DIGITAL ACCESSIBILITY IN HIGHER EDUCATION: A REVIEW AND SURVEY OF PROFESSIONALS

By

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ABSTRACT

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This study focuses broadly on addressing the issue of digital accessibility for persons with disabilities in higher education. This study presents a review of research on digital accessibility in higher education. This study also presents data from a survey distributed to accessibility professionals in higher education. The goal of this research was to understand the work of accessibility professionals in higher education.

Overall this study discusses three major findings. 1) digital accessibility coordinators are a new and undefined role in organizations (30% of individuals indicated that the role was less than a year old at their institution and 43% indicated that the role was 1-2 years old. 2) priorities for digital accessibility work are varied, but focused on training, workshops, and consultation, and 3) executive administration involvement for accessibility needs to be increased. Only 30% of respondents indicated that they had regularly scheduled meetings with executive leadership. Ultimately, the study provides insight into the role of the digital accessibility coordinator, the types of activities that accessibility professionals do or should do, and how executive leadership is involved in digital accessibility conversations. Other findings relate to how reasonably-resourced accessibility professionals believe accessibility is within institutions and how important it is to understand higher education contexts to determine how to do accessibility work within diverse organizations.

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Introduction

Disability in higher education is often discussed and recognized as a complex space. Support for persons with disabilities in higher education marks a shift in independence and autonomy from the common K – 12 disability support models, which focus heavily on a Special Education paradigm of individualized support. The goal of this thesis is to explore how digital accessibility is framed in higher education, to explore methods that might be able to improve the outcomes of accessibility programs in higher education by examining the individual work that accessibility professionals do, and to deliver the results from a survey which used this method.

In the United States, transitioning from support through the Individuals with Disability Education Act (IDEA; Yell, 1998) to higher education is jarring for some students with disabilities who now have to advocate for themselves (Winn & Hay, 2009). The IDEA delivers Individualized Education Plans (IEPs) to students with disabilities in K – 12 environments. In higher education environments, policies and practices are different. Students with disabilities work with disability services offices to receive approved accommodations for academic programming. Students may then choose when to request these reasonable accommodations, and which of the accommodations to request. This approach allows for more independence, choice, and personalization of support with the individual with a disability owning the choice of when and where to "disclose" the desire or need for accommodation. Students have to connect with disability services units, individual instructors, academic departments, and other parts of higher education institutions to advocate for themselves in order to request reasonable accommodations. And the Americans with Disabilities Act (ADA) provides exemptions for institutions to determine undue burden and fundamental alteration (Americans with Disabilities Act, 1990).

The ADA is important because it provides information on how to support individuals with disabilities including instances where accommodation is and is not appropriate, and where higher education institutions might need to improve support to evolve with new technology, legislation, and services. According to the National Center for Education Statistics (NCES), 11.1% of students enrolled in higher education institutions are registered as having a disability (Snyder et al., 2016, p. 474). This is less than the general population of persons with disabilities and is also less with graduate students, where graduate students with disabilities make up 5.3% of the general graduate student population (Snyder et al., 2016, p. 474). These numbers represent students who identify as having a disability with their institution, and due to the stigma attached to disability in society, and in higher education in particular, are likely not fully representative. Regardless of this, students with disability identities are a significant population within higher education, and have to be considered by institutions.

Institutions of higher education have a responsibility to provide accessible programs, services, and activities. Part of how institutions fulfill this regulation is through accommodation, but institutions also have the need to provide accessible digital experiences. Much of how individuals gain access to information about colleges or universities is through the websites that those colleges and universities maintain. In order to best understand how to support individuals with disabilities in higher education, it is necessary to understand the current state of digital accessibility in higher education. This thesis will investigate literature about the trajectory of digital accessibility efforts, the current issues that are being investigated related to digital accessibility in higher education, and present current survey research about individuals who do digital accessibility work in higher education.

Rhetoric of Disability Support and Language in Organizations: Why Digital Accessibility Matters

Digital accessibility efforts in higher education marks a shift from accommodation-only support to trying to remove barriers from access proactively for persons with disabilities. The focal point of this is the idea that equal access is time-dependent, and that it can best be achieved if institutions proactively remove barriers. Some of this groundwork comes from Disability Studies. Disability studies as an academic discipline intersects with and brings ideas and models from various other fields together in order to conceptualize and understand disability in society.

One particularly useful model is the Social Model of Disability. The Social Model of Disability articulates society and socially-constructed environments as disabling individuals with impairments (Shakespeare, 2006). The Social Model of Disability came into being based on the work of individuals with disabilities in the UK in the 1970's; these individuals advocated for a consumer group of "disabled" persons with the core goal of finding "more opportunities for people with impairments to participate fully in society, to live independently, to undertake productive work and to have full control of their own lives" (Shakespeare, 2006, p. 214 – 215). The Social Model of Disability suggests that disabling factors (such as stairs, cultural attitudes, portrayal in media) disable people with impairments, hence the term "disabled people" (Shakespeare, 2006, p. 215). The Social Model of Disability expresses best why proactive physical and digital accessibility is necessary when compared to accommodation: because those physical and digital spaces are rife with barriers.

