Technologies of Inclusion: A Mixed Methods Investigation into Accessibility and Instructional Technology in Higher Education

Jeffrey Kontio
New Jersey City University
EDTC 810: Statistics for Educational Research
Dr. Mark Connolly
May 10, 2024

Table of Contents

Introduction

In the realm of higher education, the integration of instructional technology has become a critical element in shaping teaching and learning environments. As universities strive to provide equitable access to educational resources, the challenge of aligning these technological advances with accessibility standards becomes increasingly important. This study is rooted in the understanding that instructional technology should serve all students, including those with disabilities, thereby supporting inclusive educational practices that adhere to both the Americans with Disabilities Act of 1990 (ADA) and Section 508 of the Rehabilitation Act of 1973.

The proliferation of digital learning tools has the potential to either bridge or widen the accessibility gap within higher education institutions. It is against this backdrop that this mixed methods research seeks to explore three pivotal questions:

- What types of instructional technology are being leveraged in higher education, and what are the prevailing accessibility guidelines governing their use?
- How has the implementation of educational technology affected the approaches of offices supporting students with disabilities and instructional staff towards accessibility needs?
- In what ways has the accessibility standards, or lack thereof, for the use of instructional technology impacted the equity of learning opportunities in higher education?

By employing both qualitative and quantitative research methods, this study aims to provide a comprehensive analysis of the current landscape and the evolving dynamics of instructional

technology and accessibility in higher education. This dual approach will enable a deeper understanding of the operational, legal, and ethical frameworks that guide institutional practices, while also highlighting the experiences and perceptions of the key stakeholders involved, including students, faculty, and administrative personnel.

Through this investigation, the research seeks to contribute valuable insights into the effectiveness of current practices and offer recommendations for enhancing accessibility and inclusivity in higher education environments. This study not only aligns with scholarly pursuits but also resonates with the practical and policy-oriented aspects of educational technology implementation, aiming to foster a more inclusive academic community.

Literature Review

The rapid advancement of technology has catalyzed profound transformations across various sectors, including higher education. In the realm of academia, instructional technology has become an indispensable tool in enhancing the educational experience and extending learning opportunities to a diverse student population. This evolution, however, presents unique challenges and opportunities, particularly concerning accessibility and inclusion for students with disabilities. Initially focused primarily on delivering content and enhancing communication between instructors and students, the role of these technologies has expanded to include ensuring accessibility and supporting diverse learner needs. The evolution from simple tools like slide projectors and overhead transparencies to sophisticated Learning Management Systems and

interactive platforms reflects a broader shift towards inclusive education. This historical perspective is crucial to understanding the current emphasis on accessibility, as it highlights the gradual integration of Universal Design principles in educational technology (Burgstahler, 2021).

The United States legislative frameworks, such as the Americans with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act, have established essential guidelines aimed at ensuring educational equity (Coleman & Berge, 2017). These laws mandate that educational technologies are designed and utilized in a manner that accommodates all students, regardless of their physical or cognitive abilities. Despite these regulations, the practical application of accessible technologies in higher education often varies, leading to a disparity in educational experiences among students.

This literature review seeks to explore the intersection of instructional technology, accessibility guidelines, and their impact on higher education. It aims to provide a comprehensive understanding of how various technologies are employed within academic settings and the extent to which these tools meet accessibility standards. Moreover, the review will delve into the broader implications of technology on the support systems for students with disabilities and the overall equity of learning opportunities. The subsequent sections will discuss the literature related to the types and utilization of instructional technology, the role of technology in accessibility services, and the impact of technology on educational equity, providing a foundation for understanding the current landscape and identifying gaps in knowledge and practice.

Types and Utilization of Instructional Technology in Higher Education

Instructional technology in higher education encompasses a range of tools and platforms designed to facilitate learning. These include Learning Management Systems such as Blackboard, Moodle, and Canvas, which are widely used for course management, distribution of materials, and facilitation of communication between instructors and students. Additionally, specific assistive technologies such as screen readers (e.g., JAWS, NVDA) and speech-to-text applications (e.g., Dragon NaturallySpeaking) are crucial for making content accessible to students with visual and auditory disabilities (Aquino & BuShell, 2020).

