 requirements should have been completed by January of 2018 (York 2017).

It is important to remember that private- and public-sector websites that are not U.S. federal agency websites are not bound directly by Section 508. Section 508 does not apply to Congress, the Judiciary, or, in most situations, agencies or establishments using federal funds (GSA Strategic Plan 2018). Although most websites are not legally obligated to follow these guidelines, improved accessibility should always be a consideration.

Americans with Disabilities Act

States are also required to follow federal access regulations. At the

state level, the Americans with Disabilities Act (ADA) Title II, Subtitle A, prohibits disability discrimination by public entities (“Nondiscrimination” 2010). They must protect qualified individuals with disabilities from discrimination in state and local government-provided services, programs, and activities.

Title II of the ADA also requires state and local governments to ensure clear and equal communications to people with disabilities (“Information and Technical Assistance” n.d.). Like the exceptions in the federal regulations, these rules apply except when improved communication alters the service or results in unnecessary financial and administrative difficulties (“The Americans” n.d.).

Since disabilities come in many forms and often with unique requirements, government agencies involved with supplying auxiliary aids and services must give primary consideration to requests of individuals with disabilities. According to the Department of Justice, auxiliary aids and services must be accessible, provided in a reasonable amount of time, and respect the privacy and dignity of the individual (“35.160 General” n.d.).

Conclusion

Web accessibility also benefits people without disabilities. For example, a key principle of web accessibility is designing websites and software, which are flexible and will meet different user needs, preferences, and circumstances. This flexibility also benefits people in other difficult circumstances, such as a slow Internet connection or a broken arm (“Building the 21st Century” n.d.).

Tim Berners-Lee, inventor of the World Wide Web, once said, “The power of the Web is in its universality. Access by everyone regardless of the disability is an essential aspect.” This universality, while not complete, has been broadened by these key federal regulations, and as more accessible websites and software become available—whether through government agencies, businesses, or the private sector—people with disabilities will be able to use the Internet and contribute to it more effectively.

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VOCALIZING IMAGES WITH ALTERNATIVE TEXT ATTRIBUTES

By Philip Lewis

Alternate text is critical for web accessibility. It provides text for content such as images. Web users, in turn, can search and locate specific images through related keyword searches. The text that is placed below these images is vocalized by screen-reading software. Without text, images not only lack content, but they are also inaccessible and unreadable. As a result, visually impaired users cannot access images because their screen-reading software cannot vocalize the image without alternate text.

Screen readers are software programs for the visually impaired. The readers read text and display it for users with the help of a speech synthesizer or braille display. The user can send commands to the screen reader and direct it to read all text or only selected text. Visually impaired users who use screen readers are dependent on text. But text must work together with images, since images have no text to be described. Therefore, all types of alternate text must be considered when using images.



Above: A man uses a screen reader to read text from computer screen. (Source: American Foundation for the Blind)

A text attribute (“alt attribute”) is alternate text that provides a description for just the image. This is the content a screen reader will read to describe an image to a visually impaired user. In computing language, it is the meat of the image. Since content text provides context, and the image must have a function according to the content surrounding the image, it is necessary to phrase the alt attribute according to the content and its function, keeping it in context.

An alt attribute vocalizes images, allowing it to be both accessible and readable. For the visually impaired who use screen readers, it is vital. Screen readers are based entirely on text, so key terms applied to alt attributes must be carefully selected. If there is no alt attribute, the only way for someone who is visually impaired to perceive the picture is by the content surrounding the image. It is entirely dependent on it. If the alt attribute lacks terms, the content surrounding the image,

it is necessary to phrase the alt attribute according to the content and its function, keeping it in context.

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When an image lacks any alt attribute, an author must build the value based on content and function, the content surrounding the image and the function of that image. There are many ways to describe something, so the aspects we pick to describe the image follow context. An image of a house can be described as a red house, or it can be described by its model, roof and materials. But in context, if the content surrounding that image is not about different types of home models, there becomes less of a reason to describe that red house as anything other than red. Said differently, alt attributes must work together with both the image and surrounding text, so the author neither overvalues nor devalues the image. There must be a certain level of content analysis by the author to determine the best methods to describe an image for the visually impaired.