The Social Model decouples disability and impairment. In the Social Model, *impairment* can be used to describe an identity and a physiological condition (or conditions) that an individual has. A person with an *impairment* can be described as having a disability when

socially constructed barriers prevent access (including physical and digital barriers in spaces), thereby disabling an individual from equal participation or access. So the Social Model considers a *disabled person* to be a person with an impairment who encounters barriers. Barriers can be physically constructed by society: whether that is attitudinally-constructed by society, or financially-constructed by society. One useful metaphor for understanding the Social Model is to understand disability in the media. Disabled persons are portrayed as a variety of tropes that cultivate an unhealthy culture of misunderstanding and oppression for persons with disabilities (Barnes, 1992).

From this example, it is important to consider how language impacts individuals with disabilities. Person-first language discourages the phrase *disabled person* in favor of acknowledging individual identity. Person-first language encourages the phrasing persons with disabilities or individuals with disabilities and avoids blanket terminology, such as people with disabilities, in order to acknowledge the individual lived experience and identity that individuals with disabilities have. Person-first language is not based out of the Social Model, but has relevance as institutions support high. Although the Social Model has been reframed and criticized several times over, the Social Model best reflects how organizations might impact or, in many cases, be barriers to persons with disabilities. One criticism of the Social Model is that the model focuses heavily on disability as an identity, and deemphasizes personal difference or other identities such as race, sexuality, or gender that can impact how a person is perceived by and interacted with by others.

Person-first language is used heavily by institutions, but identity-first language (which uses phrases like disabled person) leans heavily towards the Social Model of Disability, and is a great way to emphasize disability as an important identity to individuals. Some individuals

dislike person-first language for a variety of reasons, including that it is awkward, and that it inherently separates person from disability, when disability can be a large part of identity (Sinclair, 2013). Some individuals with disabilities are firm about the fact that they would not be separated from disability if their disability could be altered.

Many institutions and organizations default to using person-first language, but it is important to be aware of dynamics around the identity conversations and politics of disability language, and reflexive of how language can impact individuals and institutions (Dunn, 2015). To better enhance the support for inclusion of persons with disabilities in higher education, it is important to understand the ways in which higher education institutions work with students with disabilities. For the duration of this thesis I will use person-first language, as I am examining how accessibility professionals within institutions of higher education support persons with disabilities, as opposed to examining disability more directly.

Irving Zola, in his auto-ethnographic book *Missing Pieces,* describes how persons with disabilities are sometimes seen as needing help or protection, and how some institutions see their responsibility to look from high down on persons with disabilities, and how this can be physically enacted in built environments as well, where administrators might occupy towering physical spaces, such as in Het Dorp (Zola, 1982). This physical space design can be seen as a metaphor for how society has in the past viewed disability and models of accessibility. Technical communication discusses accessibility as availability or entry, and in conversation with equality. A common phrase involving access/accessibility is the idea of *equal access,* which, in technical communication, also investigates the *digital divide* (i.e., looking at computer and network access based on identity and difference data) (Grabill, 2003). Technical communication is also cognizant of accessibility and its relationship to disability. To illustrate, Yeargeau et al. discuss

accessibility as entry, and how accessibility statements, which are sometimes found online and let persons with disabilities know about specific facets of accessibility related to specific products, websites, or organizations, are oftentimes relegated to back-door entrances or at the bottom of websites (2013). Yeargeau et al. recognize accessibility as entry and discuss how accessibility statements can occur during the main entry point to a digital artifact or conversation (Yeargeau et al., 2013). This accessible entry-way has caused me to view the definition of access as "to enter into, participate in, or engage with" (Deaton, 2017, p. 98). Accessibility statements are important in a two-fold manner. Firstly, authors or organizations can articulate how they understand and support disability. This is an opportunity for an author to indicate that entry is committed to individuals with a variety of identities, as well as to offer exigency and a way of engaging the audience directly. Accessibility statements can also be used to indicate any potential experiences that may have been accounted for or not for persons with disabilities. Accessibility statements are important because they articulate institutional commitment to persons with disabilities and can indicate any barriers that may exist, and alternate ways to access systems or processes. Or, another way to think about this is that the words that institutions of higher education use affect how individuals with disabilities may engage with, or be engaged by employees of those institutions of higher education.

Accessibility Policies and Administering Accessibility in Higher Education

Accessibility policies at institutions can also go a long way in supporting individuals with disabilities. Titchkosky notes that "normate culture" can have harmful effects on the identity of individuals with disabilities, and considers the importance of policy analysis within the field of disability studies (2000, p. 219). Accessibility policies are similar to accessibility statements, but they are robustly supported or endorsed by the organization, and impact the infrastructure of the

organization. If accessibility statements are a first step to cultural recognition and change within an organization, then accessibility policies might be a second step to precipitate change. Margaret Price analyzed the accessibility policies of 17 different conferences and concluded that these documents were important, but needed to be accompanied by organizational change, considerations on how we conduct conferences, and iterative revision (Price, 2009). Birnbaum notes the disparity between the policy researcher and the policy-maker, but does not dispute the importance of either activity (2000, p. 124). Policy research and making is necessary in order to propel issues in higher education forward, and in order to stay relevant with regards to external pressures such as legislation. Bradbard et al. note the importance of higher education institutions having a web accessibility policy to meet legal requirements (2010).

