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Beyond the Letter of the Law

Accessibility, Universal Design, and Human-Centered Design in Video Tutorials

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This article demonstrates how Universal and Human-Centered Design approaches can be applied to the process of library video tutorial creation in order to enhance accessibility. A series of questions that creators should consider in order to focus their design process is discussed. These questions break down various physical and cognitive limitations that users encounter, providing a framework for future video creation that is not dependent on specific software. By approaching accommodations more holistically, videos are created with accessibility in mind from their conception. Working toward the ideal of a video tutorial that is accessible to every user leads to the creation of more clearly worded, effective learning objects that are much more inclusive, making instructional concepts available to users of all abilities.

Introduction

It is difficult to find a library website that does not have at least one video tutorial. With the increased availability of free or affordable software for both screencasting and video editing, librarian use of and apparent confidence with such technology has also increased. Simultaneously, user bandwidth available to access streaming video has become much larger. As a result, the number of video tutorials created by libraries has steadily grown since these technologies were first introduced. Video has taken hold within the world of online library-related learning objects and is here for the foreseeable future.

Videos present information in a decidedly different way than more static combinations of screen shots and text, thus making them great tools for communicating, especially with nontextual visual learners (Mestre, 2006). Videos have very practical uses, especially in library environments. Many library websites and commonly used proprietary databases have major usability problems. Videos that demonstrate the step-by-step processes in using these resources and tools can help users navigate tricky interfaces with less difficulty. The creation of videos allows

librarians to address many frequently asked questions all at once, freeing staff time for more specific reference concerns.

The utility of video tutorials also applies to more abstract learning objectives. As online learning initiatives in education continue to increase, librarians are experiencing a higher demand for learning objects that demonstrate more conceptual lessons in information literacy, such as resource evaluation and keyword creation. In-person library instruction that teaches these same concepts is often delivered via one-shot information literacy sessions. In these classrooms, lessons must be streamlined due to time constraints. In both situations, video tutorials allow librarians to create reusable learning objects to meet learning objectives. These videos can include personalization – such as tone of voice and facial expressions – which would not be present in a static webpage.

Without such beneficial applications, video tutorials would not have seen such exponential growth, which is evidence enough for the value and use of the technology. Many considerations have been made into the best way to create and implement video tutorials from both a pedagogical and practical perspective. This article attempts to address what is less frequently considered but of no less equal importance: Video tutorials, when created intentionally, can greatly enhance the accessibility of the content presented.

Accessibility in Library Video Tutorials

Though the literature on the process and pedagogy involved in library video tutorial creation is plentiful, there has been comparatively little written describing accessibility concerns in this area. While many articles describing best practices exist, these articles often treat accessibility as a simple checkmark, mentioning Americans with Disabilities Act (ADA) compliance as one element in the midst of a list of other practical or pedagogical concerns.

What's more, due to its popularity, most literature seems to address screencasting specifically. While many of the messages are transferable between screencasting and other video formats, it is important to note that screencasting is not the only video recording method available (Betty, 2008). A quick perusal of PRIMO, ALA's database of peer-reviewed online learning objects, demonstrates that many libraries have created tutorial videos using a variety of other techniques, from sock puppets to stop-motion whiteboard animation, yet when videos are discussed, screencasting is often the only technique considered. The earliest description of screencasting in the literature seems to be Tempelman-Kluit and Ehrenberg's brief step-by-step introduction into the video tutorial creation process at New York University, written in 2003. Though the term "screencasting" had not yet been coined, the process described is very much in line with this technique. It was not until Udell's 2005 article that the terminology entered the literature; however, there still remains some confusion over whether or not people referring to "online video tutorials" mean video created solely as screencasts or if this includes other video techniques as well. In terms of accessibility, concerns for video need to be applied whether an item is compiled of live action footage, a screencast, animated material, or even a mix of all three.

A wide variety of literature exists on the effectiveness (Mestre, 2010; Oehirli Piacentine, Peters, & Nanamaker, 2011; Silver & Nickel, 2005), best pedagogical practices (Brown-Sica, Sobel, & Pan, 2009; Kimok & Heller-Ross, 2008; Oud, 2009; Sugar, Brown, & Luterbach, 2010), and the technical concerns of tutorial creation (Betty, 2008; Tempelman-Kluit & Ehrenberg, 2003; Watson, 2004), though as mentioned above, much of it is written specifically for screencasting or for even more general "online tutorials" that may or may not include video.

