

Accessible podcasting: College students on the margins in the new media classroom

Sean Zdenek
Texas Tech University
sean.zdenek@ttu.edu

Introduction

Students with disabilities are in danger of being either excluded from the new media revolution or accommodated as after-thoughts of pedagogies that fail to anticipate their needs. Too often, our excitement about new media, even when that excitement is tempered by sober reflection, leaves intact a set of normative assumptions about students' bodies, minds, and abilities. These assumptions operate behind the scenes. They are activated readily and unconsciously as beliefs about how well or poorly students move, see, hear, think, learn, know, act, and use specific technologies. Normative or so-called "ableist" assumptions about our students – e.g. that they hear, see, and move well enough or in certain anticipated ways to engage directly with course learning tools (Linton, 2006) – threaten to undermine our commitments to accessibility and inclusivity.

The issue is not simply whether students with disabilities can or should be accommodated. Colleges and universities in nearly all industrialized countries are required by law to provide reasonable accommodations for students with disabilities, just as every responsible teacher is committed to designing accessible courses. Rather, the issue is whether ableist assumptions, coupled with the promises of new media, are unconsciously and subtly shaping our teaching philosophies, course-level pedagogies, and beliefs about students' bodies to the detriment of a growing population of college students with disabilities. As our writing pedagogies come to depend more and more on new media, we need to ask how new media can serve every student – disabled and nondisabled alike – in the name of "universal usability" (Horton 2006, xvi). More specifically, we need to ask: To what extent are our new media writing pedagogies and environments accessible to students with disabilities? How seamlessly are students with disabilities (and their subcultures) integrated into our pedagogical environments? Which students have an advantage in writing courses that presume a minimum level of physical agility and dexterity, not to mention a minimum level of vision and hearing? What effects on learning outcomes will accommodations have on disabled students? In other words, will accommodations serve merely as inferior substitutes for primary

instruction that comes channeled through new media? How do we design our courses for universal usability so that we consider, at the inception and through the entire life of our courses, the needs of students with disabilities?

In this webtext, I explore the intersection of disability and new media through the red hot lens of podcasting. From Duke University's now-infamous experiment to outfit 1600 entering freshmen with iPods in 2004 (Belanger 2005), to the growing popularity of Apple iTunes as a repository for more than just music files (e.g. consider the recent addition of iTunes University and Apple's already impressive list of clients in higher education), to the Open Courseware movement (most notably at MIT) and the role of audio and video podcasting in distributing courses to the public ("Take Any 2007"), podcasting is realizing its potential, in concert with other forms of new media, to reshape the nature of learning – where it takes place, when, how, and for which students. The excitement about podcasting in mainstream podcasting discourse is palpable, almost embarrassingly so. However, what extent does this discourse make ableist assumptions? To what extent does it discuss the need for alternative accommodations for hard of hearing and deaf students? Despite the increased visibility of disability as a pedagogical, scholarly, and social issue (as opposed to merely a personal or medical problem), disability is virtually invisible in podcasting discourse. If we are committed to leveraging the affordances of podcasting technology in our classrooms, then we need to design podcast-ready pedagogies that are sensitive to the needs of a diverse student body.

Limiting access in the *Podcasting Bible*

Accessibility is virtually invisible as a topic in mainstream podcasting discourse. Nowhere is this more evident than in the *Podcasting Bible* (2007) by Steve Mack and Mitch Ratcliffe, a 570-page tome that by its sheer size and name alone should have something to say about designing audio and video podcasts for people with disabilities. Indeed, the *Bible* comes awfully close in a few key passages to considering the role that writing can play in making podcasts more accessible. But because the *Bible* is informed by a presumption of full hearing and seeing on both sides of the podcasting transaction, it continually stops short of working out the implications of its own "ease of use" argument (p. 397). A podcast that is easy to use and readily available is not one that is, strictly speaking, accessible to people with disabilities, because in the *Bible* Mack and Ratcliffe have already assumed that designers and users can hear audio and see video well enough not to require assistance in the form of transcripts, long text descriptions, or captions. As a result,

the authors miss an opportunity to explore the importance of text alternatives for making audio and video podcasts *easier to use* for both deaf and non-deaf users, for example. It is not that the authors explicitly refer to the irrelevance of text alternatives and other supplements such as captions. The *Bible* simply makes no reference to them – or to people with disabilities.