Accessibility of multi-modal composition is a core competency of technical communication. Dolmage (2008) discussed the importance of disability and access in the composition classroom and also stresses the importance of not assuming that what works for one works for all—discussing how equal access can be "spatialized, metaphorized, as the level playing field" (Dolmage, 2008, p. 21). Price recognizes the importance of conversations on accessibility and disability for helping students understand identity and it how impacts writing (Price, 2008). To communicate broadly with different identity groups is important (Jones et al., 2016), and because one in five persons in the United States has a disability (Brault, 2012), it is essential for technical communication scholars and practitioners to consider access. Technical communicators must be cognizant of two aspects of interacting with disability. The first is communicating *to*/*for* persons with disabilities: that is, the rhetoric and language to use when interacting with different disability groups and identities. The second is, and communicating *with* persons with disabilities: that is, the methods and modalities of relaying information to persons

with disabilities. For institutions of higher education, this is particularly important given legal ramifications of language use.

The inter-relatedness of accessibility in conversations around digital divides and entry may be problematic, but disability studies defines accessibility as "the power, opportunity, permission, or right to come near or into contact with someone or something" (Williamson, 2015). In the context of learning in higher education, an accessible learning experience might best be defined as a learning experience that is inclusive of persons with disabilities in design, participation, and modality. A great definition for an accessible a learning experience actually can be observed in legal settlements and resolutions. The U.S. Department of Education Office for Civil Rights has created several definitions of accessibility, but one that is perhaps the easiest to understand within the context of technical communication is as follows:

> "'Accessible' means that individuals with disabilities are able to independently acquire the same information, engage in the same interactions, and enjoy the same services within the same timeframe as individuals without disabilities, with substantially equivalent ease of use." (U.S. Department of Education Office for Civil Rights, 2012).

This paper will focus primarily on digital accessibility, bringing in conversations on physical-space accessibility to illustrate terminology related to disability in some specific instances. Something is digitally accessible if a person with a disability can interact and engage with digital content presented through electronic and information technology (EIT). Sometimes persons with disabilities use Assistive Technology to access digital materials. Assistive Technology (AT) is technology or equipment used to "increase, maintain, or improve functional capabilities of individuals with disabilities", and AT can range from extremely high tech software or hardware to low or no tech solutions (Bouck, 2016).

Assistive Technology can support individuals with disabilities as they complete tasks. Some AT, like wheelchairs, are designed specifically to be used as assistive technology, whereas sometimes devices are used in an assistive manner, and might function as an assistive technology (such as a smartphone used to complete specific tasks, though some apps may be specifically designed as Assistive Technology). In order for a learning experience to be accessible, the digital content must have been created with accessibility in mind such that, persons with disabilities, Assistive Technology, and the end users of Assistive Technology can interact with that content. Assistive Technology have been around in one form or another for a very long time (Clark, 2017). An example of an older Assistive Technology would be a cane, though there are also examples of complex old technologies use for a variety of tasks including reading (Clark, 2017).

Accessibility standards have evolved rapidly over the past 40 years. More and more efforts are underway to internationalize standards attached to human rights, and accessibility is no exception to that (Baldiga et al., 2017). In the United States, digital accessibility concerns have been around since digital communication technologies began to be more widely used by the general public. Digital accessibility standards are often used by organizations to align with regulatory and other needs.

Table 1. Accessibility standards by year of publication.

Accessibility Standards	**Year**
Section 508 of the US Rehabilitation Act of 1973 (United States)	1998
WCAG 1.0 (W3C, international)	1999
WCAG 2.0 (W3C, international)	2008

Higher education institutions may use these standards in order to make sure that Assistive Technology works with different technology platforms. These standards may also in some cases be referenced in legal settlements, making it such that organizations might meet both their obligations to users of their technology, as well as to regulatory agencies by meeting the standards.

Disability and Accessibility in Higher Education

In order to assess the level of accessibility of higher education institutions, it is necessary to get a holistic view for those organizations, and their efforts to be more inclusive of individuals with diverse identities, especially their efforts specifically concentrated on supporting persons with disabilities. Researchers have identified that relative level of access is not solely dependent upon the current state of accessibility during an audit, but also on the culture and issues surrounding access in an organization, and that many of these facets of accessibility can be viewed through processes and policies within an organization (Lazar, 2015). Processes and policies that cater specifically to persons with disabilities create infrastructure and workflows which help higher education institutions to appropriately interact with disability. For example, an organization that has a defined policy related to web accessibility will have processes in place to scan for web accessibility problems, and to react to/fix these problems as they are found and/or reported by persons with disabilities. Artifacts related to processes and policies which are made easily available to persons with disabilities (such as through a website) influence how persons with disabilities engage with organizations (including higher education institutions, advocacy groups, and local/state/national departments of education/offices for civil rights). Providing processes for persons with disabilities to fully participate in organizations decreases the amount of time it takes for persons with disabilities to gain access to information.

User-centered design advocates for involving users in design decisions, and so it has historically been and still is important for individuals with disabilities to be involved in discussions about supporting these same individuals in organizations, whether through universal design instructional design paradigms or through accommodation (Abras, 2004). User-centered design has a place in decision-making in academia, as well as in industry (Garrett, 2010), but realizing the importance of user experience activities, such as user experience research, also means that it is important to understand how good user experiences are institutionalized, that is, how user experience is brought to and utilized within organizations (Schaffer, 2004), which in higher education institutions is particularly important given the importance of UX activities in various contexts in higher education. For example, academics will note that learning experience design is important to consider due to how people learn in today's society (Baird & Fisher, 2005), and for designing courses in general (Blythe, 2001). Another example is how higher education institutions utilize websites to provide information to users, which is a classic example of how UX intersects with organizations.

