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Exploring Transformative Usability in the Professional Writing Classroom



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Exploring Transformative Usability in the Business and Professional Writing Classroom

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Abstract

This article addresses the importance of teaching transformative usability and accessibility concepts through the lens of disability studies in general business and professional communication courses. It argues that when students learn to analyze audiences, include diverse users, and foresee accessibility *before* the final draft because they practice user-centered design, their documents become more accessible for all users and situations. It presents a four-unit course plan that integrates disability studies and usability, including legal requirements. The unit plan advocates considering disability and diverse users and uses at the beginning of the design process.

Keywords

disability studies, usability and accessibility, accessible pedagogy

We are not our users, and users will always surprise you.

—Ginny Redish (2010, p. 193).

Within the past 30 years, the U.S. Congress has passed and amended a number of statutes designed to increase accessibility for people with disabilities. The 1990 Americans with Disabilities Act (ADA) required designers whose work appears in “places of public accommodation” to consider how users interacted with systems—whether buildings, classrooms, technology, or texts—and to ensure those systems were accessible to people with disabilities. As a result, accessibility to employment,

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state and local government activities, public transportation and accommodations, and telecommunication became a right to those with physical, cognitive, and mental disabilities (U.S. Department of Justice, 2009). Globally, the United Nations officially advocated for disability rights when it began to fund disability initiatives in the 1980s. Over the next decades, countries around the world increased disability rights in similar ways to those in the United States (Banning-Lover & Purvis, 2016).

As these statutes were developed and implemented, scholars in the disability studies community advocated for accessible design as an ethical, and not just legal, responsibility. These design choices affect millions of people. The number of people living, working, and learning with disabilities in the United States includes 7.9 million employed Americans who self-identify as having a disability with an additional 1.5 million Americans with disabilities job hunting (Chiu, 2013). Census estimates in 2014 concluded 12.3% of the population had a disability, and in 2011 to 2012, 11.1% of all college students reported a disability (National Center for Education Statistics, 2016). Estimates from the World Health Organization (WHO; n.d.-b) suggested a similar worldwide figure, 15%, of people who live with disabilities. Despite the number of people with disabilities and the decades old legislative victories, widespread accessibility, especially of communication, can still improve. If screen readers that assist those with sight impairments, OpenDyslexic (an open source font for readers with dyslexia), and communication devices used by people with cognitive processing disorders, among many other technologies, cannot access information, then neither can their users. Moreover, this reliance on assistive technologies, which often become retrofits of the original communication, can create other accessibility and usability problems for users. Thus, as professional communicators, we must prepare ourselves, our students, and our employees to ensure all users have access to texts in fair and usable ways.

Article Overview and Definitions

As part of this special issue on “Enabling Workplaces, Classrooms, and Pedagogies,” this article addresses how business and professional communication instruction can prepare students to create accessible documents. Rather than address usability only in the “usability testing” section or review the ADA and international disability rights laws when those paragraphs appear in the textbook, this article urges instructors to discuss accessibility and usability throughout the course. I argue that, alongside teaching the written, digital, and spoken genres integral to business and professional writing, instructors must also make students aware of the transformative power of accessibility, a power in which, by making communication accessible and usable by all individuals regardless of ability, communicators simultaneously improve the accessibility and usability for all users (Meloncon, 2013). For instance, in creating closed captions for videos, communicators not only enable members of the d/Deaf community, the users who might be the intended audience for captioning, but also those in loud places—rooms without quality sound systems, like gyms or airport terminals, or people sharing space with others—to use the video’s content. Through the idea of

transformative usability, teaching communicators to design texts in broadly accessible manners improves use for all users.

Business and professional communicators and scholars should not design accessible communication because it is the law; rather, they should design for universal audiences because it is a morally and ethically sound decision. I begin with a brief outline of the legal requirements, but the bulk of the article argues that introducing disability studies alongside more common usability concerns encourages a more just approach to communication design. Grounded in student-centered teaching practices, usability and accessibility, and disability studies, this article outlines a semester-long course divided into four units that allows professional communication instructors to integrate discussions of disability, usability, and accessibility. Included in the appendix is a table illustrating connections between the four units, major topics, sample assignments, learning outcomes, and a timeline. A brief literature review of disability studies in professional communication courses and participatory design practices informs the discussion of the plan's integration of these principles.

The article's audience includes business and professional communication instructors interested in increasing the accessibility of their students' communication practices. Industry professionals looking to improve their own usability practices or provide professional development will also find the framework, readings, and activities helpful. Because disability and accessibility are relatively underexplored in business and professional communication, I draw from disability studies, technical communication, and participatory design to show how business and professional communication instructors might also integrate usability and accessibility into their curricula. Dependence on the rhetorical situation further grounds the argument in common communication practices and, thus, makes the topics more familiar to students and faculty alike. Faculty who are unfamiliar with disability studies may find the integration of the theories over the course of the semester more manageable than creating an entire unit on disability studies.

Disability studies, like gender or critical race studies, presents a framework that asks students to question their privilege. Hulgín, O'Connor, Fitch, and Gutsell (2011) explained that as students read, they could not understand the difference between authors' arguments and their examples critiquing ableism. Palmeri (2006) argued that communicators must consider the social and environmental contexts where their work is used, not just medical diagnoses. Through these theories, students, alongside faculty, may be introduced to different models of disability, such as social, medical, or charity, challenging preconceived ideas about disability and how it works in the world. The WHO (n.d.-a) defined disability as "a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives" (para. 2). Thus, while we may have been taught to think of disability solely as a medical condition, disability studies theorists and others like the WHO have defined disability as a social condition—it is not the person that is disabled; rather, societal conditions disable.