The *Podcasting Bible* reduces accessibility to *availability*. When Mack and Ratcliffe suggest that older podcast files should be readily available to users (rather than purged in the interest of saving money or freeing up disk space), they frame accessibility as a technical problem:

Podcasting's history is evaporating as quickly as storage limits for hosting accounts fill up. We can't tell you what [pioneering podcaster] Adam Curry said, because there's no copy of the file *accessible* through any links exposed by Google and other search engines. Podcasters are often forced to purge their archives to keep their costs low, yet all these older programs make up the "long tail," the vast catalog of content that can serve the incredibly diverse interests of listeners for many years, but only if the programs remain *available*. (p. 32, my emphasis)

Here and elsewhere, accessibility refers narrowly to the public availability of podcast files on a Web server, and not to the broader, user-centered notion of accommodating technology to people (Dobrin, 2004). Availability is obviously a crucially important criterion when "history is evaporating." Indeed, Mack and Ratcliffe write that the "most important idea to keep in mind as you begin to produce" podcast shows is that "Your shows need to be accessible for a long time in order to earn the most that you can from your efforts" (2007, p. 83). But availability, which is what they mean by "accessible for a long time," is only one dimension of accessibility. For those potential users who can not hear, availability is meaningless when the file and/or accompanying documents do not adhere to Web accessibility guidelines that call, among other things, for text alternatives to multimedia content (e.g. see [Guideline 1.2](#) of Web Content Accessibility Guidelines 2.0 in WCAG Working Group, 2007). Because access is treated as a binary – you either have access or you do not – Mack and Ratcliffe (2007, p. 393) inevitably consider the obverse of availability – i.e. content restriction – in a discussion of "[s]ubscriptions that limit access to your podcast." In a section entitled "Controlling Access to Your Podcast" (p. 397), they discuss the importance of limiting access to subscribers and providing users with the convenience to "get your podcast." But by defining access as either *available* or *restricted*, the *Bible* fails to consider the broader issue of accommodating technology to people with disabilities.

At the same time, the *Bible* seems on the verge of including a definitive discussion of this broader notion of accessibility as accommodation. When Mack and Ratcliffe discuss enhanced podcasts, metadata, and RSS tags, they open the door to the role that written texts play (as opposed to audio or video only) in podcast production. Although the process of editing podcasts for content, quality, flow, and convenience (pp. 137, 207) does not, according to Mack and Ratcliffe, include captioning video or transcribing audio content, the process they describe of making podcasts available to the public does include translating some of the audio and video content into written text. For example, the *Bible* discusses adding titles and PowerPoint slides to video podcasts (pp. 226-7), and logos, chapter markers, images, and links to audio podcasts (pp. 295-308). The process of adding multiple chapter markers to an audio podcast is very similar to the (admittedly much more time consuming) process of adding sub-titles to a video podcast, but the *Bible* stops short of taking its discussion of textual supplements to its logical conclusion. The same is true for the *Bible's* discussion of metadata and RSS tags. The book stresses the importance of encoding “as much metadata as possible” (p. 279) about each podcast – “name or title, an author (you), and possibly a description” (p. 279). Likewise, the authors refer to the importance of descriptive text in RSS feeds: titles, links, and short descriptions, but also blog announcements for each new podcast that contain, in addition to RSS links, “show notes or links to other Web sites mentioned in the podcast” (p. 322). Presumably, show notes in a blog entry might contain a longer description of the show, maybe even a transcript. However, the *Bible* makes no reference to transcripts, captions, or descriptions longer than one or two sentences, even as it opens to door to the possibility that written supplements to audio and video podcasts might be a more accommodating solution for many disabled and nondisabled people.

Despite reducing accessibility to availability and not having anything to say about accommodating podcasts to people with disabilities, Mack and Ratcliffe could still have integrated a much broader notion of accessibility into the current framework of the *Podcasting Bible*. To do so, however, would require a greater sensitivity to human difference, a willingness “to view bodies and minds as inherently and wonderfully divergent” (Lewiecki-Wilson & Brueggemann, 2008, p. 1). It would require not only a greater familiarity with Web accessibility guidelines (e.g. see WCAG Working Group, 2007) and their transformative effects on current podcasting values, but also a willingness to consider the possibility that deaf and hard of hearing people might actually want to participate – in the podcasting revolution.

Indeed, they are participating at this very moment, though at times with unnecessary difficulty.

“On the fly” podcasting: A critique

One aspect of podcasting that makes it so attractive to proponents is how quickly podcasts can be recorded and made available to users. When applied to instructor-generated podcasts, this view might be summarized as follows: the more planning, writing, and time podcasting takes, the less attractive it becomes as a classroom supplement. Granted, this is probably true of just about everything; no instructor has the luxury of unlimited time to prepare for class. But podcasting seems particularly tailored to “on the fly” approaches that require little planning or editing. Services such as gabcast.com and hipcast.com, for example, allow members to record and upload podcasts over the telephone. The problem with “on the fly” podcasting is that it tends to exacerbate the problem of inaccessible new media for people who are deaf and hard of hearing because 1) instructors who create podcasts are not likely to recognize the need for transcripts or long text descriptions, regardless of how much time they spend recording and editing podcasts, 2) creating transcripts takes time, tools, and knowledge of transcription and speech recognition technologies, 3) creating transcripts seems to defeat the whole purpose of podcasting, and 4) some of the tools designed to facilitate the recording of podcasts, such as hipcast.com, do not allow for post-production editing. Even if a university’s disability services office has the resources to create a written transcript for every “on the fly” podcast, by the time a transcript is ready, the content, generated “just in time” by the instructor is likely to be useful or even less outdated.