Critical research on disability in higher education argues that higher education institutions need to do a better job of understanding the personal identity and lived experiences of persons with disabilities in higher education (Peña, 2016, p. 87 – 89; Deaton, 2016, p. 50 – 52). This demonstrates well how a universal design and user experience paradigm provide value, but also need to be implemented with a mind to the end-user experience, rather than operationalized through standards which will be updated by standards-creating offices or individuals within institutions who do accessibility work.

However, it is also true that in order to examine these aspects of accessibility, it is insufficient to solely study persons with disabilities in order to understand the level of

accessibility inside individual institutions or organizations. Because accessibility and disability are individually experienced, understanding the support structures that universities offer for accessible, universally designed experiences is important because what may be accessible for one learner may not be for another. Institutional conversations on accessibility recognize this (LaGrow, 2017), and universal design (designing for accessibility, proactively) and accommodation (providing for accessibility, reactively) are used at some universities to distinguish between the various responsibilities that those universities have related to supporting persons with disabilities.

Accommodations. Accommodations are direct, reactionary adaptations to environments, courses, or processes for students with disabilities (Burgstahler, 2017). Accommodation has long been a strategy for engaging disability, but in many instances accommodation presents problems where it should present opportunities. To receive accommodations, students must be registered with a disability services office (Kiuhara & Huefner, 2008). Accommodations, being reactionary, take time to put into place. For example, if a student with an auditory disability requests captions to be provided for in a video, then the instructor must work to caption video content themselves, request support from a support unit within the university, or pay to have captions provided on video content. However accommodations are chosen to be provided, these accommodations may take time to put in place (Holloway, 2001, p. 601 – 605). In some contexts the faster the response time of the institution, the more expensive the cost (for example, when outsourcing captioning, where the time it takes to receive captions may be decreased by different pricing models), so universities may have to allocate additional funding towards accommodating. The time it takes for students with disabilities to gain access to services and learning experiences, sometimes precludes students with disabilities from accessing these materials in an inclusive way (Riddell,

1998). Institutions must forecast budget based on number of students, staff, and faculty with disabilities, though this can be difficult because specific accommodation needs vary, and some programs or courses may be more or less expensive to accommodate within than others. Some of the ways students are accommodated also do not take into account that much of what we retain in learning environments comes from our peers and from active learning in the classroom. This is why some legal settlements are worded in specific ways to articulate the importance of inclusion and usability when discussing supporting students with disabilities (Deaton, 2016).

Universal Design. Universal design comes from architectural design and is the idea of creating a built-environment that is barrier-free (Mace, 1997). Ron Mace was an architect who was also a chair-user. He used his lived experience as a person with a disability to develop a design paradigm that focused on constructing spaces for all. As a design philosophy, universal design translated to higher education involves implementing these built-environment rules with the goal of decreasing the time it takes for students with disabilities to access information offered by institutions and content offered by courses. This idea indicates that, like ramps and curb-cuts did for architecture, that institutions could provide accessible learning experiences out of the gate, by designing for all, and utilizing accommodation where necessary when universal design is not enough. Universal design principles have developed from the Center for Universal Design at North Carolina State University and been articulated by scholars (Burgstahler, 2009). There are seven principles:

1. Equitable use
2. Flexibility in use
3. Simple and intuitive use
4. Perceptible information

5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

User-centered design and UX suggests that organizations that wish to practice universal design must use empathy and user research in order to best support persons with disabilities. Technical communication bridges accessibility and UX by connecting both disciplines through a focus on purpose and audience. Technical communication and the study of disability in a pedagogical sense in the professional writing classroom also approaches the idea of universal design for learning, or UDL.

Universal Design for Learning. Universal Design for Learning (UDL) was first coined in the early 1990s, and was described was looking at "the disabilities of schools rather than students" (Meyer et al., 2014). This paradigm shift is in line with the Social Model of Disability, and considers the benefit UDL has three principles and nine guidelines which organize different ways for instructors and administrators to think about flexibility in the classroom. UDL comes from the ideas of Universal Design, though it adds on some layers for specific research areas and thinking in conversations on education, and, specifically, on conversations in instructional design. UDL operates slightly differently in higher education., For example, some of the ways that active learning occurs, such as through discussion, need to be supported for in varying ways (Rose et al., 2008). UDL in higher education is much more focused on instructional materials and activities, and therefore is similar to universal design broadly (Burgstahler, 2008). There are many discussions around universal design outside of the classroom, but in support applications as well that are currently being explored and expanded upon (Burgstahler, 2008), and also in the areas of policy (Sopko, 2009). UDL has also done well to call concerns to assessment and

persons with disabilities in higher education (Rose et al., 2009), which raises questions about how universal design of instructional material may connect to universal design of assessment, and about how to define accessibility in higher education more generally (Titchkosky, 2011), such as when we think of inclusive/participatory classrooms (Ellcessor, 2016).

