Increasing Access and Success in Online Education for Students with Disabilities

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Abstract

Counselor educators are legally and ethically required to support individuals with disabilities in their courses. While this presentation focuses on visual and auditory impairments, all students benefit when accommodations and adaptations support a wide range of learning styles. The authors provide web accessibility principles and guidelines and operationalize practical suggestions for coursework. Off-the-shelf assistive technologies are readily available to support learners. Educators are encouraged to test course materials using assistive technologies to better understand how students with disabilities experience their courses.

Keywords: Accessibility, accommodations, assistive technologies, adaptations, audio and visual impairments

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Auditory and visual impairments can interfere with a student's ability to succeed in higher education. Approximately 37.5 million people aged 18 and over report some trouble hearing (NIDCD, 2021). Twelve million people in the United States over 40 years of age have impaired vision. Eight million have vision impairments that remain uncorrected with glasses, with one million legally blind (CDC, 2020). Nearly 50 million adults have either an auditory or visual impairment that can negatively impact their ability to participate successfully in academic coursework. Fortunately, there are design concepts and technologies faculty can implement to reduce these negative impacts.

Legal Mandates

Educators are legally required to accommodate students with auditory and visual impairments and provide needed resources to improve access and success. Section 504 of the Rehabilitation Act of 1973 outlines the legal requirements (Office for Civil Rights, n.d.). Accommodations should be reasonable, defined as "....modifications in policies, practices, or procedures" that enable the student to take full advantage of the institution's programs and activities (Office of Civil Rights, n.d.) Accommodations should reflect some understanding of the course requirements and fit the assignments in the course. Accommodations are not required if they would: 1) result in a fundamental alteration to the services being provided; 2) compromise academic requirements essential to the program of instruction being pursued, or to any directly related licensing requirements; or 3) impose an undue burden on the institution. Thus, accommodations should not change the fundamental nature of the course or course requirements, or the ability of the faculty member to assess student learning outcomes.

Ethical Responsibilities

In addition to legal obligations, there are ethical obligations as well. The American Counseling Association (ACA) Code of Ethics (2014) does not directly address online education, but a related statute in section H.5.d. on Multicultural and Disability Considerations states, *"Counselors who maintain websites provide accessibility to persons with disabilities. They provide translation capabilities for clients who have a different primary language, when feasible. Counselors acknowledge the imperfect nature of such translations and accessibilities."* The overall spirit of this statute is that counselors (and faculty) should increase access to services for all.

There is often confusion between legally mandated disability accommodations and non-legal courtesy accommodations (e.g., electrical outages, wildfires, temporary illness, etc.). Although some student challenges do not trigger the requirement for legal disability accommodations, it can be argued that some circumstances still warrant a compassionate understanding and response.

Disability-Related Challenges

Online education is challenging, with a heavy reliance on visually-oriented readings, PowerPoint slides, faculty lectures, class discussions, and videos (Edmonds, 2014). Students with visual impairments can be challenged to extract the information they need from these resources. Visual impairments are exacerbated by small font sizes and low-contrast colors. For those using screen readers, the lack of embedded descriptions can make it difficult for them to perceive and understand images and graphical material. Limited availability of alternative formats for books and articles, such as audio files and Braille text, may make course participation difficult, if not impossible.

Online learners with hearing impairments can be challenged when they lack access to closed captioning or written transcripts. Complex or jargon-heavy language can make the content difficult for everyone to understand course material, especially individuals with learning disabilities and non-native speakers. When students find it difficult to fully understand what is occurring during a class session they are more likely to withdraw, become passive observers, and ultimately feel like outsiders (Leppo et al., 2014).

Assistive technologies such as screen readers and text-to-speech software can help; this assumes students have access to the technologies and the course materials are optimized to take advantage of them. For example, web pages not properly formatted will cause screen readers to generate confusing gibberish-sounding translations. Portable document format (PDF) articles created improperly can strip away embedded text, cause the document to become a picture or graphic, and make it impossible for a screen reader to identify anything to convert to audio. In summary, students with disabilities will find it difficult, if not impossible, to succeed when courses are not disability-friendly, there is limited institutional support, or there is an overall lack of effective accommodations to facilitate alternative learning formats.