Podcasting supports multiple pedagogies and approaches, some of which will undoubtedly involve significant planning, elaborate scripts, and major editing. I do not mean to suggest that every podcast is created and posted “on the fly.” I also recognize the pedagogical value of having students create their own podcasts, and these assignments will, if done well, consume a significant amount of our students’ time and energy. Nevertheless, I would argue that, regardless of time and energy spent, a typical podcaster is not going to be aware of the need or rationale for accessible podcasting. Moreover, instructors need to be more concerned about approaches to podcasting such as “on the fly” that are especially ill-suited to the needs of deaf and hard of hearing students. In this section, I explore the implications of “on the fly” podcasting for people with disabilities by looking closely at one podcasting article in the field of composition and rhetoric: Steven D. Krause’s (2006)

“Broadcast Composition: Using Audio Files and Podcasts in an Online Writing Course.” Published in Fall 2006 as part of a special issue of *Computers and Composition Online* on “Sound in/as Compositional Space,” Krause’s essay helps teachers of writing understand and make use of an emerging medium. Krause reports on his experiences as an instructor creating podcasts for his students, as well as his students’ survey responses to those podcasts, as part of an upper-level online English course called “Writing, Style, and Technology.”

Krause is clearly attentive to the challenges of teaching a diverse student body. Yet the meaning he assigns to diversity, interestingly, does not extend to students with disabilities:

- Krause identifies “a diverse group of students” in his English department, but only in terms of the diversity of their **major fields** (English education majors, and “students from our programs in professional writing, technical writing, creative writing, journalism, and public relations, along with students minoring in writing”).
- When Krause describes the “basic demographics” of his online course, he distinguishes his students on the basis of **gender and grade level** only.
- The meaning Krause assigns to “non-traditional students” does not include students with disabilities. **Non-traditional students** are defined as “first generation or otherwise non-traditional college students, often from working class backgrounds.” They “tend to have work and family commitments that make attending a full load of traditional courses on campus difficult.” While students with disabilities might also be defined as non-traditional, Krause defines non-traditional in terms of working class background, work and family obligations, and first-generation college students.
- Krause privileges diversity in **learning styles** when he refers to the need to “us[e] different technologies (like audio) to facilitate different kinds of learning styles.” While he is skeptical of students’ “reasons for not listening to [his podcasts],” he notes that some of his students “said that didn’t listen to recordings because of their own learning styles and preferences.”
- Krause distinguishes students on the basis of **primary mode of instruction** – i.e. online vs. “their traditional counterparts” – and respects the differences between them. “I am not sure we want to erase those differences in the first place.”

- Krause distinguishes students on the basis of how much experience they have had **reading theory**. “[F]ew have had experience reading and discussing texts that focus on writing in overt and theoretical ways.”
- Krause acknowledges that there are diverse **ways of creating and distributing podcasts**. “I wouldn’t want to claim that I am describing the only way to record and publish audio files – or even the best way.” He also includes three external links to “different ways of accomplishing these tasks,” but none of the links contain information on accessible podcasting. One of the links, however, does include an external link to information on “hearing conservation” (i.e. protecting hearing from prolonged exposure to loud sounds).
- Krause calls attention to the **differences among faculty** who teach the course. “Different faculty teaching the course emphasize different components of [the course].”

Krause’s essay shows a concern on multiple levels with diversity and difference: grade level, gender, class, labor, generation, online/traditional, learning style, major field, method of coursecasting, and method of teaching the course. Had it been included, disability might have complemented this list of differences nicely. But disability often does more than complement an existing system of differences (Davis, 2006, p. 233; Mitchell & Snyder, 2006, p. 209). The inclusion of disability as an aspect of human diversity threatens to destabilize the value assigned to podcasting itself by calling attention to the ableist assumptions (Linton 2006) lurking in our pedagogies. The critical axis of disability/ability unsettles our ableist assumptions about students’ bodies and minds. To podcast with disability in mind is to be sensitive to how our approaches to podcasting can exclude some of our students, even when we explicitly foreground the importance of diversity, as Krause has done. The notion of accessible podcasting also opens the door to a broader understanding of new media as informed and supported by accessible alternatives (e.g. text transcripts) and embedded features (e.g. closed or open captions for video).

Like the *Podcasting Bible*, Krause’s essay seems at times to be on the verge of announcing the importance of extended written text for deaf and hard of hearing podcast subscribers. For example, when describing how to set up a podcast-friendly blog, Krause writes that “it’s probably a good idea to provide some text to explain what is contained in the audio file.” Elsewhere, Krause describes how one of his course pages on the eCollege website contains “some written notes and audio

commentary.” Krause’s view of written texts though is constrained by a technocratic approach to accessibility. Like the authors of the *Podcasting Bible*, Krause is concerned with accessibility only as a technical problem. When describing the “unique challenges” facing his students, he notes that they may not have had “easy access to technology.” The “technical elements” of the course “put an additional strain on students who have no previous experience” with HTML. Interestingly, hearing is also viewed as a technical problem. Krause defines the mp3 format as “still the best format for basic audio files that can be heard by users with less than sophisticated computers.” In other words, the assumption here is that computers have hearing/audio problems, not users. Users are assumed to possess full hearing and seeing; problems with access are assumed to be either technical or the result of a lack of experience with computers. By focusing on how “the typical level of ‘technological literacy’ of students in this class has certainly changed in recent years,” Kraus bypasses other changes in the academy, particularly the phenomenal increase of college students with disabilities that may arguably be having as large of an effect on our pedagogies as changes in technological literacy. According to the U.S. Department of Education’s Office for Civil Rights (1999), “In 1978, 2.6 percent of full-time/first-time college freshmen reported a disability. In 1996, it increased to 9 percent (more than 140,000). This means the number of persons with disabilities going to college has more than tripled.” Foregrounding disability alongside technical know-how and computer access may result in a more nuanced and complex understanding of the “unique challenges” facing our students in the new media classroom.