Emerging technologies, including virtual reality and augmented reality , are also being explored for their potential to enhance interactive learning and create immersive educational experiences. However, the accessibility of these innovative technologies for students with disabilities remains a significant concern (Coleman & Berge, 2017). Additionally, comparing the accessibility of instructional technologies in different educational settings can provide valuable insights. For instance, while some universities have advanced in implementing accessible technologies, community colleges may lag due to resource constraints (Bakken, Courtad, & Stassen, 2022). Furthermore, the shift to online learning environments, accelerated by the COVID-19 pandemic, has brought unique challenges and opportunities for accessibility. Institutions that swiftly adapted their technologies to enhance accessibility during this period demonstrated the potential for rapid change, highlighting the variability in institutional responses to emergent needs (Burgstahler, 2021).

The integration of instructional technology in higher education is not only a pedagogical choice but also a legal obligation. The Americans with Disabilities Act (ADA) and Section 508 of the Rehabilitation Act mandate that all educational materials and technologies be accessible to students with disabilities. These laws have been instrumental in guiding institutions to adopt technologies that meet accessibility standards, ensuring that all students have equal access to educational opportunities (Hartsell, 2008). Despite the clear mandates, the application of these legal standards to newer technologies and platforms often lags, leading to gaps in compliance and accessibility (Bakken, Courtad, & Stassen, 2022).

The adoption of educational technologies has been significantly influenced by the shift towards online and hybrid learning environments, particularly accelerated by the COVID-19 pandemic. This shift has necessitated a reevaluation of how technologies are used to ensure they are accessible to all students, including those with disabilities. Institutions have had to rapidly adapt their technologies to support remote learning, often relying on video conferencing tools like Zoom and Microsoft Teams, which have varying levels of accessibility features (Burgstahler, 2021). Moreover, the trend towards incorporating AI and machine learning into educational tools is opening new avenues for personalized learning experiences. AI-driven platforms can potentially offer tailored educational supports that adapt to the individual needs of students, including those with disabilities. However, the design and implementation of these AI solutions must be guided by accessibility principles to prevent the exclusion of students with specific needs (Gladhart, 2010).

The utilization of instructional technology in higher education has become increasingly complex and multifaceted. As institutions continue to embrace new technologies, the imperative to align these tools with robust accessibility standards remains a critical concern. The legal frameworks provide a foundational guideline; however, the effective implementation of these technologies in a manner that enhances accessibility and inclusivity requires ongoing effort and vigilance. Future sections of this literature review will further explore how these technologies impact the services provided to students with disabilities and the broader implications for educational equity.

Impact of Educational Technology on Accessibility Services

University centers dedicated to supporting students with disabilities play a pivotal role in higher education. These centers are tasked with implementing accessibility accommodations and are central in ensuring compliance with ADA and Section 508 standards. According to Bakken, Courtad, and Stassen (2022), such centers frequently deploy a variety of assistive technologies, including text-to-speech software, note-taking devices, and alternative input devices designed to facilitate the academic engagement of students with diverse needs. The effectiveness of these technologies, however, often depends on the resources available at individual institutions. Some university centers are better equipped and thus more capable of providing comprehensive support, whereas others might struggle due to limited funding or expertise (Bakken et al., 2022). This variability can significantly affect the quality and accessibility of educational experiences offered to students with disabilities.

Understanding the perspectives of various stakeholders involved in the use of instructional technology is critical. Research indicates that students with disabilities often feel that their needs are not fully considered in the technology adoption process, leading to a sense of exclusion (Aquino & BuShell, 2020). Faculty and IT staff also express concerns regarding the adequacy of their training and the resources available to support accessible technology implementation (Gladhart, 2010). These insights underscore the need for institutions to foster a more inclusive culture by actively involving all stakeholders in discussions and decisions related to educational technology. The successful integration of instructional technology that meets accessibility standards largely depends on the preparedness of faculty and institutional policies. Gladhart (2010) highlights a significant gap in faculty awareness and training regarding the use of accessible technologies. Many educators are not sufficiently equipped with the knowledge or tools necessary to implement accessible instructional strategies effectively. This lack of preparedness can impede the educational progress of students with disabilities, who rely on accessible materials and teaching methods.