The two articles that currently exist in the literature about video accessibility both focus specifically on screencasting. Wakimoto and Soules' work (2011) evaluates the accessibility features of tutorial creation software, namely, Camtasia, Captivate, and VoiceThread, against the U.S. Department of State's *Voluntary Product Accessibility Template* (U.S. Department of State Bureau of Information Resource Management Program for Accessible

Computer/Communication Technology, 2009). Taking a broader approach, Oud's 2011 article sorted through the Web Content Accessibility Guidelines (W3C, 2008) that address web accessibility in general, in order to create a set of accessibility best practices specifically for screencasts. While useful to the discipline, both articles focus much more on the technical aspects of video tutorial creation, which can quickly change with different versions of software, and much less on the design choices that lead to inaccessible content in the first place. The articles are also limited in scope, covering only screencasts.

The absence of major discussion of accessibility in the literature may stem from the thought that video tutorials are designed to be seen. Why would creators go to the effort of adding a visual element to something if users are not going to *look* at it? And why exactly would someone who cannot see even want to use a video? The same question can be repeated for individuals who do not speak English fluently, those who cannot use a mouse, or the hearing impaired. When we look at videos, we look at the whole package instead of the component parts. Those who cannot interact with the entirety of the creation can be easily neglected or be included only as an afterthought.

In fact, the impetus behind this author's original interest in the subject of video accessibility was a library-wide web accessibility initiative at my institution. Penn State University Libraries took the lead in fulfilling a university-wide mandate for accessible web content, providing full compliance to ADA standards months, even years, before other departments. While it makes sense that the library, being the gateway to information in any university, would be the first to take this step, reactions of those involved in the process varied greatly. There were those who were excited by the prospect of making the libraries' webpages and content more inclusive but also many who felt frustrated by the need to retool huge webpages for the small fraction of individuals on campus who use screen readers or had other accessibility concerns. Such a perspective is not at all surprising when one considers that within the realm of library literature referring to video tutorials, there are only two articles that discuss accessibility in any depth, thus indicating that the concerns of people with physical needs diverging from the "norm" are tangential to the design process.

However, this attitude reflects a narrow way of interacting with the world, indeed a very ableist perspective. Not being of the majority, those of differing abilities are excluded from our considerations as marginal populations, an "other" who will be addressed on a case-by-case basis if such cases do, in fact, show up. Designers – librarian or otherwise – with this perspective "have the effect of separating [disabled users] from other users and casting them as deficient against 'normal' users" (Adam & Kreps, 2006, p. 206). Obviously there are legal standards for accessibility that must be met, but in many cases obeying the letter of the law is all many librarians are compelled to do, if indeed they do that. Despite the existence of such legal standards, disability advocacy groups often find that seeking legal intervention is necessary in ensuring the sort of compliance that gives disabled individuals any access at all (Disability Rights Commission, 2004).

It is unlikely that we as a profession or even as a society will ever be able to create the sort of content that is universally accessible. The physical, cognitive, and cultural barriers to understanding all content are multitudinous (as to cancel each other out at times, when certain accommodations make other accommodations impossible). Due to their very nature, certain types of content are unlikely to be accessible to specific populations. For example, an inherently visual way of associative brainstorming, such as mind-mapping, is not necessarily going to be an effective tool for someone who has been blind from birth. This does not negate mind-mapping as an effective tool for the rest of the population. There will always be exceptions to the rule, and the goal in creating accessible content is not to address every single exception. But as long as "other-ing" of disabled individuals is perpetuated, making their concerns only minor design considerations, real accessibility becomes a pipe dream. With no demand for more creative solutions to the design problems that accompany a commitment for widespread accessibility, the needed solutions remain lacking. Meanwhile, technologies and solutions are developed that simply perpetuate the status quo.

It is the responsibility of librarians, whose very existence centers on making information available to the populations we serve, to create the most accessible support materials possible, whether or not it is required by law. This responsibility includes considering those with a variety of physical and cognitive limitations, many of which do not manifest in the same way. The dichotomy may seem daunting: addressing the complex differences of both the many and the few in the process of meeting the needs of such a diverse population as "the human race." Obviously, its complete resolution is currently not possible and may never be so. But what is equally true is that accessibility cannot be adequately addressed with purely technical improvements. Adam & Kreps (2006) put it best when they state, "the question of web accessibility is best seen as a socio-technical problem where the technical development and standardization must go hand-in-hand with critical discourses" (p. 209).