The roadblock to a broader understanding of the “unique challenges” facing our students in the new media classroom is a set of normative constructions in the text that pass as common sense. The “you” in Krause’s text is an ableist and audist fiction that classifies all users as seeing, hearing, and in full possession of the fine motor skills required to manipulate mouse, keyboard, touch screen, key pad, etc.¹ In Krause’s text, non-standard users are invisible. The hegemony of ableism erases differences and replaces them with a universal, hearing “you”:

Sound files are like other kinds of files you can upload to a server and then access – either directly or through a link. So, for example, when you link to an HTML page,

¹ Ableism is defined as “discrimination in favor of the able-bodied” (Reader’s Digest Oxford Wordfinder as cited in Linton 2006: 161). Audism is defined as “discrimination against individuals based on hearing ability” (Bauman 2004). Discrimination can take many forms. It may be invisible, subtle, and seemingly anti-discriminatory.

your browser will open another web page. When you link to a JPEG, your browser will show the graphic in the main viewing window. When you link to a .doc file, usually your browser will launch a word processing application to view the file. And when you link to an mp3 file, your browser will either open it directly and play it, or, in the case of some older browsers, it will save the sound file to your computer so it can be played later on.

In this excerpt, the process of accessing Web content is presented as simple and straightforward, yet this simplicity is achieved at the exclusion of other means of browsing the Web (i.e. via screen readers, screen magnifiers, text-only or keyboard-only navigation, etc). The imagined reader (“you”) is a monolithic and unchanging mass of ableist assumptions. Difference and multiplicity are not associated with users, since every “you” is presumably the same as every other.

It is within the context of normative podcasting that “on the fly” recording and uploading seem commonplace. If “you” and your listeners are presumed to be hearing and able-bodied, then obviously there is no need to hassle with written texts or other accommodations. According to this view, excessive writing is to be avoided as either extraneous to the main purpose of podcasting or too time-consuming. Krause is sympathetic with both reasons. He wisely rejects transcribing his face-to-face lectures for his online students, because he “didn’t see the point in creating a complex and detailed text that students might find challenging to read simply to explain other texts that students already found complex and challenging to read.” But Krause seems more concerned with how much time transcription is likely to take – i.e. “it would be too time-consuming to translate” the lectures, and “recording and posting these audio files would take less time than actually writing out my lectures.” He also “take[s] comfort in the fact that [he] did not have to spend a tremendous amount of time and resources to create teaching materials that were used only by a few students.” He directly links podcasting to his goal of avoiding writing (and thus saving time): while “it helps to have some good notes” when recording audio, “one of the reasons why [he] became interested in recording audio for online instruction was to avoid having to write a lot of text in the first place.” Writing is not only time-consuming; it threatens the informal character that Krause associates with the podcasting medium itself: “[T]he technology . . . lends itself to a brief and ‘on the fly’ format.” Krause describes his podcasts as “more open-ended and similar to the comments I might give to a face-to-face class after passing back a writing assignment or as a way of updating them about future due dates and projects.” The pinnacle of “on the fly” podcasting is provided by the image of Krause recording a podcast from his cell phone “on the street while walking [his] dog.”

Because podcasts generated over a telephone (made possible through services such as gabcast.com and hipcast.com) can not be edited or transcribed, they reflect a troubling “phone it in” mentality towards people with disabilities. If podcasting is inherently well-suited to “on the fly” uses that require little time, planning, or writing, then we need to ask whether podcasting tools and approaches can be re-tooled to serve the needs of students with disabilities, and whether instructors are willing to put in the extra time to make podcasts accessible.