Definitions of accessibility and usability complement the WHO's definition of disability: the International Organization for Standardization (ISO; 2014b) defined

accessibility as the “extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics and capabilities to achieve a specified goal in a specified context of use” (p. 3). The ISO (2014a) argued that accessibility addresses more than disability. It should be considered also for the “elderly, parents with small children, and even those with minor injuries” (p. 23). Discussions of usability extend those of accessibility. Not only should goods be accessible to everyone, but usability, or the “extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use,” should also be considered (ISO, 2014b, p. 2). Accessibility allows people to *use* goods. Usability ensures that the use is “effective, efficient, and satisfying.” Business and professional communicators often have a legal and always have an ethical obligation to ensure documents are not just accessible but also usable, ensuring documents can be used in the most effective, efficient, and satisfying ways possible. Considering accessibility and usability through a disability studies lens, with these definitions in mind, can help students move past the medical model and learn how documents potentially disable their users.

To familiarize faculty with disability studies and ground the theories in professional communication, the unit plan outlined below introduces faculty to relevant works on disability and accessibility in technical writing that intersect with disability studies and draws from topics such as the rhetorical situation and usability testing that already hold a prominent place in professional communication. By integrating disability studies with more familiar professional writing research, this course anchors students and faculty in communication outcomes and makes students more aware of diverse user needs.

Accessibility Requirements as Mandated by the ADA and the Rehabilitation Act

A memo from the U.S. Department of Justice (2014) on “Effective Communication” outlined key communication considerations of the ADA. It explained,

People who have vision, hearing, or speech disabilities (“communication disabilities”) use different ways to communicate. . . . The ADA requires that title II entities (State and local governments) and title III entities (businesses and nonprofit organizations that serve the public) communicate effectively with people who have communication disabilities. The goal is to ensure that communication with people with these disabilities is equally effective as communication with people without disabilities. (para. 2-3)

The memo provided examples of professional communication that must be accessible, such as restaurant menus, retail documents, and legal and medical decisions. In many of the examples, the writer assumed that the communication would take place in one of three ways: face-to-face, through written documentation, and over the phone. Even in 2014, the Department of Justice did not clearly address accessibility of digital communication.

Since the passage of the ADA and the Rehabilitation Act, the reach of the Internet and digital communication has only increased; Section 508 of the Rehabilitation Act, amended in 1998, specifically addresses web communication. The U.S. Department of Health and Human Services (n.d.) reported the guideline: “All websites designed for or by the United States government must comply with the requirements of Section 508 of the Rehabilitation Act. All other websites (e.g., commercial, private) should strive to be accessible and compliant with Section 508” (Guideline section). Unlike the ADA, which requires “places of public accommodation” to be accessible, Section 508 is more limited in that it *requires* federal websites to follow accessibility guidelines, but it only *encourages* commercial entities to ensure accessibility. This distinction allowed for many inaccessible corporate websites. The 2006 class action lawsuit *National Federation of the Blind v. Target Corp.* brought corporate websites under the jurisdiction of the ADA as “places of public accommodation,” ensuring, like federal websites, corporate websites follow accessibility guidelines (Orrick, Herrington, & Sutcliffe LLP, 2014). More recently, Harvard University and the Massachusetts Institute of Technology were sued for violating the ADA and Rehabilitation Act when videos posted in their free online learning systems included either no or unintelligible captions (Lewin, 2015). In February 2016, a federal judge ruled that the case may proceed (Straumsheim, 2016). The United States is not the only locale with disability rights laws, however. It is necessary for professional communicators to be familiar with the disability rights laws in their country. The Disability Rights Education and Defense Fund (2017) maintains a current list of disability rights laws indexed by country with links to specific legal documentation. Communicators can use this resource to determine the legal requirements for their work.

I begin with this brief overview of communication-specific legislation and legal findings to demonstrate the continuing legal importance of accessible professional communication. No matter where communicators work, the legal requirement to create accessible documentation exists.

The Disability Gap in Professional Communication Education

Despite legal requirements, accessibility guidelines, and technological advances, many professional communication texts remain inaccessible and unusable because

- Textbooks may only briefly, or not at all, attend to the legal requirements.
- Textbooks do not address the ethical considerations of accessibility design in discussions of communication ethics.
- Textbooks do not address how to design for users with disabilities.
- When communicators, both in the classroom and in practice, analyze their audiences, they may only consider the ideal audience, not the actual audience.
- Disabled users are not involved in the design process or usability testing.

To expand on professional communicators' understanding of accessible design, this article advocates grounding discussions of accessibility and usability in disability studies. Moreover, though I recognize accessible classrooms are also legally protected and we should strive to ensure our classrooms are accessible (Armstrong, 2009; Case & Davidson, 2011; Coombs, 2010; Nielsen, 2013, 2016; Oswal & Hewett, 2013), this article's focus is to prepare students to create these accessible documents.

Literature Review

Though the interdisciplinary field of disability studies has grown over the past decade, little research has been done on disability studies and professional communication. Jameson (2013) is one of the few scholars that specifically addressed business communication and usability but does not necessarily do so from a disability studies perspective. Thus, disability studies approaches have been so far absent from business communication research and scholarship of pedagogy. To show the relevance of disability studies to business and professional communication, I draw from the related discipline of technical communication (Colton & Walton, 2015; Elmore, 2013; Gutsell & Hulgín, 2013; Jarrett, Redish, & Summers, 2013; Meloncon, 2013; Oswal, 2014; Oswal & Hewett, 2013; Palmeri, 2006; Walters, 2010).