Institutional policies and procedures play a critical role in shaping the accessibility landscape. As Magnus and Tossebro (2014) discuss, policies that explicitly prioritize accessibility and provide clear guidelines for its implementation can foster a more inclusive educational environment. Conversely, the absence of such policies can lead to inconsistent practices and potential neglect of accessibility standards. Continuous evaluation and adaptation of technology services are crucial to maintaining and improving accessibility. As educational technologies evolve, so too must the strategies employed by universities to support students with disabilities. Aquino and BuShell (2020) note that ongoing assessment of technology use and its

impact on students is essential for identifying areas where improvements are necessary. This process includes not only technical assessments but also feedback from students who use these technologies. Their insights can lead to more targeted and effective adaptations, ensuring that the technologies continue to meet their needs effectively. For instance, feedback mechanisms can help institutions adjust instructional designs to be more user-friendly and accessible for students with specific types of disabilities (Aquino & BuShell, 2020).

The integration of instructional technology in accessibility services within higher education is a dynamic and complex process. It requires a concerted effort from university centers, faculty, and institutional leadership to ensure that all students, especially those with disabilities, receive an equitable educational experience.

Equity of Learning Opportunities through Instructional Technology

Universal Design for Learning (UDL) is a framework that advocates for the creation of instructional materials and activities that are accessible and effective for all students, regardless of their abilities or disabilities (Meyer, Rose & Gordon, 2014). UDL principles encourage the provision of multiple means of representation, expression, and engagement to accommodate diverse learner interactions with content. According to Burgstahler (2021), the adoption of UDL principles can significantly enhance the inclusivity and accessibility of educational technologies, thus promoting equity in learning opportunities. The application of UDL in technology design not only supports students with disabilities but also benefits all students by providing flexible learning pathways and can preemptively address the needs of all students, thereby reducing the reliance on accommodations and fostering a more inclusive educational environment (Bartolo et

al., 2023; Burgstahler & Moore, 2009; Sutton, 2017). However, despite its potential benefits, the implementation of UDL across higher education institutions remains inconsistent. Barriers include a lack of awareness among faculty and insufficient institutional support for UDL training and resources (Burgstahler, 2021).

The integration of instructional technology in higher education can have profound impacts on students with disabilities. Technologies designed with accessibility in mind can level the playing field, providing these students with the same opportunities for learning and achievement as their non-disabled peers, especially using a multidisciplinary approach for developing these ecosystems (Fonseca et al, 2021). However, when accessibility is not adequately addressed, technology can exacerbate existing barriers and create new ones. According to Coleman and Berge (2017), accessible educational technologies need to address a range of disabilities, including sensory, physical, and cognitive impairments, to truly enhance learning equity. The literature also points to a positive correlation between the use of accessible technologies and improved academic outcomes for students with disabilities not just in the US but globally (Alsalem & Doush, 2018). Technologies that are aligned with accessibility standards, such as captioned videos, text-to-speech software, and keyboard navigation options, contribute to higher engagement and success rates among these students (Aquino & BuShell, 2020; Schreuer & Sachs, 2021).

The ongoing evolution of technology presents both challenges and opportunities for enhancing educational equity through better accessibility practices. The advent of artificial intelligence and machine learning offers potential for creating more personalized learning

experiences that can adapt to the needs of individual students, including those with disabilities (Gladhart, 2010). However, ensuring that these advanced technologies are developed with accessibility in mind from the outset is crucial to avoid perpetuating or creating new accessibility barriers. Furthermore, there is a growing recognition of the need for higher education institutions to not only comply with accessibility legislation but to embrace a culture of inclusivity. This cultural shift involves training faculty, revising curricula, and deploying resources to support a holistic approach to accessible education (Bakken et al., 2022).

The equitable integration of instructional technology in higher education is pivotal for ensuring that all students, particularly those with disabilities, have access to quality education. This section of the literature review has highlighted the role of UDL in promoting accessibility, the direct impacts of accessible technologies on students with disabilities, and the future directions for enhancing educational equity through technology. As educational technologies continue to evolve, so too must the strategies and frameworks that govern their use, ensuring that accessibility remains at the forefront of educational innovation and practice.

Conclusion

The exploration of instructional technology within the higher education sector, as delineated through this literature review, underscores a critical juncture in the evolution of educational accessibility. The synthesis of historical advancements, legal mandates, and modern technological innovations reflects a dynamic interplay that shapes the educational experiences of students with disabilities. While legislative frameworks like the ADA and Section 508 of the Rehabilitation Act have laid the groundwork for inclusive education by establishing essential

guidelines, the actualization of these standards varies greatly across institutions, indicating a persistent need for uniform implementation and continuous adaptation to emerging technologies. Prominent technologies such as Learning Management Systems and assistive tools like screen readers and speech-to-text applications have significantly enhanced the opportunity for a more accessible learning environment learning, however the advent of more sophisticated technologies like virtual reality presents new challenges that necessitate rigorous accessibility evaluations and innovative solutions. The urgency for such evaluations is compounded by the rapid shift towards online and hybrid learning environments catalyzed by the COVID-19 pandemic, which has both highlighted and tested the flexibility of educational institutions in accommodating diverse learner needs.