While the value Krause attaches to podcasting is at least partly dependent on how much time podcasting “on the fly” saves him, he also recognizes the importance of advanced planning and script writing. Even though he has “not done any script-writing yet,” he admits in hindsight that his “original recordings could have benefited from some better planning and with some more practice.” However, practice and planning continue to take a back seat to the goal of saving time. In the trade-off between “better quality audio files” and “the ‘time saving’ value of recording audio files,” the latter wins out. He writes that while better planning and more practice “would have resulted in better quality audio files, it also brings into question the ‘time saving’ value of recording audio files in the first place.” An approach to podcasting that values saving time over producing high quality and carefully planned recordings is more likely to result in inaccessible podcasts. A similar tension between time and quality plays out on the audio file that serves as the conclusion to Krause’s essay. Entitled “The Future,” this enhanced podcast gives listeners a chance to hear Krause reflect on what he has learned. While the podcast is not transcribed (and thus remains inaccessible to some people), Krause does provide an outline of his talk in the essay itself, and the enhanced audio file is populated with a series of key points on slides. On the audio file, Krause calls attention to the limitations of Audioblogger (a now defunct service for recording podcasts over the telephone), and, by extension, the limitations of the “on the fly” variety of podcasting.” He also acknowledges that “[q]uality matters and quality takes time and practice,” more time than he had anticipated. Ultimately, however, he rejects the solution his critique supplies: “I suppose I could record more elaborate and formal classroom notes this way [i.e. by avoiding telephone services such as Audioblogger and taking much more time to plan, script, and edit], but it doesn’t seem quite right to me, or at least it doesn’t seem right with the way that I imagine audio files for my class.” What seems right to Krause is that instructor-generated podcasts should be informal (no elaborate scripts) and involve little advanced planning. For students with disabilities, the question is whether an approach to instructor-generated podcasts predicated on saving time and avoiding writing can

be reconciled with the time, care, writing, and planning required to making podcasts accessible to students with disabilities.

Podcasting 2.0: Towards an accessible Web

Making podcasts accessible is a pretty straightforward process. In the case of an audio-only podcast, the producer (or someone else) simply creates a written transcript and makes it readily available (e.g. within the RSS enclosure, as a link on a website, in the lyrics tab on iTunes, etc.). For example, Mignon Fogarty, host and author of the popular [Grammar Girl](#) podcast, “publish[es] a word-for-word transcript of each show” (“Don’t Quit” 2007). Indeed, all of the podcast episodes on Fogarty’s [Quick and Dirty Tips Network](#) are transcribed (e.g. Mighty Mommy, Sales Guy, Get-it-Done Guy, Make-it-Green Girl, etc.). Another notable example is the weekly [Security Now!](#) podcast produced by [Gibson Research Corporation](#) (GRC), which includes audio files and transcripts in multiple formats for each podcast episode (see Figure 1).

But GRC’s multimodal, accessible approach is unusual among podcasts. While one might expect to find short text summaries to accompany links to audio podcasts posted on blogs, rarely is there much more. Accessibility (when it refers either to making technologies universally usable or to making accommodations for people with disabilities) is virtually invisible in mainstream discourse about podcasting. Even podcasts that are principally concerned with disability and accessibility issues cannot always be counted on to be models of good (accessible) practice a couple years ago. For example, a moderator on [AccessifyForum.com](#) noted the irony of a



SECURITY NOW!
Episode Archive

Each episode has SIX resources:

- High quality 64 kbps mp3 audio file
- Quarter size, bandwidth-conserving, 16 kbps (lower quality) mp3 audio file
- A web page with any supplementary notes
- A web page text transcript of the episode
- A simple text transcript of the episode
- Ready-to-print PDF (Acrobat) transcript

(Note that the text transcripts will appear a few hours later than the audio files since they are created afterwards.)

Figure 1. The podcast formats available on the Security Now! podcast include high quality audio, lower quality audio, a web page with any supplementary notes, web page transcripts, text file transcripts, and pdf transcripts.
Source: <http://www.grc.com/default.htm>

podcast show about web accessibility that was not itself accessible to people with hearing disabilities. Referring specifically to the [WebAxe](#) podcast show, the [moderator writes](#):

shame there are no transcripts or anything from those podcasts...i hope i'm not the only one who sees the irony in *purely* podcasting about accessibility...

In a [second post to this thread](#), a forum member agrees with the moderator:

Irony indeed.

Surely someone could get access to the services of a professional typist who will type faster than a presenter could talk in a podcast. At that speed even at professional rates it shouldn't cost more than a couple of pints to transcribe.

And then one of the two producers of the WebAxe podcast [responds](#):

This is Dennis from Web Axe. I realize how ironic it is that I'm doing a podcast on accessibility, which in nature of a podcast, is not accessible. I don't make any money from the podcast so I can't afford a transcriber for text-only versions of the podcasts. Besides that, I hope you will find my podcast/blog informative and valid. Thanks.

Dennis explains away the need for a transcript on financial grounds ("I can't afford a transcriber"), and then assumes that his "podcast/blog" will be "informative and valid" anyway. But podcasts without transcripts are not informative – to say the least – for "listeners" who are deaf or hard of hearing. Granted, this thread is from 2005, when podcasting was still in its infancy. Nevertheless, it points to a troubling lack of awareness of both 1) the means to make podcasts accessible and 2) the need for accommodations at all, even when the podcasters presumably specialize in making web technologies accessible. Dennis assumes that making podcasts accessible requires a burdensome financial investment as well as a significant investment in outsourced human labor (transcribers). Both of these assumptions need to be challenged if we hope to change perceptions about accessibility and increase awareness of the need for accessible alternatives. At the time of this writing, WebAxe continues to produce new audio *podcasts about accessibility* but not *accessible podcasts*, since each podcast is accompanied only by a short text summary.