Disability Studies and Audience Analysis

Audience analysis provides professional communicators the opportunity to determine a document's users and how best to make documents accessible and usable. Communicators, students, and professionals alike, however, must be wary of designing for specific disabilities or ignoring the disabled user altogether because when communicators design for a specific disability or create accessibility measures for a specific, often visible disability, users still get left out and are forced to look for alternatives (Palmeri, 2006; Walters, 2010).

Audience analysis, when paired with an awareness of diverse users, provides communicators with the opportunity to consider a universal rather than an ideal audience. When communicators imagine this universal audience through the lens of disability studies, they should consider not just those with disabilities, but also the "elderly, parents with small children, and even those with minor injuries" (ISO, 2014a, p. 23), language learners, and people with varied abilities to access technology (Nielsen, 2016). This robust universal audience increases the potential to improve everyone's usability, the ultimate result of transformative usability.

Participatory Design, Usability Testing, and Accessibility

In addition to courses that integrate disability studies to broaden communicators' conceptions of audiences, teaching participatory design can also increase accessibility and make communicators more aware of diverse needs. Iterative, recursive design practices help determine how people interact with documents. Ideally, in participatory

design, which occurs when a “running prototype [is] tested ‘in the wild’ by users in a real use context” (Bratteteig & Wagner, 2014, p. 3), designers work with users throughout the design process, adapting and changing the design because participatory designers seek to actively integrate all users into the design process (Bratteteig & Wagner, 2014). Participatory design becomes relevant to professional communicators working through a disability studies lens: If communicators are designing with an audience that includes a variety of users, then the feedback they receive during the design process should highlight inaccessible and unusable texts.

Usability testing complements participatory design by asking end users to complete tasks. Jameson (2013) explained the importance of teaching usability testing to business communication students: When communicators watch their audience use documents, and succeed or fail, they learn how to better analyze their audiences, what good communication looks like, and how to interact with users. Users with different skill sets than the writers also allow communicators to understand the differences in how people approach documents, but if users with disabilities or those outside of the ideal audience are not included, then usability testing does not ensure full accessibility and usability.

Usability testing, especially, and participatory design have a long history in technical communication practice (Redish, 2010), but a spottier history in technical communication pedagogy (Breuch, Zachry, & Spinuzzi, 2001). Despite calls for more participatory design and usability testing instruction, few scholars not explicitly engaged with disability studies frameworks have mentioned involving those with disabilities because it requires considerably more work (Redish, 2010). Oswal (2014) opened his article proclaiming, “Scholars . . . have not paid enough attention to the use of disabled participants in their work” (p. 14). Oswal’s (2014) article drew heavily from examples that require assistive technology for those with vision impairments, adding that many designers do not work with users who have sensory disabilities like blindness or deafness, and Elmore (2013) explained that users on the autism spectrum are often left out of the design process because researchers do not think that autistic users can be useful. When designers do not even interact with or test their products with the diverse communities using them, it is almost certain that problems will occur. Technical communicators should recognize the legal requirements, yet unless diverse users interact with documentation during the design process and communicators understand the pitfalls of adaptive technologies (Oswal, 2014), the legal protections may not actually resolve accessibility problems.

Integrating Transformative Design Practices Into the Professional Writing Classroom

In this section, I outline a unit plan that introduces the major components of professional writing, disability studies, usability, and accessibility. The units draw heavily on audience analysis, one of the most important components of business and professional communication that enhances usability and accessibility. The plan encourages

communicators to think about diverse audiences, including those that include people with disabilities. Additionally, I recognize that many classrooms include students with disabilities, and instructors should not alienate these students or use them as exemplars in discussions.

This plan is intended to be a complete semester course. Each unit poses a framing question that is especially appropriate for general or introductory business and professional communication courses. Units 2, 3, and 4 can be taught in any order, allowing flexibility for computer labs, breaks, and an instructor's own familiarity with material. When appropriate, I include accessible disability studies readings. Instructors might choose to use these readings while preparing for class or share them with students. The four units include the following:

- Unit 1: What is business and professional communication, and who is the audience?
- Unit 2: What are the ethics of business and professional communication?
- Unit 3: What multimedia genres do business and professional communicators use?
- Unit 4: How do we design business and professional communication?

The deliverables created include memos, job documents, multimedia, and reports.

Unit 1: What Is Business and Professional Communication?

This unit is the shortest and focuses primarily on general business and professional communication, the rhetorical situation and audience analysis, the ADA and Rehabilitation Act, and an introduction to critical disability studies, particularly the social model of disability.

Helping students understand what professional communication is, where it is used, and who creates and uses it ensures students know how these documents fit their communication needs. The introductory chapters of most textbooks cover the question "What is professional communication?" Many textbooks, however, do not include thorough information about accessibility and the law in these opening chapters or anywhere else. Thus, in addition to introducing students to professional communication, faculty should include discussions about communicators' legal and ethical responsibilities. Because one of the biggest problems with accessible design is the real and perceived absence of designers and users with disabilities, teaching students the demographics of users, such as those introduced in this article's introductory paragraph, may help them understand the lesson's exigency. Moreover, these statistics should help students realize that accessibility concerns are not limited to disabilities they can see.