There are two types of alternate text:

1. **Content Text:** text surrounding the image.



Smiley Face

2. **Text Attribute** (“alt attribute”): text is an “alt =” attribute of the smiley face. This is what a screen reader uses to describe an image.



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Content text is the content surrounding the image, which provides context for the image. The image then has a function, reliant on its surrounding content. Content text helps build context, but it does not accurately explain the image for a visually impaired user. In the first example, a visually impaired user may infer that it is a smiley face through the content text surrounding the image, but there is no description for the image itself. Therefore, content text is insufficient to describe and vocalize an image.

Examples of Alternate Text

The image's alt attribute must be constructed based on the environment surrounding the image, so that screen readers can articulate the image to a user, who in turn comprehends the image based on context. Take, for example, the following image of a twelve-string, acoustic Gibson guitar and the caption below it:

Example 1



Built from Mahogany, Rosewood and Sitka spruce woods, Gibson guitars are available in a sunburst color, with vein designs on its front body.

In WordPress, the default alt attribute for this image is the file name, gibsonguitar.jpg (“Gibson guitar”). But that description lacks content that is nonexistent in the other alternate text and fails to meet its function. Therefore, the text should be crafted and refined to offer functioning alt attributes for every image. The attribute should be clear. It should be based on its content and the function of the image. Otherwise, screen readers will only read, “Gibson guitar,” along with the text describing it below, neither of which mention some of the more important elements: acoustic, Gibson and twelve-string.

Further, the caption below the image is specifically about Gibson guitars. So in this case, since the underlying text is what screen readers read, the alt attribute should be alt = Gibson twelve-string acoustic guitar. This captures all of the other important elements of the image, given its context. Since the caption of the image below is about Gibson guitars, there should be as much information as possible, especially to distinguish between a six-string and twelve-string acoustic guitars.

Using this same image, here is another example of the same acoustic guitar with a different caption:

Example 2



There are many different instruments a four-piece band plays, including guitar, bass guitar, percussion, and piano.

In this instance, the description is not about acoustic Gibson guitars specifically, but rather four-piece bands. The author must determine, based on context, whether it is necessary to provide more or less information in its alt attribute. Those questions include whether the manufacturer, Gibson, or the fact it is a twelve-string guitar, are important. It simply may be necessary to capture what a user would immediately see: a starburst acoustic guitar. The alt attribute could be alt = acoustic guitar or alt = sunburst twelve-string acoustic guitar. While these are judgment calls, understanding what to describe is vital. Make it simple, yet descriptive as possible, and keep it within context.

Another example may include a button to add items for purchase. In this case, there is no caption. But there is still a specific function of the image.

Example 3



In context, this button is for adding items to your shopping cart and eventually purchasing them online. There is a shopping cart next to the phrase, “Add to Cart.” The button is orange and rectangular. The text content is “Add to Cart” and its function is to add items to your cart. The alt attribute should read “add to cart button” or “button to buy product.” Describing it as a shopping cart or a rectangular, orange button does not meet its function, and a visually impaired user may not perceive the image as something vital to purchasing the product. It neither works with the content surrounding the image nor runs parallel with its content.

If, however, the button is being analyzed within some other context, it may be necessary to describe it more thoroughly. For instance, if the content surrounding the image is about different types of “add to shopping cart” buttons, it may be necessary to describe it as an “orange and rectangular button that reads, “add to cart” with a shopping cart image next to its text, or simply as “orange, rectangular add to cart shopping cart button.” Simply describing it as “add to cart button” does not function with the other content and renders it impossible for a visually impaired user to distinguish this button from any other add to cart button images in the content.