A Change in Perspective

Great steps toward more universal accessibility begin then with a philosophical shift in our design process. With that in mind, to guide this shift, we look towards two design concepts: Universal Design and Human-Centered Design. Universal Design, originated by Ronald Mace as an architectural concept, is a design philosophy focused on creating spaces that are inherently accessible to individuals of all abilities. It has also been called "lifespan design." Part of the impetus behind its conception was to create spaces that the elderly could inhabit just as comfortably as "normally abled" people in early adulthood (Null, 1996). This approach represented a great shift in removing the "other-ness" of disabled individuals by putting humanity's need for accessibility at the forefront of the design process, as opposed to forcing those individuals who need accommodation to request it.

This philosophy notes that just as a building needs electrical wiring, water pipes, and lighting, and is designed from the ground up with these needs in mind, so also does the building need to be accessible, with access ramps, elevators, and bathrooms that can accommodate wheelchairs, to name a few. This approach to design removes the burden of accessibility from the user. This burden is an especially problematic issue for those individuals whose physical or cognitive limitations develop later in their lives. With very little effort, this same model can be applied to the dissemination of information, especially when it is digital information, as in the case of website development and video tutorial creation. In most cases, video tutorials are much simpler in construction than entire buildings or even entire websites. The Universal Design philosophy applied to a library video tutorial would mean that the tutorial would be designed from the beginning to make the widest accommodations possible to reach the greatest diversity of human abilities.

Similarly, Human-Centered Design, also known as User-Centered Design, is a reflective design philosophy that considers the wants and needs of the users at each stage of the design process. The goal of this approach is to create products that intuitively support the needs of users, improving their quality of life and work (Ylirisku & Buur, 2007). Products should fit within the lives of their users, as opposed to users fitting their lives around the products they use. Human-Centered Design requires a great deal of user testing and input during multiple stages of development. Design becomes a social exercise just as much as a technical or artistic one. Issues such as user context, user participation, and user environment are all considered vital to creation. Proponents of Human-Centered Design suggest that a product design that ignores the needs of its users is typically rejected by them, often permanently souring the brand for those users (Ylirisku & Buur, 2007). For libraries, such a loss of confidence in services can be devastating.

Conducting extensive user testing is ideal in the Human-Centered Design philosophy. However, user testing presents many challenges when accessibility is to be verified. Developers must find individuals with a variety of physical and cognitive impairments willing to participate in the process. Regardless of the current availability of

these populations, Universal and Human-Centered Design both indicate that design choices must take these populations into consideration as future users.

These philosophical approaches can be applied to great effect, even without a background in design theory or a body of users with which to do exhaustive testing. Through a series of practical best practices, the design process can be directed in a way that is constantly inclusive. Presented as questions, these best practices were generated over the author's own experience in creating video tutorials, and verified through consulting the literature. They will frame accessibility checkpoints within the context of a Human-Centered Design approach in a way that is intended to affect the mental space that librarian-designers choose to inhabit when they create content.

These questions are designed to focus not on what we might consider the limitations of any specific disability, but instead focus on a broad spectrum of technology-related executable tasks. The inability to complete said tasks will affect a wide range of potential users. It is important to approach accessible design with this attitude, because the range of user ability rarely fits inside simple packages of "blind," "deaf," or "cognitively disabled," to name a few. Within the scope of visual or hearing impairment alone rests a wide variety of differing abilities. Not all visually impaired individuals can read braille, and not all hearing-impaired individuals can read lips. This type of pigeonholing of abilities exists for almost all disabilities. The design of video tutorials should not assume sameness where a wide range of abilities exists.

Therefore, these questions for consideration are not designed to replace the actual process of Human-Centered Design, or even to provide an accessibility checklist, but instead to offer starting points for individuals who are in the process of creation. Accessible materials go beyond the simple question of "is this video captioned?" and instead require the librarian-designer to begin to think in different ways. More inclusive attitudes bring tutorial creation forward in a way that benefits both those of differing abilities, as well as more "traditional" users who find that this approach includes more learning modalities than would otherwise have been involved.

Pathways to Universal and Human-Centered Design

Is the video player accessible to someone who cannot use a mouse?