An accessible reading (and example of professional communication) is the U.S. Department of Justice's (2014) "Effective Communication" memo that outlines the 2010 updates to the ADA and includes an overview of the law, explanations of auxiliary aids and services, and examples of effective communication. This memo is especially useful to help students imagine situations where they need to accommodate a

user. One limitation is that it privileges the less preferred accommodation strategies rather than designing for diverse users from the start. Later in the semester, as students learn about design options that benefit multiple users instead of specific users, it may be helpful to return to this conversation to talk about the differences between a retrofit accommodation and user-centered design practices.

With an understanding of basic legal responsibilities, students may be better equipped to imagine a diversity of users. To help students understand the variety of genres, instructors should have students bring in different workplace documents. Moshiri and Cardon (2014) reported that of 169 survey participants, more than 50% taught business proposals, bad-news messages, job documents, positive messages, and persuasive messages. These documents are easily accessible to students and also must be used by and made accessible to diverse users. These discussions can broaden students' conceptions of users.

To discuss diverse audiences and uses, faculty should teach the rhetorical situation: audience, context, and purpose. When discussing audience, instructors should remind students of the discussion of their legal and ethical responsibilities to ensure accessibility. It is helpful to have students brainstorm accessibility problems with the documents and ways to solve those problems. To push students to imagine audiences that are broader than an ideal audience, instructors should ask students to consider what assumptions the communicators make about their users:

- Who uses the document?
- Where will it be used?
- What type of technology might be used to read it?
- What skills, prior knowledge, or abilities must a reader have to use the information?

Knowing the answers to these questions, students can consider other users for whom the documents are inaccessible. For instance, a student may bring in a report with red and green graphs that are not discussed in the report body. A colorblind user, then, may not be able to read the graphs. An easy solution to this problem is clearly describing the information found in the graphs in the body. During this brainstorming session, instructors should introduce concepts of participatory design, reminding students of users they might not automatically think of, and the importance of including diverse users in document development.

This opening unit also introduces students to basic disability studies research. Goodley (2010) introduced disability as a "social, cultural, and political phenomena" (p. 1). Taught alongside the above definitions from the WHO and ISO, students will have a better understanding of how disability works in the world. Because disability studies research will probably be new to students, instructors may want to point the students to specific sections of Goodley's work. For instance, in the introduction, the sections on "Defining disability: from pathology to politics" and "Disability studies perspectives" provide specific examples of the medical, moral, and social models. Helping students move their perspective on disability from a medical or charity model

to a social model may help them better imagine why accessible and usable documents are ethical. An understanding of the social model of disability will also help students understand the difference between usability and accessibility.

In addition to memos responding to the design decisions analyzed, the major assignment for the first unit requires that students create job documents—a résumé and cover letter—for a real job listing. Not only is the job application package one of the most popular assignments (Moshiri & Cardon, 2014), but the close attention to the rhetorical situation these genres require provides an opportunity for students to practice their rhetorical analysis skills. In designing their job documents, ask students to reflect on how they are usable for a variety of readers.

Unit 2: What Are the Ethics of Business and Professional Communication?

Undoubtedly, students will be fairly familiar with ethics through academic honesty policies, and some students may have been introduced to the topic in a business ethics or philosophy course. Scandals like the collapse of Enron, subprime mortgage crisis, and lead-contaminated water in Flint, Michigan, are appropriate examples of ethics in communication and are easily recognizable as ethical breaches. Copyright and trademark infringement are also commonly covered ethics topics for communicators. Business and professional communication textbooks often discuss ethical frameworks that practitioners can follow such as rights, fairness/justice, common good, virtue, and utilitarian. In the classroom and training sessions, instructors can use the examples discussed below to illustrate how these different ethical constructions work in business and professional communication.

Design accessibility is an ethical concern that most often fits under fairness/justice and utilitarian frameworks. The fairness/justice framework examines how people can be treated fairly or with a just attitude. When it comes to designing documents, if a client or customer cannot read a text because it is inaccessible, then the person is not being treated fairly. The utilitarian framework seeks to create the greatest amount of good for the greatest number of people with the least amount of harm. Creating documents that are accessible to the most users possible—the universal audience—follows utilitarianism.

As students learned in the opening unit, there are certain legal accommodations that communication must follow. Ethics go beyond legal requirements, however. When presenting ethics, disability, and accessibility, faculty should not present disability through the lens of the charity model, or the construction of people with disabilities as those who should be pitied. Instead, faculty should present accessible design as transformative and inclusive, which is why it falls under the fairness and utilitarian frameworks. Roy (2015) asked her audience to consider the transformative, or utilitarian, potential of designing with disability in mind: “What if we changed our mind-set? What if we started designing for disability first, not the norm?” (6:00). Here, Roy (2015) sees the “norm” as able-bodied users. To illustrate what happens when we “design for disability first,” Roy (2015) described safety glasses that change color

when they sense, through a change in pitch, a table saw is going to kick back (designed for those with hearing impairments but which ultimately alert hearing users as well).

Like Roy's technological example, business and professional communication can also be transformative in its design, ensuring accessibility for those with disabilities and allowing better access for people without disabilities. For instance, menus that include pictures, in addition to words, that customers can point to help a variety of customers; those with speech-related disabilities, those who may have temporarily lost their voice, travelers, and language learners all benefit from this document that is more widely accessible than a menu with words only. As a class exercise, ask students to bring in documents that have broad audience usability, like the menus discussed above, and complete exercises about how one design improves the usability for different groups of people. Instructors can return to the questions from above:

- Who uses the document?
- Where will it be used?
- What type of technology might be used to access it?
- What skills, prior knowledge, or abilities must a reader have to use the information?
- How do these more accessible documents fit into the ethical frameworks we have discussed?