Visually impaired users depend on alternate text, especially alt attributes, for images. But finding that description is not always easy. The function of the image and the content surrounding the image help build alt text attributes, and authors must consider what it is in context. In context, the image becomes many different things. Is it just a button, or is it a colored, textual rich button? Is it an acoustic guitar, or is it an acoustic, twelve-string guitar with designs embedded in its body? These are the types of questions authors must ask when building content so that visually impaired users can vocalize the image in terms they can understand and perceive.

LIBRARY VIDEO RESOURCES AND THE HEARING IMPAIRED: STORIES FROM THE FIELD

By Olivia Olivares

MBA Ignite and Library Resources

An estimated number of undergraduate and graduate students with any level of hearing impairment enrolled at postsecondary institutions in the United States is surprisingly hard to find. In 1995, the National Center for Education Statistics (NCES) reported that there were over 20,000 hearing impaired students enrolled at two- and four-year colleges and universities in the United States. In fact, this increasing number was quoted in studies as recently as 2014. In 2011, the NCES reported that a 2008-2009 survey showed that 3,680 of 4,170 higher education institutions in the United States had enrolled students with disabilities, and out of these, 73 percent had enrolled students who were hearing impaired. However, the survey did not report an exact number of enrolled hearing impaired students.

How to best serve hearing impaired students was not a question that I had considered in my role as business librarian at St. Cloud State University. In the spring of 2016, I was asked by Brandon Johnson, director of the MBA (Master of Business Administration) program at St. Cloud State University, to design and teach a module on library research and resources for the MBA Ignite program. The program is required for incoming MBA students. It is intended to jump start their business studies by offering several business review modules over an eight-week period, beginning with a general orientation of basic business practices and followed by a library research module. Additional modules include accounting, management, marketing and other business subjects.

I was excited to be a part of this innovative program, but I was given very little time to prepare my module. Under ordinary circumstances, I would have asked for an academic year to prepare my lesson plan and assemble my teaching material. However, Brandon contacted me in April 2016 and wanted the module ready for use in the Fall 2016 semester.

The MBA Ignite program is taught in three cohorts: an online cohort, a face-to-face classroom cohort on the SCSU campus, and a face-to-face class cohort at the remote site in Plymouth. I needed to create a module that would serve all three cohorts. It's no wonder that accessibility was not on my list of considerations at the time.

I decided that video modules would be the best way to teach MBA Ignite students how to use library resources if I were not available for face-to-face instruction. I had seen videos on YouTube and in SCSU classrooms that taught students about library basics, and I thought I could create something similar. The videos could then be used by all students regardless of their cohort and would also be available online 24/7 should I be unavailable for consultation outside of class or after

customary business hours.

Creating the Videos

However, I had never created an instructional video before, and I had little knowledge of what tools I'd have at my disposal. Discussions with the Information Technology Services unit at SCSU and the Academic Technologies team informed me that the tools available for video tool creation were TechSmith's Camtasia, Adobe Captivate, and Kaltura MediaSpace.

I had no experience or training on any of these resources, so I decided to give myself a week to learn the software. I chose MediaSpace because it was the easiest to learn in the least amount of time. It served me well -- until the videos were finished and I learned that I was supposed to closed caption my videos."Unfortunately, the version of MediaSpace I had used didn't have a closed-captioning tool.

I offered two of the videos to a librarian and colleague who had significant expertise in video creation and editing. He said that the videos were good, but that they needed to be closed captioned in order to be in compliance with Minnesota State Colleges and Universities (MnSCU) policy on services to disabled students. I was shocked, as this was the first time I had heard of this policy. I asked a number of other librarians if they were aware of this policy, and, to my alarm, received many different answers. Some had not heard of the policy at all, and others thought that the policy applied only to library materials acquired from vendors, so that video (streaming, DVD or film) purchased for inclusion in the library's collections had to include closed captioning. Their reasoning was that no closed captioning was necessary because I had produced the videos myself and that no revisions need be made unless someone specifically requested closed captioning. Yet another group of librarians insisted that all library materials, whether purchased or created by librarians, must be accessible to all regardless of whether accommodations were requested.