The integration of artificial intelligence and machine learning into educational technologies offers promising avenues for personalized learning experiences that can be tailored to the individual needs of students, including those with disabilities. However, the ethical design and implementation of these technologies must be conducted with a strong emphasis on accessibility to prevent the creation of new barriers. While significant progress has been made in the realm of instructional technology and accessibility, much remains to be done. It is imperative that higher education institutions not only comply with existing legal standards but also embrace a culture of inclusivity that permeates all aspects of educational technology. This cultural shift should include comprehensive training for faculty, strategic resource deployment, and an ongoing dialogue among all stakeholders to ensure that the educational landscape remains adaptive and inclusive. By forging ahead with a commitment to continuous improvement and

innovation, the sector can ensure that educational technology serves as a bridge rather than a barrier to learning for all students.

Methodology

Research Design

This study adopts a mixed methods research design, specifically the concurrent triangulation strategy, as advocated by Creswell and Plano Clark (2018). This approach involves the simultaneous collection of qualitative and quantitative data, their independent analysis, and the integration of findings to draw comprehensive conclusions. This design allows for the validation and corroboration of data through different lenses, addressing the complex nature of instructional technology and accessibility in higher education. Creswell's framework (2014) supports the idea that such a design is particularly potent for exploring how different data types intersect and inform research questions.

Data Collection Methods

For quantitative data collection, the survey will include sections designed to capture the type of instructional technologies used, their accessibility features, and the participants' perceptions of their effectiveness. Each question will be carefully constructed to minimize bias and will be tested in a pilot study to refine wording and response scales. Similarly, for the qualitative component, an interview guide for semi-structured interviews will include open-ended questions that encourage detailed responses and allow for the exploration of themes

not covered in the survey. This guide will be piloted with a small group of participants to ensure that questions are clear and provoke meaningful discussion (Creswell & Plano Clark, 2018).

- Quantitative Data Collection: A structured online survey will be developed, targeting faculty and administrative staff across a range of higher education institutions. The survey will measure variables related to the adoption, scope, and perceived effectiveness of instructional technologies, as well as adherence to accessibility standards.
- Qualitative Data Collection: Semi-structured interviews will be conducted with three distinct groups: students with disabilities, educational technologists, and disability support staff. These interviews are designed to explore deeper insights into the personal experiences, challenges, and benefits perceived by these stakeholders in the context of instructional technology and accessibility.

Sampling Techniques

In the quantitative strand of the study, stratified random sampling will be used to ensure diversity in the types of institutions represented. This process will involve categorizing potential participant institutions by factors such as size, type (public vs. private), and geographical location before randomly selecting from these categories. This method will help ensure that the findings are generalizable across different types of higher education settings. For the qualitative strand, purposive sampling will be used to select participants who have direct experience with the implementation of instructional technology. This will include instructional technologist who support the teach of courses using these technologies, disability support staff who are responsible for their direct support of student needs, and students who use these technologies, particularly

those with disabilities. The selection will aim to cover a range of experiences and perspectives to enrich the data collected (Creswell, 2014).

- **Quantitative Sampling**: Stratified random sampling will be used to ensure the survey captures a representative mix of participants across different types of institutions (e.g., community colleges, research universities, liberal arts colleges). This method will help control for institutional variance that could impact technology adoption and accessibility strategies.
- **Qualitative Sampling:** Purposive sampling will be employed to select participants who are directly involved with or affected by instructional technology and its accessibility. This sampling method is chosen to ensure that the data collected is richly relevant to the research questions, particularly through the inclusion of participants who can provide varied perspectives based on their roles and experiences.

Data Analysis

The data analysis this mixed methods study is designed to rigorously examine the collected data to answer the research questions concerning the utilization of instructional technology and its impact on accessibility and equity in higher education. The approach integrates both quantitative and qualitative analysis methods to provide a comprehensive understanding of the current landscape and dynamics within educational technology. This dual-analysis strategy not only allows for a robust examination of statistical trends and relationships but also a deep exploration of contextual and nuanced insights provided by participants directly involved in or affected by instructional technology and accessibility.