When creating video, it can be very easy to focus on the content and structure of video itself, neglecting the method of delivery for the end product. However, the importance of a video player that can be both read by a screen reader as well as controlled by keyboard strokes cannot be dismissed. If design is to follow Universal Design principles, this decision should be made at the very beginning of tutorial creation. In 2009, the Massachusetts Department of Revenue documented its own decision-making process, ultimately selecting to build their own video player (Peters, 2009, p. 12). Although complete player creation is not necessarily a step all libraries can take, the case study provides useful insight into the sort of accessibility concerns present in video player selection.

For the visually impaired, a mouse – being a pointing and selecting tool that relies on visual direction – is often of little use. Screen readers, which are tools used by the visually disabled to pull textual content from webpages and read the content aloud, are used in tandem with keystrokes to provide webpage navigation. Embedded video players must be designed in a way that allows these devices to recognize their controls; otherwise they are completely invisible to screen readers and thus the individuals who rely on them. YouTube, a free video-hosting site offered by Google, provides support for screen readers, not just through design, but through user support materials that describe keystrokes and each heading on a standard YouTube page (Google, n.d.). Other free hosting sites, such as Vimeo, do not currently provide the same level of support.

Player accessibility is not just a concern for the visually impaired. It is incorrect to assume that all sighted users are physically capable of navigating webpages with a mouse (Oud, 2011, p. 133). For some individuals, for

instance, those with cerebral palsy, arthritis, or other concerns that affect hand-eye coordination, fine mouse control is not possible. In these cases and many others, it is very important that video players allow keyboard controls. Without them, navigation becomes unnecessarily difficult, if not impossible. An explanation of keyboard controls should be readily obvious via the hosting service's help page. If such explanations are difficult for the librarian-designer to find, they will be equally difficult, if not more so, for the user to locate.

Regardless of whether a library chooses to use free online video hosting or produce an in-house solution, it is important that these simple considerations are taken early on. Without doing so, large groups of users are potentially unable to access the end product, regardless of any accessibility choices made within the video itself.

How is the video captioned?

Although it is generally understood that videos should have their audio element transcribed into visual text in some way, the more intricate possibilities of video captioning are often neglected. Like most elements of accessibility, captioning often is an afterthought, and as such, not considered until the very end of the design process. By making these considerations a bit sooner, the reach of video content can be greatly expanded.

The most important element of a well-captioned video is that the captions are actually there. This has long been known, but only recently, with the 2010 Twenty-First Century Communications and Video Accessibility Act (CCVAA), have these considerations made their way into streaming online content. The CCVAA requires that all captioned programming shown on television also be captioned when shown on the Internet (Federal Communications Commission, 2014). It is noteworthy also to take into consideration the National Association of the Blind's (NAB) 2009 crusade against the media monolith Netflix for their failure to provide captions for their streaming video content (Ellcessor, 2012). Neither the CCVAA nor the NAB campaign directly affect all online video; however, libraries should take note: If episodes of the most recent vampire television show require captions, so also should the content of self-identifying centers of information and knowledge.

For some time, a school of thought has existed which suggests that providing a script in simple text format, such as a Word document or PDF, is an acceptable way of making videos accessible. On deeper consideration, this solution is flawed, especially since PDFs are one of the least accessible formats available. The crux of the issue is that one of the most significant benefits of video is the synchronized delivery of content, typically provided through simultaneous video and audio. For obvious reasons, hearing-impaired individuals do not receive the latter, but they are not the only population who is affected. Users trying to watch a tutorial video in a situation where they are unable to turn on the sound may also find the content useless, since a large portion of the content is usually delivered through narration. Providing a static transcript for these users does little to give actual accommodation for these individuals. In most cases, it is extremely difficult and time-consuming to keep track of what should be seen on the screen during a particular part of the text, even when timestamps are included. In many ways, videos that only have a transcript are less useful to those who do not have access to the audio than a static webpage would be.

Captions, on the other hand, allow those who cannot hear or access the audio to fully participate in the synchronized experience of video tutorials. Though they do require more work to create than a simple transcript, there is no question that they also provide more value to the tutorial. If transcripts are the letter of the law (and indeed in the case of any federal government organizations they are not) (Ozer, 2012, p. 38), then captions are the spirit.

Captioning itself is divided into two categories: open and closed. Open captions are part of the video itself, and as such, cannot be turned off. Closed captions are read by the media player and, if such controls exist in the player, can be turned on or off at the preference of the user (AccessIT, 2013). At first glance, there may not seem to be a significant difference between the two options; however, there are pros and cons to each choice.