UDL demonstrates a framework where individual awareness of disability is a key component to providing support for persons with disabilities. Importantly, UDL is not solely used to examine disability in the classroom, but many of the ideas come from the concept of universal design which

The Role of Structures and the Executive in Equal Access. In higher education it is important to understand the experiences of students with disabilities, and how the perceptions those students have of the quality of services are perceived through the models and services higher education institutions enact, and the rhetoric and branding these organizations use around disability (Seale, 2014). Funneling ideas from legal frameworks and accessibility standards into accessibility requires that professionals that do accessibility work in higher education consider the end user experience for a variety of groups (Deaton, 2016). Management structures in higher education are often encouraged to change due to perceived ineffectiveness (Birnbaum, 2000; Birnbaum & Snowdon, 2003). Higher education needs to be cognizant of how structural changes can affect persons with disabilities. Higher education administration research shows that effective engagement of executive leadership into institutional issues is necessary. In order to best support persons with disabilities, leadership must be engaged.

Persons with disabilities are oftentimes described as the largest minority group in the United States (Davis, 2016), and organizations have difficulty supporting persons with disabilities. Disability as an identity is very complex and interfaces with many aspects of daily

life (Shakespeare, 2014; Linton, 1998). As such, whenever the word accessibility is used in this text moving forward we will be discussing accessibility for persons with disabilities. In general, I have found myself making distinctions between accessibility and availability in my scholarship, as accessibility is a word I have found myself *claiming* (see Simi Linton's work where disability is defended from a plethora of metaphor and firmly established as distinctly related to identity) for use in conversations around disability and opportunity for persons with disabilities (Linton, 1998). In order to understand how disability is supported in higher education, it is necessary to study digital accessibility and professionals who do digital accessibility work in higher education.

The Intersect of Technical Communication and Disability in the Organization

One way to gain insights into how persons with disabilities are supported in organizations is to examine the professionals who are tasked with making aspects of organizations digitally accessible for persons with disabilities. Technical communication scholarship gives a framework for studying individuals within organizations. Spinuzzi writes that "a common trope in the literature of user-centered design is the worker-as-victim" when thinking of the "tyranny" of systems or organizations (2003, p. 1 -2). These terms dramatize the relationship between individuals, organizations, and individuals being served by organizations, which Spinuzzi looks at carefully in his book. When we examine this relationship, we can see how important it is to understand each stakeholder in this equation. Technical communication scholarship allows us to consider communication and activity within organizations. These two areas need to be understood in order to best position accessibility. Workplace studies based in technical communication literature give us a lens through which to examine this complex relationship in higher education. It is with this lens that a survey was deployed to accessibility professionals in

order to best understand the types the work that they do within the organization, and to understand the effectiveness of accessibility within organizations.

The Gap in Accessibility Research. Much of the focus on accessibility research involves isolated usability testing or an analysis of artifacts such as policies and developing standards. This means that a whole dimension of accessibility has not been thoroughly explored: we do not know much about accessibility professionals within these spaces. Doing research on accessibility professionals allows researchers to understand the roles, communication strategy, and operational tactics that organizations (in this case, institutions of higher learning) use in order to effectively implement support structures for accessibility. Peña recognizes that the ways in which we have studied disability in higher education are limited, and do not allow us to consider the complexity of disabled identities (2016, p. 87 – 89). Organizational research oftentimes asks us to understand the individuals and relationships between individuals in order to understand the problem within the organization. Spinuzzi talks at length about the complexity of organizations (2013, p. 1–3), and suggests documenting work at different levels, the macro (contradictions), the meso (discoordinations), and micro (breakdowns) (2013, p. 26 – 31; 250 – 251). This work, when considered next to Spinuzzi's work of understanding texts as having three "senses", helps to articulate a clear need, as well as a clear paradigm for, researching the professionals who support accessibility work in organizations (2008). Spinuzzi defines texts as being able to be viewed through three different lenses: as *inscriptions*, *genres*, and *boundary objects* (2008, p. 145 – 149). These different layers allow texts to be understood as complex, political bodies that have been suffused with the cybernetics of academic disciplines that they come out of and bridge towards. These different levels also suggest the importance of understanding stakeholders on all sides of the equation that are involved with accessibility in

higher education institutions. This is particularly important for a complex subject where multiple identities and communities are impacted within the disabled community at large, and where higher education institutions are also governed in a complex fashion. In understanding individuals as networked or “nodes” within a network, we can see how it is important to study individuals who do accessibility work within higher education in order to understand their views on the current state of digital accessibility. Understanding professionals in the space allows us to better understand the concerns that their expertise brings forward related to disability and digital accessibility within their organizations.

Methods

In this section I will detail the design of a research study focused on the gap in the research, paying attention to the process of developing an instrument in line with the research question and the structure of questions asked in the survey. This section will spend time detailing how the research was conducted, starting with the research question and moving towards how data was worked with, as survey development literature encourages this reflexive practices (Kelly, 2003; Lauer et al., 2013).

A lot of the research on digital accessibility in higher education is focused towards persons with disabilities or uses analysis of artifacts to understand institutional commitment. I designed a survey because I was interested in examining how professionals that do accessibility work in higher education. As digital accessibility moves into a more mature state, roles and responsibilities of accessibility professionals in higher education are becoming more defined. Surveying professionals now allows the field to understand where we are now, and what might be good directions for moving forward. This study was undertaken to understand accessibility from the gap that exists in the literature review above. This study is exploratory in that the findings are best examined against the experiences that persons with disabilities have in engaging with organizations. A follow-up study will utilize user research including experience sampling, focus groups, and student interviews at specific institutions that were surveyed in order to contextualize these findings. The basis of this is that in utilizing user centered design and in thinking about participatory design (Muller & Kuhn, 1993; Sanders, E. B.-N. 2003), we have thought a great deal about how persons with disabilities can access more inclusive institutions and organizations. This study surveys individuals that do accessibility work within

institutions across the areas of policy compliance (universal design) and disability services (accommodation).