Yet, this time, because students have spent time thinking about diverse audiences and the documents are more attentive to diverse usability needs, the answers should be more inclusive.

Websites can also provide for this transformative or flexible use. The World Wide Web Consortium (2005) explained websites that are accessible for users with disabilities also provide "flexibility" for users with poor Internet access, temporary injuries, or who are experiencing a decline in manual dexterity or sight due to aging. This flexibility is the transformative usability that Meloncon (2013) and Roy (2015) tout and also works well within discussions of ethical frameworks.

Accessible website development influences business and professional communication. Childers and Kaufman-Scarborough (2009) explored online shopping by users with disabilities and found that those with disabilities purchase goods online at a lower rate than those without disabilities and may experience fatigue or a lack of time because websites require exhaustive use of assistive technologies. In a second study, they argued that visually impaired customers can find websites difficult to navigate even though online shopping can provide them more options (Kaufman-Scarborough & Childers, 2009). In both studies, they recommended more research to determine the best ways to design retail websites for all users.

Informational websites and those with heavy reading loads can also benefit from redesigns. Jarrett et al. (2013) explained that designing for readers who have difficulty reading also helps those who are "high-literacy users" (p. 51). They described a study in which a poorly designed website was tested for time to task completion, success rate, and user satisfaction. The researchers revised the website and retested. After

revisions, researchers found that all three areas increased, but what surprised them most was that both the high-literacy and low-literacy users improved significantly; the time on task improved by 182% for the high-literacy users and 134% for the low-literacy users (Jarrett et al., 2013). Thus, redesigning the website specifically for the low-literacy users helped *everyone*. These revisions were not the result of charity, accommodation, or legal requirements but, rather, looked to employ both a “disability first” framework that helps communication practices be more ethical under fairness and utilitarian frameworks. Marketing, business, and public relations professionals—who increasingly use web-based technology to reach customers and clients—must understand how their websites are able to sell their products and inform consumers or constituents. Instructors might use these three short studies to encourage students to look at the implications of website design, how websites have changed accessibility features, and what types of websites best consider readability and audience.

An appropriate assignment for this unit is the revision and analysis of a poorly designed communication, such as a template or website. To teach students to design for disability first, instructors should introduce plain language, clear visual design, and accessible graphics. Jarrett et al. (2013) provided a clear introduction to document design that focuses both on reading and visual design. This chapter would be appropriate for students who are familiar with professional writing at a variety of levels. Additionally, even though plainlanguage.gov, the government’s plain language website, is specifically for federal employees, the information on the “Federal Plain Language Guidelines” page clearly explains plain language and provides examples to implement it.

Unit 3: What Multimedia Genres Do Business and Professional Communicators Use?

In addition to traditional written documents, professional communication classes often include multimodal work such as oral presentations, podcasts, Prezis, PowerPoints, YouTube videos, and websites. Multimodality requires discussions about how media is accessible and inaccessible to various users (Walters, 2010) and also presents instructors with the opportunity to address some of the most common ways to make documents accessible. No matter which unit is taught directly after Unit 1, instructors should teach Roy’s (2015) argument to “design for disability first, not the norm” (6:00). Thus, if faculty choose to teach multimedia before ethics, that information should be addressed in this unit.

Multimedia and new media, on the one hand, can make access easier. Web pages can be designed so that changing font size is as simple as one click, or previously static text documents may be posted as podcasts, videos, or scannable PDFs and Word documents. New media, on the other hand, can also alienate users, making it impossible for them to access information. Zdenek (2009) explored accessibility problems with podcasts, explaining that podcasters practice ableist assumptions when they do not include textual descriptions, captions, and scripts. When creators do not provide different ways to access the podcast, they assume their users can hear the podcast. Moreover, in Zdenek’s (2009) literature review, he recognized that access is noted, but that research only addressed inaccessibility as a result of technical problems and not disability. New media often

requires the reminder that accessibility is not just a matter of disability but also time and technological access. When podcasters provide transcripts, captions, and descriptions, accessibility improves for all users, whether they cannot access a podcast because they are d/Deaf or hard of hearing, have a difficult time maintaining focus when listening, or because their computer cannot access the file. Teaching multimodality and genre simultaneously starts to address universal design (UD) principles explored in Unit 4.

Zdenek (2009) and Pass (2013) explored the accessibility of digital texts. Zdenek (2009) is more appropriate as a classroom reading because the author explains how podcasters ignore accessibility through assumptions about their audiences. Because the article is an open-source, online publication and can be downloaded as a PDF or read on the screen, the text offers the opportunity to talk about how *Computers and Composition Online* has designed its access in a variety of ways. Pass (2013) serves as an appropriate source for instructors interested in learning about web and digital text accessibility, but it is less useful for student reading. An appropriate assignment for this unit asks students to create multimodal texts and analyze the accessibility features. For instance, students could create accessible podcasts or design accessible instruction sets using multimedia tools.

Practitioners in the industry can also use information in this unit to consider how the multimedia they produce meets the needs and expectations of their customers. For instance, communicators should note whether videos posted to their websites include captions, descriptions, or scripts. They should inspect images on the websites to ensure that each one includes alternative text that allows screen readers or slow Internet connections to communicate those images to the user. Students and professionals alike should attend to the usability and accessibility concerns that Zdenek (2009) and Pass (2013) discussed.