- **Quantitative Analysis:** Descriptive and inferential statistical analyses will be employed. Descriptive statistics will summarize the data, while inferential statistics, such as regression analysis, will be used to examine relationships and test hypotheses about factors influencing the effectiveness of instructional technology in terms of accessibility.
- **Qualitative Analysis:** Data from interviews will be analyzed using thematic analysis as detailed by Bazeley (2013). This will involve coding the data into themes that emerge organically, providing insights into complex patterns and relationships that might not be visible through quantitative analysis alone.

Integration of Data

The integration of quantitative and qualitative data will be a critical step in the research process. This will involve a side-by-side comparison of the findings from the surveys and the interviews to identify areas of convergence, divergence, and complementarity. For instance, quantitative data may show a high level of satisfaction with certain technologies, while qualitative data could reveal underlying issues that were not captured in the survey. This integrated analysis will allow for a more nuanced understanding of the data and will help validate the findings through triangulation. Techniques such as data transformation, where qualitative data is quantified, and meta-matrix, which involves creating a joint display to compare data across sources, could be used to facilitate this integration (Creswell & Plano Clark, 2018).

Following the independent analysis of quantitative and qualitative data streams, the integration will occur at the interpretation stage. This process will involve a side-by-side

comparison of findings from both forms of data to identify convergence, divergence, and the potential for new insights that neither could achieve alone. As suggested by Creswell and Plano Clark (2018), this integration is crucial for validating and cross-verifying findings across different methodologies.

Research Procedures and Timeline

Table 1: Research Procedures and Timeline

Phase	Activity	Description	Timeline
Preparation	Development of Instruments	Creation and validation of survey and interview instruments.	Month 1-2
	Pilot Testing	Pilot testing instruments with a small participant group.	Month 2
	IRB Approval	Submission of study for ethical review and approval.	Month 2-3
Execution	Recruitment and Consent	Recruitment of participants and collection of informed consents.	Month 3-4
	Data Collection	Conducting surveys and interviews/focus groups.	Month 4-6
Analysis	Data Processing and Analysis	Statistical and thematic analysis of collected data.	Month 6-8
	Data Integration	Integration of quantitative and qualitative results.	Month 8-9
	Reporting and Dissemination	Final reporting and dissemination of findings.	Month 9-10

Ethical Considerations

Ethical approval will be sought from the New Jersey City University Institutional Review Board (IRB). Key ethical considerations include informed consent, the right to withdraw, confidentiality, and the secure storage of data. Special attention will be given to ensuring the ethical treatment of vulnerable populations, such as students with disabilities, in line with both ethical guidelines and legal requirements. Ethical considerations will be thoroughly addressed to protect the rights and well-being of all participants. This will include obtaining informed consent, where participants are fully informed of the study's purpose, their role in it, the potential risks and benefits, and their right to withdraw at any time without penalty. Special attention will be paid to students with disabilities to ensure that their participation is fully voluntary and that the data collection methods do not put them at any disadvantage. Confidentiality will be strictly maintained, with all data anonymized and securely stored. Again, the study will undergo review by the IRB to ensure all ethical standards are met, and any concerns are addressed before the study commences (Creswell, 2022).

Limitations

This study acknowledges the limitations inherent in self-reported data, which can introduce biases such as social desirability or recall errors. Furthermore, while stratified sampling enhances representativeness, the results may still not be generalizable to all higher education institutions, especially outside of the United States. Efforts will be made to mitigate these limitations through rigorous data collection, validation techniques, and transparent reporting.

Conclusion

This proposed mixed methods research study aims to comprehensively address the critical questions surrounding the use and impact of instructional technology and accessibility in higher education. By exploring the types of technologies employed, the adherence to accessibility guidelines, and their effect on the equity of learning opportunities, this study seeks to bridge the gap between technological potential and its practical implementation.

The dual-component approach of this study, integrating quantitative surveys and qualitative interviews and focus groups, is meticulously designed to capture a broad spectrum of data. This methodology ensures a balanced view that combines statistical breadth with the depth of personal experiences and perceptions. The strategic choice of mixed methods allows for a nuanced understanding of the intersections between technology, accessibility, and education, providing insights that are both quantitatively robust and richly contextualized. The findings from this research are expected to have significant implications for policymakers, educational leaders, and practitioners. By identifying effective practices and potential gaps in the use of instructional technologies, the study will offer evidence-based recommendations for enhancing accessibility and inclusivity in learning environments. Furthermore, the insights gained could guide the development of policies that promote the integration of accessibility guidelines/principles and accessibility standards in the design and deployment of new educational technologies. This research is poised to contribute to the academic body of knowledge in the field of educational technology by providing empirical data on the current state of technology use in higher education and its accessibility. It will extend existing theories and

models of technology integration by contextualizing them within the frameworks of legal compliance and ethical responsibility towards students with disabilities.