Most video players that allow closed captions to be turned on and off do not automatically start with the captions on, which means that the user must figure out how to activate this function if captions are needed. Though there are options on sites such as YouTube that allow users to switch captions on as the default setting, the burden is on the user to make this choice. Once again, for the recently disabled user, the idea that captions might be available may not even be a thought in his or her mind. Having captions that automatically appear resolves this issue without the user even needing to consider it.

Open captions, which cannot be removed, follow the spirit of Universal Design (AccessIT, 2013) by making an accessibility consideration part of the very structure of the end product. However, having captions that the user is unable to turn off can prove to be complicated for individuals with cognitive disabilities. Oud (2011) notes that this adds significantly to the cognitive load, when paired with audio narration. Simply put, open captions create a situation similar to the distraction many people feel trying to really absorb a film while also reading its subtitles. Closed captions, which can be turned off, allow greater accessibility for individuals with such cognitive challenges. Closed captions are also more accommodating to those who simply find them unnecessary. Focusing on the needs of the wide spectrum of users follows elements of Human-Centered Design.

An additional consideration to be made when captions are added is the opportunity to reach broader language audiences. Video players such as YouTube allow for multiple caption files to be uploaded. For organizations with populations of users whose primary language is something other than English, this is an excellent accommodation. Languages such as Spanish and Chinese are common choices. Obviously this accommodation requires someone with translation capabilities, but in academic library settings, a wide range of positions may offer expertise, from a subject specialist to a bilingual library intern or student worker.

The decision of what kind of captions (or foreign language subtitles) to include dictates what sort of programs and players can be used for the tutorial video itself. For those individuals who want to include open captions, screencasting programs such as Camtasia and Captivate are among the best choices, as they allow caption insertion during the video editing process (Wakimoto & Soules, 2011). It is also possible, though somewhat more challenging, to add open captions by importing a video into Windows Movie Maker, iMovie, or other more advanced video-editing software.

For those who want to include closed captions, choices must be made in terms of what video-hosting service and player to use. Captioning files must be formatted more specifically than transcripts, which can be a complicated task. However, for those who want an easy solution, generating the automatic captions in YouTube and then editing the (often humorous) text predictive software's word choices to the correct text is a good solution. The difficult and time-consuming work of pacing the text to the visual material is already in place, and the copyediting is quickly accomplished.

Is there a context for the narrative, especially for direction?

A large portion of video tutorials are step-by-step instructions for users to follow in order to complete certain research-related tasks within databases with features that are less than obvious to the user; the screencast is often an excellent way to meet that need. However, issues arise in the manner in which directions are given. Although this concern most directly affects users that are visually impaired, addressing this vastly improves tutorial content for sighted users as well.

Clicking or selection directions must be given in a way that describes the action being taken in words more explicit than "Click on it" or "Click here." These instructions provide little context for users, other than the visual indicators. For those who cannot see, the obvious problem of directing their actions based on visual cues is apparent (Oud, 2011). However, even for sighted individuals, the challenge of trying to decipher an action for which they have no previous context can still be a large one.

A good test to see if directions are appropriately contextualized is to turn off the monitor. Assume no real sense of the layout of the page under consideration. With the directions provided, would a user still be able to tell someone else the name of the link being described and its general location on the page? Or would it be necessary to follow visual cues to find it?

If the latter is true, the video is much less accessible, both for the visually impaired as well as for those who simply are unfamiliar with the interface being demonstrated. Specific explanations provide another modality for learning, giving the user both visual and audio cues to cement the learning objective more firmly in long-term memory. So instead of "Click here," provide a context, such as "Click on the link titled 'Ask a Librarian' at the bottom right of the page," or "Add your key terms to the search box at the top right of this page." Though Oud asserts in her 2011 article that directional cues should not be given at all, and instead suggests to only mention the link titles listed, this author argues that these directional cues also help those with low vision direct their screen magnifiers to certain points on the page. In either scenario, it is very important that the link title is mentioned, as opposed to the vague "here," which assumes the user can see where the mouse is pointing on the screen.

In general, this technique works well for tutorials as a whole. The narration should be something that makes complete sense without a user being able to see the page, not only because those who are visually impaired need such accommodations, but also because generally a better learning object is created.