Unit 4: How Do We Design Business and Professional Communications?

When professional communicators consider equitable and flexible use, they should consider how design ensures multiple users can use the same texts. Unit 4 provides lessons in how to create accessible design through an emphasis in UD, participatory design, and usability testing.

Even though UD was first designed for engineering and architecture, communicators also implement it to create universally accessible documents. UD comes with caveats, however. Sandhu (2011) argued that UD should be used alongside participatory design and usability testing, for UD with its “principles, prescriptions, and formulas” cannot “bring about knowledge, understanding or better design” unless it is accompanied by “experience” (p. 44.7). Jay Dolmage (2015) articulated this same need for practitioners to use experience when working with UD. Dolmage (2015) cautioned readers not to allow UD to become a “checklist” of things one does. When UD is a checklist, it removes all rhetorical, situational, and experience-driven information from the task at hand. It turns it into Sandhu’s (2011) “principles, prescriptions, and formulas.” Dolmage (2015) argued that instead

UD should be registered as action—a patterning of engagement and effort. The push towards “the Universal” is a push towards seeing space as multiple and in-process. The

emphasis on “design” allows us to recognize that we are all involved in the continued production of space. (para. 2)

In other words, in Unit 4, it is not enough for communicators to learn the seven major principles of UD I outline below. Instead, these principles must be used in conjunction with participatory design and usability testing that includes inclusive, diverse audiences.

UD consists of seven major principles: (a) equitable use, (b) flexibility in use, (c) simple and intuitive use, (d) perceptible information, (e) tolerance for error, (f) low physical effort, and (g) size and space for approach and use (Steinfeld & Maisel, 2012). The first six principles are most relevant to professional communication. Equitable use, flexibility in use, and low physical effort encourage designing not with specific disabilities in mind but, rather, designing for multiple uses so everyone can access information in the same space but in different ways. One easy-to-imagine segregative practice that occurs is when architects add ramps to the back of an older building with steps at the front. The different users are separated based on whether they must use the ramp; ideally, all users would be able to use the same entrance.

Business and professional communicators can address equitable, flexible, and low effort use in a variety of ways. For instance, a podcast accompanied by a transcript on the same page, a website that has been designed so that screen enlargers or screen readers can read it, and font size that can be changed with one click all exemplify UD. These design choices benefit those with disabilities, users who read a transcript faster than listening or prefer to listen to a webpage being read, or users who need to see larger text if they use the screen for instructions while working on a project. When we teach students to design for multiple uses and users, they can transform the communication, benefiting everyone.

The final two topics in this unit are participatory design and usability testing. These topics should have been briefly introduced in the first unit to help students imagine how to be mindful of diverse users and understand how contexts or environments disable. In this unit, they can be expanded on and used in assignments. Still and Albers (2010) reminded readers that documents are shaped by cultural and physical contexts and environments. Much like the social model of disability, which argues that environments disable, Still and Albers (2010) reinforced the idea that culture—the environment—always already affects how users interact with documents; however, disability is rarely included in the history of usability studies even though it benefits from engaging users with disabilities. The purpose of participatory design is to ensure diverse users participate throughout the design process. Even though designers and practitioners outside of business and professional communication have explored inclusive participatory design in website design, online communication, and interaction, the same needs to happen in business and professional communication. Usability testing should occur at the end of the design process and include diverse users.

Instructors should emphasize that participatory design and usability testing should be about including diverse users and ensuring users have power within the design process. Students must be urged not to approach the design process with pity. Additionally, faculty should not encourage students to “try on” a disability—for instance, blindfolding themselves to use a screen reader—as an alternative to involving users with disabilities. In doing so, students support the medicalization of disability—that there is something wrong with a disabled body—rather than support the social construction of

disability that asks us to see how environments disable. The introduction to critical disability studies early in the course should help students understand the inappropriateness of such a solution. Instead, students should be familiar with adaptive technology and different ways people access information and include users with disabilities, whether those users are friends, family, classmates, or community members.

If instructors have not already had students watch Roy's (2015) TedX talk, introducing it when you talk about participatory design and usability would be appropriate. Students might also read work by usability expert Janice Redish. In addition to "Designing for People Who Don't Read Easily" (Jarrett et al., 2013), "Bridging the Gap between Accessibility and Usability," by Mary Frances Theofanos and Redish (2003), provides more information about how to think about accessibility, usability, and user-centered design. Oswal's (2014) "Participatory Design: Barriers and Possibilities" is a short piece that specifically addresses participatory design and the importance of including users with disabilities. Assigning this piece and Theofanos and Redish's (2003) article at the beginning of discussions about participatory design and usability testing reinforces including users with disabilities.

An appropriate assignment for this unit is one that requires students to test their documents and work with a variety of users. Students should test not only with users with disabilities but also language learners, those who are younger or older than they, and those with less expertise—anybody who has the potential to use the document. Instruction sets or websites are traditional sites of participatory design and usability tests, and they can include multiple genres of business and professional communication. If communicators create usable and accessible texts for a variety of audiences, they will be able to see how their design decisions that specifically increase usability for one group transform the usability of other groups.