Closed Captioning: Necessary Accommodation or Needless Add On?

I faced two major challenges while revising the MBA Ignite videos to include closed-captioning. The greater challenge was the need to interpret multiple accessibility policies at the federal, state, and local levels in order to determine which policies applied to my situation. When I asked other librarians for their opinions, I found that the state and federal policies were far from consistent. One reason for this inconsistency is the state policies were interpretations of the Americans with Disabilities Act (ADA), and the ADA itself is not always clear on what constitutes a required accommodation for the hearing impaired. The ADA lists assistive devices and resources that could be used to assist hearing impaired students, including closed captioning, but does not require any single resource. The ADA states only that "reasonable accommodations" must be made. MnSCSU policy states that reasonable accommodations must be made, but it doesn't specify which accommodations must be made. Unlike the ADA, it lists no specific forms of accommodation. Much is left up to interpretation in official policies on both state and federal levels, so the interpretation of those policies varied depending on who was explaining it.

My second difficulty was choosing a video-editing tool that would allow

the insertion of closed captioning into existing videos. MediaSpace had no option for closed captioning, so I would've had to have chosen Camtasia or Captivate – a daunting prospect, given the complexity of the software. Some SCSU staff suggested that I hire a professional video editor to closed caption the videos; unfortunately, the declining library budget meant that we had to rely on what could be acquired free or created at little expense by librarians, so I had no option to commission closed captioning. I decided that the videos would have to be recreated from the beginning with Captivate or Camtasia, and that I'd have to learn one or the other in only a couple of weeks.

A Stroke of Luck, a Resolution, and Best Practices

I finally caught a break when Kaltura released a new version of MediaSpace with closed-captioning ability. Closed captioning can be manually added to videos for free by the creator, or a transcript of audio can be generated on request for free. This transcript can then be inserted into the video and edited. A premium version, offering bespoke closed captioning for a fee, was also available. Because the videos already had audio narration, and because the entire project was time-sensitive (the videos would be used again in the Fall 2017 and Spring 2018 semesters). I opted for the free audio transcript version because I already knew how to use the earlier version. Adding closed captioning to the existing videos took an additional three weeks.

Given the lack of conclusive interpretation of MnSCU, state, and federal policy, I decided that I would interpret any and all policies related to closed captioning in such a way that the student user would always be advantaged. This meant closed captioning the videos regardless of anyone's opinion about whether a policy needed to be applied to the closed-captioned videos. I was graciously assisted in this endeavor by members of SCSU's Academic Technologies team.

The closed captioned videos have now been in use for two semesters: Fall 2017 and Spring 2018. While the MBA Ignite program has not admitted any hearing impaired students during that time, I'm confident that they'll be well served should they enroll in the program.

Nevertheless, several issues remain to be resolved. Much of the difficulties that arose in the creation of the video modules were the direct result of my attempting to accomplish too much in too little time. Should another SCSU program request video instruction modules in the future, I will insist on sufficient time to properly develop video scripts, learn what software is available, give myself time to learn that software, and review all relevant policies on accessibility and instruction. I feel a bit guilty because I never considered the accessibility of my video instruction modules until it was pointed out to me that I was in noncompliance with MnSCU (now Minnesota State) policy. The lack of clarity on accessibility policies regarding hearing impaired students remains. However, I've decided the best practice is simply to interpret accessibility policies in such a way that students are the primary consideration. There may not be any specific policy requiring video that isn't purchased to be closed captioned, but students would be better served if videos produced by university faculty and staff are closed captioned regardless of policy.

This entire process illustrates the often ad hoc, improvised nature of disabilities accommodation in higher education. While careful plans may be made and intense discussions occur, the law of unintended consequences, misunderstanding of policies, unclear policies, and time

and budget constraints will all play a role in how hearing impaired students are taught. The important thing is to remain flexible, to know your tools (and acquire better tools if possible), and to always remember that the welfare and well-being of students is paramount.

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