Individuals with institutions were surveyed through email lists that focused on accessibility and accommodation. Three lists were selected: University of Washington's ATHEN list, the EDUCAUSE ITACCESS list, and the MI-AHEAD list. These lists include accessibility professionals in higher education. The survey was open for two weeks in March 2018. Allowing for the fact that most, if not all, institutions provide various different teams/units that focus on disability in higher education, multiple responses from institutions were possible given this method of survey delivery. The goal of the study is to understand individual opinion from accessibility professionals about the state of accessibility within higher education institutions. The survey moves towards several sub-questions questions that broadly consider accessibility professionals and how they communicate within organizations. Sub-questions were derived from the literature review in this paper, and were designed to approach several ideas for how we can improve the effectiveness of accessibility in higher education, and possibly come up with standardized strategies.

- How do accessibility policies or coordinators impact organizations?
- What types of work and priorities do accessibility professionals have?
- How do accessibility professionals in higher education work with executive administrators at their institutions?

The questions in the survey allowed for the survey to be filled out confidentially. There were 26 questions total, though some questions may not have been displayed to some participants depending on how they answered some questions. All questions except one were multiple choice

and did not involve entering in written responses (though most questions had an "other" option to account for the newness of different activities that coordinators use). This survey was tested by individuals within the digital accessibility community at Michigan State University, and some improvements were made based on that pilot to target technical communication professionals. Additional questions related to executive leadership involvement were added by suggestion, and the questions were also honed and organized into sections based on the research questions. The survey also was reviewed by technical communication specialists who encouraged further addition of questions centered on communication within the organization. Basic coding of responses was necessary for many questions that had an "other" category, and for the one short-answer question. For more information on the instrument see the Appendix to this paper, which includes the full survey instrument.

Limitations

The goal of this study was to examine how individuals within institutions perceive the current state of digital accessibility at their institutions. As such, this study is focused on individuals within organizations, and not those organizations more broadly. This means that some institutions may have had multiple respondents. To counter this, questions were focused on individual answers and analyses were mindful of this. There were two areas of “branching” questions where more questions were asked in follow-up to participants if they answered yes. Questions were skippable at no penalty to participants. This means that there were drop-offs for questions further in the survey. Because all questions were skippable, there were some dips in participation for specific questions. Also, there was a high drop-off rate due to the duration of the study.

Demographic and Classification Results

The survey had 127 total unique respondents, though each individual question has a smaller response rate as all questions were able to be skipped. There is no set amount of individuals that the survey was distributed to, so a response rate is not mentioned here. For this type of survey, I was most interested in gathering broad feedback from individuals within the community.

Some basic demographic information was gathered about the types of institutions that responded. Participants were asked what type of institution they worked for and what the Carnegie Classification for their institution was. The below figures show the results of those questions. The first question asked: what type of institution do you work for? (Note: this question was specifically asking if the institution was public or private, not speaking to any other classification system that higher education administration might use to tag institutions).

Table 2. Respondents by institution type (public or private)

Institution Type	**Responses (94 total)**
Public	76 (80.85%)
Private	18 (19.15%)

The majority of respondents were from public institutions. This could be due to the types of individuals that joined the lists this survey was distributed to.

Table 3. Respondents based on their institution's Carnegie Classification.

Institution Carnegie Classification	Number (total n=94)
Doctoral University (R1-R3)	27 (28.72%)
Master's College or University (M1-M3)	14 (14.89%)
Baccalaureate College	4 (4.26%)
Baccalaureate/Associate's College	6 (6.38%)
Associate's College	17 (18.09%)
Other	4 (4.26%)
Unsure	22 (23.4%)

The majority, or 28.72%, of individual respondents worked at institutions that were Doctoral universities (based on their Carnegie Classification), though it is also worth noting that Master's institutions and Associate Colleges both had a high ratio of respondents with 14.89% and 18.09% respectively. 23.4% of respondents indicated that they were unsure of their Carnegie Classification, which was unsurprising as accessibility coordinators are colloquially viewed as a technical role as opposed to an administrative role in higher education, which suggests that many individuals may not have administrative backgrounds. Further research would need to be done to understand the background training of individuals who do accessibility work in higher education, but in the next sections we will examine some of the background information related to the role of digital/web/EIT accessibility coordinator in higher education.

Results

This section will discover the results based on indicator area of the question. There were three main areas which were explored: the function of digital accessibility coordinator, the priorities of institution, and the role of leadership in accessibility conversation.

The Role of the Digital Accessibility Coordinator

Many organizations do not have a digital/web/EIT accessibility coordinator ("accessibility coordinator" from this point forward in this thesis) to help coordinate policies, culture, and other aspects related to digital accessibility. There were seven follow-up question if individuals indicated that their organization had an accessibility coordinator. The below table demonstrates responses to the question: if individuals worked for a university where there was an individual titled as coordinator who facilitated web/EIT/digital accessibility.

Table 4. Respondents based on whether or not their institution has an accessibility coordinator.