Accommodation and Adaptation

There is a rich literature on how educators can help students succeed in their classroom environment. In the early 1970s, Kephart (1970) began advocating for a *continuum of services* model in education, forwarding a wide range of targeted services to address each student's specific needs. Instructors can make minor changes without much effort, but for some more difficult cases, courses will likely require major alterations of educational presentations for the length of the student's educational career[s]. In these cases, the faculty may need more intensive assistance.

Two more important concepts related to disabilities are accommodation and adaptation. *Accommodations* tend to be individually focused and represent an individualized change. *Adaptation* is where faculty make changes for the entire course experience so that all students may participate. Adaptations thus represent an accommodation for the entire class, facilitating learning for everyone. In concept, as more accessibility adaptations are built into courses up front, fewer individual accommodations are needed to improve access. Universal Design for Learning Guidelines (CAST, n.d.) expand upon this concept and provide a framework, tools, and techniques to help faculty adapt their coursework to serve the broadest student constituency.

Web Content Accessibility Guidelines

The Web Content Accessibility Guidelines (WCAG) (W3C, 2023) are a commonly accepted framework for operationalizing and understanding the concept of access. Although these principles were initially developed for the world wide web, faculty can apply them to any digital product or service, including their online coursework. The WCAG comprises a set of technical standards developed to improve the accessibility of web content, websites, and web applications for people with a broad range of disabilities - including physical, cognitive, auditory, neurological,, speech, and visual disabilities. The WCAG is organized into four principles stating that content should be *Perceivable*, *Operable, Understandable*, and *Robust*. The four principles comprise the acronym POUR (W3C, n.d.).

Perceivable information means the user must be able to adjust color contrast, font size, or captions in order to improve their access to the information. *Operable* means giving the user the ability to move beyond mouse or touch screen inputs to using keyboard or voice commands. *Understandable* requires information and instructions to be clear and easy to navigate and use.

Robust content needs to be easily and reliably interpreted by a wide variety of users employing assistive technologies.

Practical Applications

Complying with federal requirements and implementing WCAG POUR guidelines may initially seem daunting, but there are simple first steps to help students with auditory and visual impairments. These steps include: 1) providing written transcripts or captions for audio and video content in order to allow individuals with hearing impairments to access the content; 2) offering audio descriptions of visual content, such as images and videos, to help individuals with visual impairments understand the text and graphics; 3) using clear, concise language and avoiding jargon to make content more accessible to non-native speakers and individuals with learning disabilities; 4) using large font sizes and high-contrast colors to make the text easier to read for individuals with visual impairments; 5) providing alternative formats for materials, such as audio files or Braille; and 6) offering accommodations such as additional time for assignments to ensure that all students have an equal opportunity to succeed in a course.

Course Assessment for Accessibility

It is recommended that instructors try out assistive technologies to better understand how students with visual impairments will perceive the material assigned to them. Fortunately, Windows 11 has a built-in screen reader called Narrator (Microsoft, n.d. a) along with a suite of other programs, tools, and training that are part of Microsoft's efforts to promote disability inclusion (Microsoft, n.d. b). MacOS Ventura has a similar built-in reader called VoiceOver (Apple, n.d. b) along with its own programs, tools, and training (Apple, n.d. a). Instructors can use one of these built-in technologies or another standalone tool to hear for themselves how a screen reader translates any written material they use in class.

Speech-to-text closed captioning systems are now easier-than-ever to implement in an online environment. For example, Zoom video conferencing has a built-in closed captioning feature that now operates in both the main room and all individual breakout rooms (Zoom, n.d.). It uses an artificial intelligence program to provide closed captioning and creates a written transcript for later review, a useful feature for all students. Besides English, the closed captioning system can caption words spoken in Chinese, Dutch, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, and Ukrainian.

Otter.ai is a standalone product that captures lecture slides, adds them to the transcription notes, highlights key points, and creates an overall session summary. Zoom has embedded Otter.ai into its video conferencing product as its captioning and transcription engine (UC Today, 2022, April 18). Otter.ai can be used with Microsoft Teams and Google Meet as well.

Conclusion

To comply with legal right to access, and fulfill counseling's ethical mandate of including diverse members of society, counselor educators must incorporate a variety of course adaptations and accommodations in their instructional design. Assistive technologies are widely available to reduce barriers for students with audio or visual impairments in online education. Course and program-wide adaptations role-model for all counseling students how to effectively include future clients with audio or visual impairments. Faculty are encouraged to advocate with their institutional administration for program-wide instructional design adaptations centering inclusivity.

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