So what would ease the burden on podcasters like Dennis to make podcasts accessible? Above all, we need to instill in both budding and experienced podcasters that written transcripts are crucial components of audio podcasts, just as captions (closed or open) are crucial components of video podcasts, neither add-ons nor burdens. Accessibility needs to be built into the design of websites from their very inception, rather than after the fact. Likewise, accessibility needs to be anticipated in podcast (and multimedia) design. As part of this effort, we need to continue to teach our students and colleagues...

1. *About the wealth of options available for transcribing audio podcasts and captioning video podcasts.* Contrary to expectations, making web technologies accessible does not have to require a large financial investment, a steep learning curve, or a lengthy time commitment. Some of these options are discussed below.
2. *How accessibility drives universal usability.* A common refrain among accessibility experts is that accessible media have the potential to benefit all users, not just users who are disabled. “*Universal design* is an approach to design that attempts to incorporate features that make things usable by more than just the ‘average’ person. By anticipating the needs of all people, things can be designed in a way that makes them universally usable” (Horton, 2006, p. 9). In an article on Section 508 standards, Kim Guenther (2002, p. 75) suggests, “Incorporating these standards will actually increase the visibility and the audience to your Web site . . . Design that is effective for people with physical and visual impairments also aids the elderly.” Or consider the potential benefits of captioned television for hearing, hard-of-hearing, and deaf viewers. CaptionsOn.com estimates that “more than 51 million people can, and do, use captions to bring words to life.” But of this group of Americans, only “31 million” are “deaf or hard-of-hearing,” leaving quite a large group of people who are hearing but nevertheless benefit from captioned programming. This group includes ESL learners, children and adults learning to read, older Americans at risk for Alzheimer’s, and families enjoying TV time together at lower volumes (CaptionsOn.com). In the case of audio podcasts, full text transcripts allow for seamless indexing by search engines, making it easier for potential listeners to find podcasts on topics of interest to them. While audio and video search engines such as everyzing.com rely on voice recognition technology to index content from audio and video files, the major search engines continue to rely on surface-

level text features (title, description, tags) to index multimedia content. Transcripts of audio-only podcasts, while important in meeting accessibility standards (e.g. [1194.22a & b of Section 508](#), [Guideline 1.2 of WCAG 2.0](#)), can also be a crucial component in marketing podcasts since transcripts aid in search engine optimization.

3. *That making information technologies accessible is not only the right thing to do but also legally mandated.* Section 508, a 1998 amendment to the Rehabilitation Act of 1973, “cover[s] the full range of electronic and information technologies in the Federal sector, including those used for communication, duplication, computing, storage, presentation, control, transport and production.” But while these “standards cover technology procured by Federal agencies under contract with a private entity” ([section508.gov](#)), they are being more widely adopted. According to Guenther (2002, p. 73), “Although the original intent of Section 508 was to treat fairly federal employees and those disabled individuals who use federal Web sites, the law has been interpreted more broadly to also include all states receiving money from the federal government under the Assistive Technology Act.” Thus, because institutions of higher education are eligible to receive money under the [Assistive Technology Act](#), they need to be in compliance with 508 standards (e.g., see [Kansas State’s Accessibility Memorandum](#)). Individual states may also pass legislation requiring its public universities to comply with Section 508 (e.g. see [The California State University System’s Accessible Technology Initiative](#)). In addition, the Americans with Disabilities Act of 1990 (ADA) and [Section 504 of the Rehabilitation Act](#) “are civil rights statutes that prohibit discrimination on the basis of disability, obligate colleges and universities to make certain adjustments and accommodations, and offer to persons with disabilities the opportunity to participate fully in all institutional programs and activities” (from [Texas Tech’s Operating Procedures](#)). [Title II of the ADA](#) covers public accommodations by state and local governments (including public education), and [Title III](#) covers public accommodations in the private sector (including nonprofits and private schools). Finally, [Section 255 of the Telecommunications Act of 1996](#) requires manufacturers to ensure their telecommunications products are accessible to people with disabilities. The [Office for Civil Rights](#) (OCR) in the U.S. Department of Education is responsible for “enforc[ing] several Federal civil rights laws that prohibit discrimination in programs or activities that receive federal financial

assistance from the Department of Education,” including Section 504, Title II of the ADA, and others (“About OCR,” 2005). “In FY 2007, the Department [of Education] received 5,894 complaints of discrimination and resolved 5,737” (FY 2007 Performance and Accountability Report). Fifty-one percent of these complaints were disability related, by far the largest group (with race/national origin complaints coming in a distant second at 16%).

This approach mirrors [WebAIM](#)’s case for accessibility: “It’s the smart thing to do,” “It’s the right thing to do,” and “It may be the law” (“Solutions for Business”).