Like many of the assignments created for this course plan, this unit requires communicators to analyze their audience, consider how they will use the documentation, and create documents for multiple users. Business and professional communication students are not the only ones who benefit from such reflection. Practitioners and those who provide professional development for working writers will be able to use the exercises and information in their own workplace training sessions. For instance, communicators creating a new website, crafting advertisements, or designing an instruction manual should be encouraged first to analyze the possible audience and, second, to work with that inclusive audience during design and testing.

Conclusion

This article has addressed the importance of teaching transformative usability and accessibility concepts through the lens of disability studies in general business and professional communication courses. When students learn to analyze audiences, include diverse users, and foresee accessibility *before* the final draft because they practice user-centered design, their documents become more accessible for all users and situations. The four-unit course plan integrates necessary disability studies and usability information, including legal requirements that are part of the ADA and the Rehabilitation Act, showing instructors how to introduce students to "designing for disability first, not the norm."

Appendix

	Learning objectives	Major topics	Assignments	Unit connections	Timeline
Unit 1	- Define professional communication - Apply the rhetorical situation to communication documents - Understand the ADA and Rehabilitation Act and their application to professional communication - Define the social, medical, and charity models of disability	- Definitions and examples of professional communication - Rhetorical situation - ADA and Rehabilitation Act - Disability studies theories	- Write a memo explaining the rhetorical situation of a common professional document that addresses accessibility concerns - Create job documents and reflect on the usability of those documents for diverse users		2 weeks
Unit 2	- Identify different ethical frameworks and how they might be used in professional communication - Define usability testing and participatory design	- Ethical frameworks - Transformative and inclusive design - Usability testing - Participatory design	- Write a memo that applies an ethical framework to a document - Analyze and redesign an inaccessible text	- Extends discussions of models of disability - Requires students to apply the rhetorical situation to texts	4 weeks
Unit 3	- Identify digital genres of professional communication - Understand the relationship between accessibility and technology	- Accessibility, digital texts, and technology limitations - Podcasts - Websites - Prezi - PowerPoint	Create an accessible multimedia text and write a report analyzing the accessibility barriers for all users	- Encourages discussion of accessibility barriers for all users - Discussions of additional genres attended to in Units 1 and 2	4 weeks
Unit 4	- Implement participatory design and usability testing with diverse audience groups - Observe users using assistive technologies during participatory design and usability testing sessions - Identify the seven principles of UD and apply them to professional communication in conjunction with participatory design and usability testing	- Universal design - Participatory design - Usability testing	Design, test, and revise a professional communication document using inclusive design practices such as UD, participatory design, and usability	- Requires audience analysis - Extends the social model of disability - Emphasizes genre	6 weeks

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References

- Armstrong, H. L. (2009). Advanced IT education for the vision impaired via e-learning. *Journal of Information Technology Education*, 8, 243-256.
- Banning-Lover, R., & Purvis, K. (2016, June 22). Disability rights around the world: From 1944 to the present day. *The Guardian*. Retrieved from <https://www.theguardian.com/global-development-professionals-network/ng-interactive/2016/jun/22/disability-rights-around-the-world-from-1944-to-the-present-day>
- Bratteteig, T., & Wagner, I. (2014). *Disentangling participation: Power and decision-making in participatory design*. New York, NY: Springer.
- Breuch, L.-A. M. K., Zachry, M., & Spinuzzi, C. (2001). Usability instruction in technical communication programs: New directions in curriculum development. *Journal of Business and Technical Communication*, 15, 223-240.
- Case, D. E., & Davidson, R. C. (2011). Accessible online learning. *New Directions for Student Services*, 134, 47-58.
- Childers, T. L., & Kaufman-Scarborough, C. (2009). Expanding opportunities for online shoppers with disabilities. *Journal of Business Research*, 62, 572-578.
- Chiu, M. (2013, March 14). The occupations of workers with disabilities [Blog post]. Retrieved from <https://www.census.gov/newsroom/blogs/random-samplings/2013/03/the-occupations-of-workers-with-disabilities.html>
- Colton, J. S., & Walton, R. (2015). Disability as insight into social justice pedagogy in technical communication. *Journal of Interactive Technology & Pedagogy*. Retrieved from <https://jitp.commons.gc.cuny.edu/disability-as-insight-into-social-justice-pedagogy-in-technical-communication/>
- Coombs, N. (2010). *Making online teaching accessible: Inclusive course design for students with disabilities*. San Francisco, CA: Jossey-Bass.
- Disability Rights Education & Defense Fund. (2017). *International laws*. Retrieved from <https://dredf.org/legal-advocacy/international-disability-rights/international-laws/>
- Dolmage, J. (2015). Universal design: Places to start. *Disability Studies Quarterly*, 35(2). Retrieved from <http://dsq-sds.org/article/view/4632/3946>
- Elmore, K. (2013). Embracing interdependence: Technology developers, autistic users, and technical communicators. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 15-38). Amityville, NY: Baywood.
- Goodley, D. (2010). *Disability studies: An interdisciplinary introduction*. Thousand Oaks, CA: Sage.
- Gutsell, M., & Hulgín, K. (2013). Supercrises don't fly: Technical communication to support ordinary lives of people with disabilities. In L. Meloncon (Ed.), *Rhetorical accessibility: At*