The study also aims to set a foundation for future research in this vital area. Potential follow-up studies could explore longitudinal impacts of technology integration on students with disabilities, compare the effectiveness of different types of assistive technologies, or examine the scalability of successful accessibility practices across different types of institutions. Additionally, subsequent research could focus on the role of emerging technologies like AI and machine learning in customizing learning experiences to meet diverse student needs more effectively. As higher education continues to evolve in an increasingly digital landscape, the imperative to ensure that educational technologies are accessible and equitable becomes more pressing. This research study represents a timely and critical inquiry into how well current practices align with this imperative. Through rigorous investigation and thoughtful analysis, the study aims to not only highlight challenges but also to illuminate the pathways toward more inclusive educational environments that leverage technology to benefit all students, irrespective of their abilities.

References

Alsalem, G. M., & Doush, I. A. (2018). Access Education: What is needed to have accessible higher education for students with disabilities in Jordan? *Journal of Higher Education*, 39(4), 123-143.

Americans with Disabilities Act of 1990, 42 U.S.C. § 12101 et seq. (1990). https://www.ada.gov/law-and-regs/ada/

Aquino, K. C., & BuShell, S. (2020). Device Usage and Accessible Technology Needs for Post-Traditional Students in the e-Learning Environment. *Journal of Asynchronous Learning Networks*, 24(1), 59-77.

Bakken, J. P., Courtad, C. A., & Stassen, D. (2022). Technology and Accommodations at University Centers for Students with Disabilities. *Journal of Postsecondary Education and Disability*, 35(1), 45-59.

Bartolo, P. A., Borg, M., Callus, A. M., De Gaetano, A., Mangiafico, M., Mazzacano D'Amato, E., Sammut, C., Vella Vidal, R., & Vincent, J. (2023). Aspirations and accommodations for students with disability to equitably access higher education: A systematic scoping review.

Bazeley, P. (2013). *Integrating Analyses in Mixed Methods Research*. Sage.

Burgstahler, S. (2021). What Higher Education Learned About the Accessibility of Online Opportunities During a Pandemic. *Journal of Online Learning Research*, 7(3), 299-318.

Burgstahler, S., & Moore, E. (2009). Making Student Services Welcoming and Accessible Through Accommodations and Universal Design. *Journal of Postsecondary Education and Disability*.

Coleman, M., & Berge, Z. L. (2017). A Review of Accessibility in Online Higher Education. *International Journal of E-Learning & Distance Education*, 32(2).

Creswell, J.W. (2014*). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage publications.*

Creswell, J. W. (2022). *A concise introduction to mixed methods research.* SAGE.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.

Fonseca, D., García-Peñalvo, F. J., & Camba, J. D. (2021). *New Methods and Technologies for Enhancing Usability and Accessibility of Educational Data.* Journal of Educational Technology & Society, 24(2), 102-116.

Gladhart, M. A. (2010). Determining Faculty Needs for Delivering Accessible Electronically Delivered Instruction in Higher Education. *Journal of Computing in Higher Education*, 22(3), 160-173.

Hartsell, T. (2008). Educational Accessibility to Technology in Higher Education. *Teaching Exceptional Children*, 40(6), 12-16.

Magnus, E., & Tøssebro, J. (2014). Negotiating Individual Accommodation in Higher Education. *Scandinavian Journal of Disability Research*, 16(4), 316-332.

Meyer, A., Rose, D. H., & Gordon, D. T. (2014). *Universal Design for Learning: Theory and Practice*. CAST Professional Publishing, an imprint of CAST, Inc.

Rehabilitation Act of 1973, 29 U.S.C. § 794d. https://www.section508.gov/manage/laws-and-policies/

Schreuer, N., & Sachs, D. (2021). Efficacy of Accommodations for Students with Disabilities in Higher Education. *Journal of Diversity in Higher Education*, 14(2), 200-210.

Sutton, H. (2017). Digital Accessibility Still a Problem for Higher Education. *Disability Compliance for Higher Education*, 22(11).