However, serious obstacles and skepticism remain. Jane Seale (2006: 81) writes that “accessibility awareness is low amongst learning technologists,” including limited or no knowledge of 508 and negative attitudes towards accessibility among webmasters. It is not uncommon, if my own experience is any indication, for teachers to affirm the importance of accessible technology while balking at the time commitment and steep learning curve involved in, say, transcribing audio. I have also heard colleagues worry about how instruction in accessibility will negatively impact in-service teachers who are learning how to bring podcasting into their classrooms but lack confidence and experience with new media. These teachers, it has been suggested, may turn away from new media altogether if they think it is too difficult or time-consuming to implement. Clearly, many people continue to think of accessibility as a time-consuming supplement. We thus need to continue the important work of developing easy-to-use tools to make the Web accessible, and continue to talk about accessibility as central (and not peripheral) to the design of multimodal texts. We also need to be practical and realistic. A local audio podcast produced for a small group of hearing students (with no plans to reuse the podcast in future semesters) does not require the same attention to accessibility standards as a podcast produced prior to the start of the semester, or one posted on a departmental website (with a large, diverse, and unknown audience). The less we know about the needs and preferences of specific members of our audience, the more we have to assume that accommodations (transcripts, captions) are needed.

My own approach to accessibility emphasizes bodily differences, web accessibility guidelines (especially [W3C](#)’s [Web Content Accessibility Guidelines](#)), and the growing wealth of accessibility tools (including video modding apps).

Start with the body

Mainstream discourse about podcasting rarely discusses the affordances of the body. It rarely makes explicit the minimum requirements for participating, at the level of embodiment, or the bodily differences among users and producers that threaten to exclude some people from profitably using web audio and video.

Instead, mainstream discourse about podcasting tends to assume a certain ideal body type — a hearing, seeing, speaking, flexible, mouse-moving (as opposed to keyboard-using) user. Because the minimum requirements for participating are assumed, those who write about podcasting are generally not aware of the need or importance of accommodating technology to users with disabilities.

What if our understanding of web audio and video was grounded on a deep awareness of the body and bodily difference? What if our mainstream discourses did not automatically assume that podcasting, in the absence of transcripts or other accommodations, was accessible to all users? What if we were committed to teasing apart the differences between accessibility and availability, instead of assuming that accessibility was equivalent to making it easy for an ideal user to download files?

In *Disability and the Teaching of Writing* (2008), Cynthia Lewiecki-Wilson & Brenda Jo Brueggemann ask us to reflect on the body and bodily difference in the context of writing instruction: “How can we better understand learning and writing as embodied practices, foregrounding bodily difference instead of demanding bodily perfection?” (3). Applied to web audio and video, this question urges us to consider the extent to which our understanding of podcasting (as reflected in discourse) is grounded on bodily perfection, the ways in which the body is absent from podcasting discourse, and whether our conceptions of users are normative (e.g. insofar as hearing is required for conformance).

Design for difference at the inception of a project

We need to think of podcasting not as “on the fly” but as situated in the lives of students with diverse abilities and needs. Rather than make our multimodal texts accessible after the fact (it is illegal under ADA to make accommodations on an ad hoc or as needed basis), we need to design for accessibility at the inception of our Web projects. An accessible (universal) Web is good for everyone: “The underpinning principle of universal design is that in designing with disability in mind a better product will be developed that also better serves the needs of all users, including those who are not disabled” (Seale 2006, p. 83). To build an

accessible Web, we need to immerse ourselves in accessibility standards, principally W3C's Web Content Accessibility Guidelines (WCAG) and Section 508. WCAG is built on three levels of conformance: A (lowest), AA, and AAA (highest). It is beyond the scope of this text to provide a detailed review of guidelines; a number of good checklists (for [508](#) and [WCAG 2.0](#)) and [comparisons](#) are available online. Of particular interest to audio and video podcasters are the following guidelines:

Provide a written transcript for audio-only content

- [WCAG 2.0, Guideline 1.2.1](#): "An alternative for time-based media is provided that presents equivalent information for prerecorded audio-only content." (Level A)
- [Section 508, 1194.22a](#): "A text equivalent for every non-text element shall be provided (e.g., via "alt," "longdesc," or in element content)."

Provide captions for prerecorded web video

- [WCAG 2.0, Guideline 1.2.1](#): For prerecorded video-only media, "Either an alternative for time-based media or an audio track is provided that presents equivalent information for prerecorded video-only content." (Level A)
- [WCAG 2.0, Guideline 1.2.2](#): Captions are provided for all prerecorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labeled as such. (Level A)
- [Section 508, 1194.22b](#): "Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation."

Ensure all information is keyboard accessible

- [WCAG 2.0, Guideline 2.1.1](#): "All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes." (Level A)

Provide audio description of video content (i.e. all visual information that is not conveyed aurally must be described in a separate, synchronized audio track or long text description for screen reader users)

- [WCAG 2.0, Guideline 1.2.5](#): "Audio description is provided for all prerecorded video content in synchronized media." (Level AA)

Surround yourself with solutions

Plenty of options are available for transcribing audio and captioning video. While some of these options fit the traditional view of web accessibility as time-consuming and expensive, others challenge that view.

Transcription companies. Transcription companies provide transcripts of audio content for a fee, with a turn-around time between twenty-four hours and a few days. In October 2006, Jeffrey Daniel Frey reviewed [nine transcription services](#) on his blog, ultimately recommending [Casting Words](#). This company currently charges \$1.50/minute with a guaranteed six-day turnaround. For a typical five-to-eight minute audio podcast, the cost would run \$7.50 - \$12.00.