- the intersection of technical communication and disability studies* (pp. 83-94). Amityville, NY: Baywood.
- Hulgin, K., O'Connor, S., Fitch, E. F., & Gutsell, M. (2011). Disability studies pedagogy: Engaging dissonance and meaning making. *Review of Disability Studies*, 7(3-4), 52-66.
- International Organization for Standardization. (2014a). *Annual report 2014: Taking standards forward*. Retrieved from https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/annual_report_2014_en_-_lr.pdf
- International Organization for Standardization. (2014b). *Guide 71: Guide for addressing accessibility in standards* (2nd ed.). Retrieved from http://isotc.iso.org/livelink/livelink/fetch/2000/2122/4230450/8389141/ISO_IEC_Guide_71_2014%28E%29_Guide_for_addressing_accessibility_in_standards.pdf?nodeid=8387461&vernum=-2
- Jameson, D. A. (2013). New options for usability testing projects in business communication courses. *Business Communication Quarterly*, 76, 397-411.
- Jarrett, C., Redish, J., & Summers, K. (2013). Designing for people who do not read easily. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 39-66). Amityville, NY: Baywood.
- Kaufman-Scarborough, C., & Childers, T. L. (2009). Understanding markets as online public places: Insights from consumers with visual impairments. *Journal of Public Policy & Marketing*, 28, 16-28.
- Lewin, T. (2015, February 12). Harvard and M.I.T. are sued over lack of closed captions. *The New York Times*. Retrieved from <https://www.nytimes.com/2015/02/13/education/harvard-and-mit-sued-over-failing-to-caption-online-courses.html>
- Meloncon, L. (2013). Introduction. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 1-14). Amityville, NY: Baywood.
- Moshiri, F., & Cardon, P. (2014). The state of business communication classes: A national survey. *Business and Professional Communication Quarterly*, 77, 312-329.
- National Center for Education Statistics. (2016). *Fast facts: Students with disabilities*. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=60>
- Nielsen, D. (2013). Universal design in first-year composition: Why do we need it, how can we do it? *CEA Forum*, 42(2), 3-29.
- Nielsen, D. (2016). Can everybody read what's posted? Accessibility in the online classroom. In D. Ruefman & A. G. Scheg (Eds.), *Applied pedagogies: Strategies for online writing instruction* (pp. 90-105). Logan: Utah State University Press.
- Orrick, Herrington, & Sutcliffe LLP. (2014, December 24). *The next frontier in ADA litigation: Website and app access for the disabled*. Retrieved from <http://www.jdsupra.com/legal-news/the-next-frontier-in-ada-litigation-we-34852/>
- Oswal, S. K. (2014). Participatory design: Barriers and possibilities. *Communication Design Quarterly Review*, 2(3), 14-19.
- Oswal, S. K., & Hewett, B. L. (2013). Accessibility challenges for visually impaired students and their online writing instructors. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 135-156). Amityville, NY: Baywood.
- Palmeri, J. (2006). Disability studies, cultural analysis, and the critical practice of technical communication pedagogy. *Technical Communication Quarterly*, 15, 49-65.
- Pass, E. (2013). Accessibility and the web design student. In L. Meloncon (Ed.), *Rhetorical accessibility: At the intersection of technical communication and disability studies* (pp. 115-134). Amityville, NY: Baywood.

- Redish, J. (2010). Technical communication and usability: Intertwined strands and mutual influences. *IEEE Transactions on Professional Communication*, 53, 191-201.
- Roy, E. (2015, September n.d.). Elise Roy: When we design for disability, we all benefit [Video file]. Retrieved from http://www.ted.com/talks/elise_roy_when_we_design_for_disability_we_all_benefit
- Sandhu, J. S. (2011). The rhinoceros syndrome: A contrarian view of universal design. In W. F. E. Preiser & K. H. Smith (Eds.), *Universal design handbook* (2nd ed., pp. 44.3-44.11). New York, NY: McGraw-Hill.
- Steinfeld, E., & Maisel, J. (2012). *What is UD?* Retrieved from <http://www.universaldesign.com/what-is-ud/>
- Still, B., & Albers, M. J. (2010). Editorial: Technical communication and usability studies. *IEEE Transactions on Professional Communication*, 53, 189-190.
- Straumsheim, C. (2016, February 23). Harvard accessibility lawsuit moves forward. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/quicktakes/2016/02/23/harvard-accessibility-lawsuit-moves-forward>
- Theofanos, M. F., & Redish, J. (2003). Bridging the gap: Between accessibility and usability. *Interactions*, 10(6), 36-51.
- U.S. Department of Health and Human Services. (n.d.). *3:1 Comply with section 508*. Retrieved from <http://guidelines.usability.gov/guidelines/28>
- U.S. Department of Justice. (2009). *A guide to disability rights laws*. Retrieved from <https://www.ada.gov/cguide.htm#anchor62335>
- U.S. Department of Justice. (2014). *Effective communication*. Retrieved from <https://www.ada.gov/effective-comm.htm>
- Walters, S. (2010). Toward an accessible pedagogy: Dis/ability, multimodality, and universal design in the technical communication classroom. *Technical Communication Quarterly*, 19, 427-454.
- World Health Organization. (n.d.-a). *Disabilities*. Retrieved from <http://www.who.int/topics/disabilities/en/>
- World Health Organization. (n.d.-b). World report on disability. Retrieved from http://www.who.int/disabilities/world_report/2011/report/en/
- World Wide Web Consortium. (2005). *Introduction to web accessibility*. Retrieved from <https://www.w3.org/WAI/intro/accessibility.php>
- Zdenek, S. (2009). Accessible podcasting: College students on the margins in the new media classroom. *Computers and Composition Online, Fall*. Retrieved from http://cconlinejournal.org/Zdenek_Word_version_CConline.pdf

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