Cultural context in narrative is also important, especially considering the extreme nuance in language. Word choice should be as simple and literal as possible in order to make content comprehensible to those whose English is, whether as a secondary English speaker or just through regional differences, dialectically different from the creator's (Oud, 2011, p. 140). Idiomatic expressions, jargon, and cultural references especially should be avoided if at all possible, since they are not universally shared, even among speakers of the same dialect.

Is the tutorial focused?

Commercial studies and calls from the blogosphere by individuals like the creator of LastFM have argued that, for most viewers, videos longer than two minutes are too long, and are much less likely to be viewed, at least in their entirety (Chasen, 2012; Savage, 2011). Furthermore, instructional design concepts dictate that, for the best retention possible, learning concepts should be divided into manageable pieces, a process known as "chunking" (Booth, 2011). Though one- to two-minute videos may seem extremely short, it is often best to focus on one learning objective per video (Oud, 2011). In this way, a series of videos demonstrating how to complete a series of tasks can be viewed one after the other, but users are free to skip steps if they are already familiar with specific parts of the process, or watch other steps multiple times if they find certain concept more difficult to grasp.

Even while creating such brief videos, an unfortunate pitfall that many librarian-designers encounter comes from a challenge inherent to video creation itself – at times it is difficult to provide simultaneously relevant video and audio information for every single idea that the video intends to discuss, especially in screencasts. Creators feel compelled to "fill the space" with relevant material, often to the detriment of the original content. This is done in a lot of ways, but some of the most common are unnecessary animations or large blocks of text. As almost anyone who has had to endure a poorly designed PowerPoint presentation can attest, unnecessary word animations, or entire paragraphs of text can seriously detract from the content of the presentation. The same is true for video.

For those individuals with cognitive disabilities, this overkill is a serious problem. Lack of focus in the design makes it all the more difficult for the user to concentrate on the actual information being delivered and can turn what might have been a useful learning opportunity into a situation that further confuses the user.

Therefore, animation and busy screens should be kept to a minimum. This is not to say that a good stop-motion video ruins the content it intends to present; in fact, the exact opposite can be true. What it does mean,

however, is that action on the screen should not be chosen just to take up space and time but should have a learning purpose. The inclusion of text animation in particular should be deliberate, following the progression of information delivery. If it is presented too quickly or too often, users will find themselves overwhelmed by motion that has little to do with what they are actually attempting to learn.

Entire screens should not be filled with large blocks of text at any point, especially if the text is also being narrated. In the latter situation, not only is this redundant – as this text should already exist to be read in caption form if the user requires – but it will often lead the user to attempt to read and listen at the same time, accomplishing neither, and again, taking up too much cognitive load (Oud, 2011). If text is to be displayed on the screen, it should be the crux of whatever concept is being addressed. In this way, once again multiple learning modalities are being addressed by having the user both hear and see the concept. Providing a whole block of text, such as a definition, will frustrate all but the speediest readers, causing users to miss the point completely in many cases. If such enormous text blocks are unavoidable, a static web page is a much better option to convey this information.

Is the creator making design choices that are mindful of users?

Wonderful as it would be, it is impossible to list for consideration all of the possible issues that make tutorial videos inaccessible to the populations that view them. Try as we might, the physical and cognitive limitations (not to mention cultural differences) of the human race that set up barriers to accessible content will likely never be fully cataloged.

However, simply asking the question "Who might have trouble with this design choice?" can be hugely revealing. Taking these choices into consideration will benefit all users: those with visual or hearing disabilities, manual dexterity limitations that bar access to certain types of hardware, cognitive disabilities that affect concentration, or language barriers. In general, this would go a long way to ensure that content will be accessible to all users.

Conclusion

The design process for library video tutorials should be mindful of users' varying physical and cognitive abilities, not simply because it is necessary to fulfill standards for ADA compliance, but as an extension of the very mission that is the soul of libraries: to make information accessible to all the populations served. This goal is lofty but its wholehearted pursuit begins with an inclusive attitude toward the variety of user needs. This attitude is best mirrored through design approaches such as Universal and Human-Centered Design, the pursuit of each requiring both an initial and unrelenting focus on the needs of all users and the agility that comes with this focus. When such approaches are taken at the onset of a project, many accessibility concerns become much easier to address.

Although it may never be entirely possible to create a video tutorial that is completely accessible to every single user, working toward this ideal leads to the creation of more clearly worded, effective learning objects that are much more inclusive, making instructional concepts available to users of all abilities.

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