Captioning companies. Captioning companies provide video captions for a fee. Examples include [Automatic Sync Technologies](#), [Visual Data Media Services](#), [Video Caption Corporation](#), and [NCI](#).

Voice recognition technology. With access to a well-trained version of [Dragon Naturally Speaking](#) (or possibly a web service like [Jott](#)), a podcaster can automate the process of creating a transcript from an audio file. In the case of podcast interviews, the podcaster can, at the completion of the interview, play the role of “shadow speaker” for the sole purpose of creating a transcript. A shadow speaker speaks the interviewee’s part with the voice recognition software enabled so that the software, which has been trained on the speaker’s voice, can more accurately transcribe the interviewee’s part. The original audio interview remains unchanged and the separate shadowed audio file is deleted once a written transcript has been acquired.

Captioning software. A number of software solutions are available for captioning web videos. Since every caption file is comprised of two main pieces of data (a time stamp and a corresponding text caption), software programs for captioning tend to be interchangeable and easy to master. Captioning can also be done pretty easily by hand (with a text editor), using basic XML-style markup. The process can be time consuming, however, even with the assistance of captioning software. [Bill Creswell](#), whose blog is devoted to “captioning the internet one video at a time,” [estimates](#) that it takes one hour to caption three minutes of web video. Nevertheless, software solutions are easy to find and many are free, including [Subs Factory](#), NCAM’s [MAGpie](#) and [CC for Flash](#), and URUWorks [Subtitle Workshop](#). Software programs for

purchase include SynchriMedia's [MovCaptioner](#) (\$25), Manitu Group's [Captionate](#) (\$60), and Video Toolshed's [SubBits subtitler](#) (\$250).

Captioning through crowdsourcing. More and more video players on the web have built-in support for closed captioning (e.g. [Google](#), [Fox](#), [Hulu](#), [NBC](#)). A major development in closed captioning on the web was [Google's announcement](#) in September 2006 of support for closed captioning in its video player. Captioned content is also being provided by [Project ReadOn](#), which is partnering with other sites (e.g. [BarackObama.com](#), [PetsAmerica.com](#)) to provide caption streams for their videos (The original videos continue to be hosted on the partner sites, with the ReadOn video player syncing captions with the original source content). On the ReadOn site, users can suggest videos to be captioned, but users do not perform the actual captioning labor.

A different, potentially more effective, model taps directly into the crowd of users for direction, feedback, and labor. On websites such as [dotSUB](#) and [Overstream](#), users not only decide which videos to upload, transcribe or caption, but also perform the captioning work themselves using a simple but effective web interface. Web interfaces for captioning are essentially streamlined versions of stand-alone captioning software programs. With Overstream, the user imports a video from a supported video provider (e.g. Google, YouTube, etc.), and then uses the video editor to place a stream of captions or subtitles over the video. Like the videos on Project ReadOn, the original videos on Overstream continue to be hosted at the source site (e.g. YouTube), and users can create multiple overstreams of the same video (akin to multiple "plys" in [BubblePLY](#)). With dotSUB, the videos are uploaded and hosted by dotSUB, and users can view subtitles in multiple languages from a drop-down menu without changing streams/plys. While DotSUB was created to address the need for translation services in the global economy (see "[About dotSUB](#)"), both dotSUB and Overstream also serve the needs of deaf and hard of hearing caption users. Both also leverage the power of *crowdsourcing* by giving a very large crowd of web users a simple interface for transcribing and captioning video, and letting the crowd do the rest. Everyone benefits from the crowd's collective labor, even though each member of the crowd may only make a very small contribution to building the site's value.

VModding. The crowdsourcing model is also at work on a number of websites that allow users to annotate or modify existing videos with text, "bubbles," or in-video tags: [BubblePly](#), [Veotag](#), [Viddler](#), [Jumpcut](#). Because these sites allow users to overlay text onto video, they have the potential to be used as captioning tools, even though

they are not being marketed specifically as such. For example, [Overstream](#) “enabl[es] additional partially transparent dynamic content layers to be displayed over any live streaming content” (“[About Overstream](#)”). Moreover, Overstream aims to capitalize on the growing influence of vmodding: “*Overstream.net* heralds the arrival of a new type of video-related net community, that of video modifiers.” Tools for video modding and remixing, particularly when writing (as opposed to emoticons or graphical elements) is involved, need to be distinguished from [YouTube’s support for annotations](#). YouTube’s annotations do not fully capitalize on the social affordances of Web 2.0 technologies. Whereas [BubblePly](#), [Viddler](#), and [dotSUB](#) allow anyone to add annotations or captions to any video, only authors can add annotations to YouTube videos. Viewer can turn YouTube annotations on and off, but they can not edit or add them (i.e. viewers are not video modifiers in the YouTube environment). Allowing anyone to annotate (or copy and annotate) any video would provide another means for viewers to comment on videos (in addition to writing text comments and authoring response videos) as well as potentially increase the number of captioned videos available on YouTube.

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