Does your institution have a coordinator?	**Responses (total n= 103)**
Yes	46 (44.66%)
No	44 (42.72%)
Unsure	5 (4.85%)
Other (seeking one/about to post)	6 (5.83%)
Other (committee)	1 (<1%)
Other (grassroots)	1 (<1%)

It is split whether organizations have an accessibility coordinator. 44.66% of individuals indicated that they worked at an institution where an accessibility coordinator was present whereas 42.72% indicated that their institution did not have an accessibility coordinator. A cross-

tabulation shows that of respondents who indicated that their institutions have an accessibility coordinator, 86.67% also had an accessibility policy. Of those that did indicated that they do not have an accessibility coordinator, 53.66% did not have an accessibility policy.

It seems possible that an accessibility coordinator may have a significant impact on institutions having an accessibility policy, and as the literature review shows, this can be an important aspect of inclusion and value placed on accessibility initiatives.

There seems to be a great variety of divisions where an accessibility coordinator might be placed within an organization. 54.9% of respondents indicated that the accessibility coordinator was in the Information Technology Unit, though there was a massive spread in the other areas selected. Some of those other units were compliance/equity, disability services, communications & public relations, academic affairs, and Teaching & Learning centers, teams, or divisions. This indicates some of how institutions see the accessibility coordinator interfacing with the organization.

Table 5. Respondents indicated where their accessibility coordinator was located within the institution (if they had a coordinator).

Placement of Accessibility Coordinator	Responses (total n=51)
Compliance/Equity	3
Disability Services	6
Inclusion	0
Information Technology	28
Unsure	1
Other (Instructional Design/Teaching Center/Teaching & Learning/eLearning)	6
Other (Special Project Office)	1
Other (Joint)	2 (one is IT/Center for Teaching & Learning; the other is IT/Inclusion)
Other (Academic Affairs)	1
Other (Communications & Public Relations)	1
Other (Web Communications Technology)	1
Other (Center for Accessibility)	1

Accessibility coordinators should be well versed in study and practice related to all of the intersecting fields. This is partly because accessibility coordinators are relatively new role at institutions. Individuals indicated that the accessibility coordinator role was less than one year old at their institution 29.55% of the time, 1-2 years old 43.18% of the time, and 3-4 years old 13.64% of the time.

Table 6. Respondents indicate how long there has been an accessibility coordinator on their campus.

How long has the coordinator role been on your campus?	Response (years; total n=44)
Less than one year	13 (29.55%)
1-2	19 (43.18%)
3-4	6 (13.64%)
5-7	2 (4.55%)
8-9	1 (2.27%)
10-15	1 (2.27%)
Other	2 (both indicated greater than 15 years)

As the role of accessibility coordinator matures, we may see more alignment in where that role is placed within the organization, but it is clear that an accessibility coordinator has to have many different skills.

Accessibility Work within Higher Education

One area of interest in this study was to consider how accessibility can be effectively coordinated, but also what types of accessibility work is done. Respondents reported that the top 4 activities that their institution offered individuals related to accessibility were as follows: consultation/training (30.95%), conferences/workshops (25.24%), web development (18.57%, and communication from executive leaders who represent accessibility (10.95%).

Table 7. Respondents indicate which activities their institutions offer.

Accessibility activities offered	Responses (n=210)
Consultation/Training	65 (30.95%)
Web development	39 (18.57%)
User research with persons with disabilities	17 (8.1%)
Communication from executive leaders who represent accessibility	23 (10.95%)
Conferences/workshops	53 (25.24%)
Other (none, in development)	8 (3.8%)
Other (online, links to resources)	4 (1.9%)
Other (online course remediation)	1 (<1%)

Importantly another question shows that, consultation/training (50.62%), and executive communication (38.27%) were the top two areas where individuals stated they would like to see prioritized as the most important area where more work related to accessibility was necessary at their institution.

Interestingly, conferences/workshops were ranked least important to develop more support for of 5 items with (30.86%) of respondents marking that this was least important to provide more programs or services for so there may be a slight disconnect in what is being offered and what people are seeking in their institutions.

Of respondents that indicated that their institution had an accessibility coordinator, 80.95% indicated that they thought that their institution's needs for accessibility did not match the personnel support for accessibility initiatives.

Table 8. Respondents indicate whether they feel their institution's support for accessibility meets institutional need.

Do you think that the level of personnel support for accessibility matches the institution's needs for accessibility?	**Responses (total n=42)**
Yes	6 (14.29%)
No	30 [+4] (71.43%) + [9.52%] **80.95%**
Unsure	1 (2.38%)
Other (No, a few more/No, the people are good but we need more/trying to grow) [**classified to No in text]**	4 (9.52%) + [71.43%]
Other (Yes, for current level of engagement)	1 (2.38%)

What this tells us is that individuals believe that simply having an accessibility coordinator (and in some cases having staff who support a coordinator) is not enough to support their organizations' needs related to accessibility. One thing that is clear from the survey is that individuals who do accessibility work within the organization generally do not feel supported by the organization. Individuals indicated that they strongly disagreed (27.59%) or disagreed (33.33%) with the following statement: My institution provides sufficient support to individuals who work on Digital/EIT/Web accessibility.

Table 9. Respondents indicate whether they believe digital accessibility professionals within their organization are sufficiently supported.

My institution provides sufficient support for those that work on digital accessibility.	**Responses (n=87)**
Strongly Disagree	24 (27.59%
Disagree	29 (33.33%
Neutral	13 (14.94%)
Agree	14 (16.09%)
Strongly Agree	7 (8.05%)
Prefer not to answer	0 (0%)

The most commonly acknowledged reason for doing accessibility in institutions of higher learning is still legal. One survey question gave respondents four choices and asked them to rank the priority of their institution related to accessibility. The first priority of institutions as

indicated by individuals within those institutions for accessibility is a legal one. The below chart shows the breakdown of what respondents indicated were there institution's first priority when approaching digital accessibility conversations.

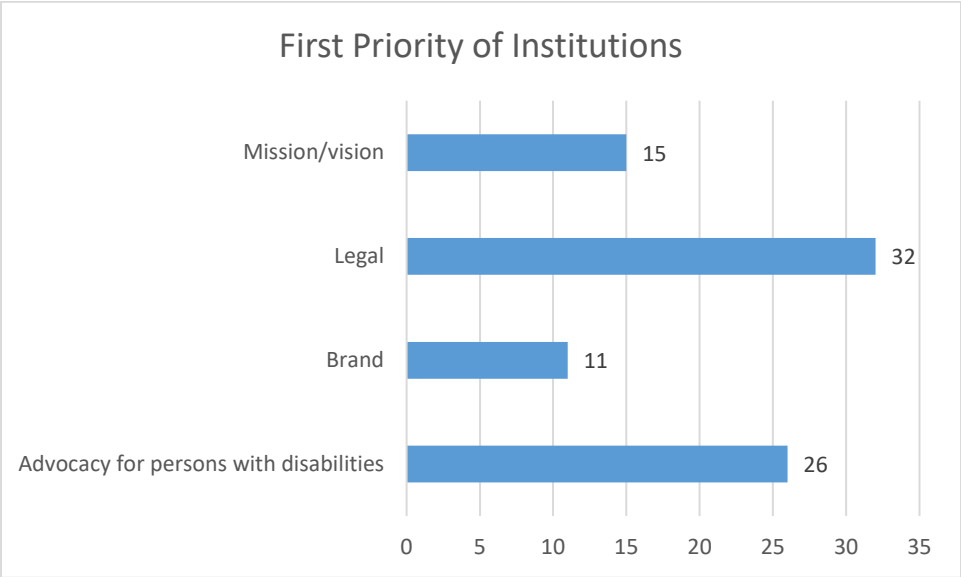

Figure 1. Respondents indicate first priority of institution from a range of four options.

36.36% of respondents indicated that priorities were on the legal landscape related to digital accessibility, but advocacy for persons with disabilities was at 29.21%. It seemed like there was a relatively even spread of these priorities, and what might be interesting to consider in a future study is to compare priority to the office that the accessibility coordinator exists in.

Brand is most frequently considered the least important aspect of accessibility priorities at institutions relative to legal, mission/vision, and advocacy. 47.73% of respondents ranked brand as a relative fourth.

Respondents indicate fairly frequent contact with other accessibility professionals in their institutions (see the below chart).

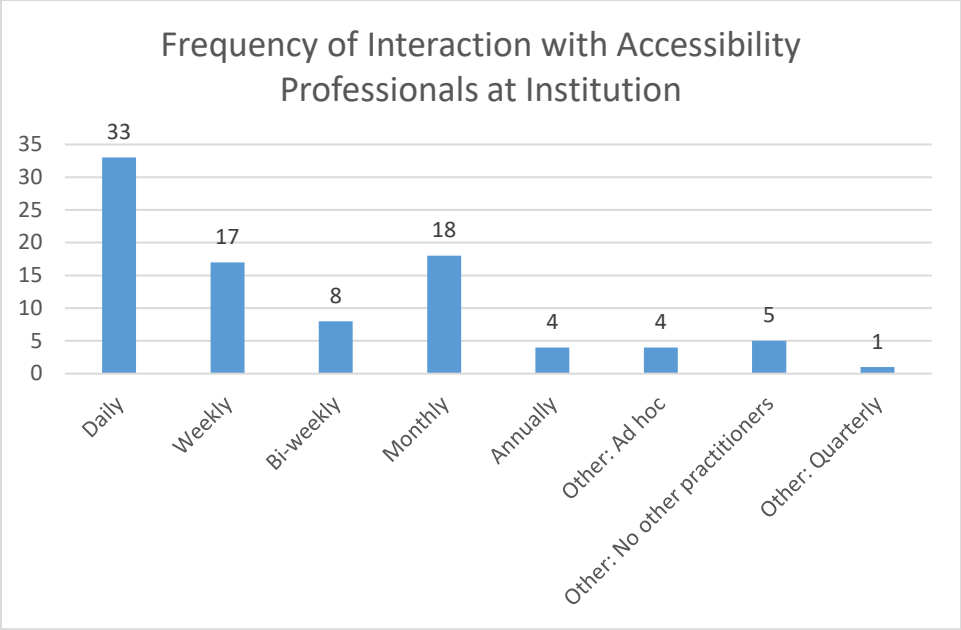

Figure 2. Respondents indicate how often they interact with other accessibility professionals within their organization.

The following chart shows the breakdown of how much time the survey respondents spend on accessibility at their institution (relative to their full time spent at the institution).

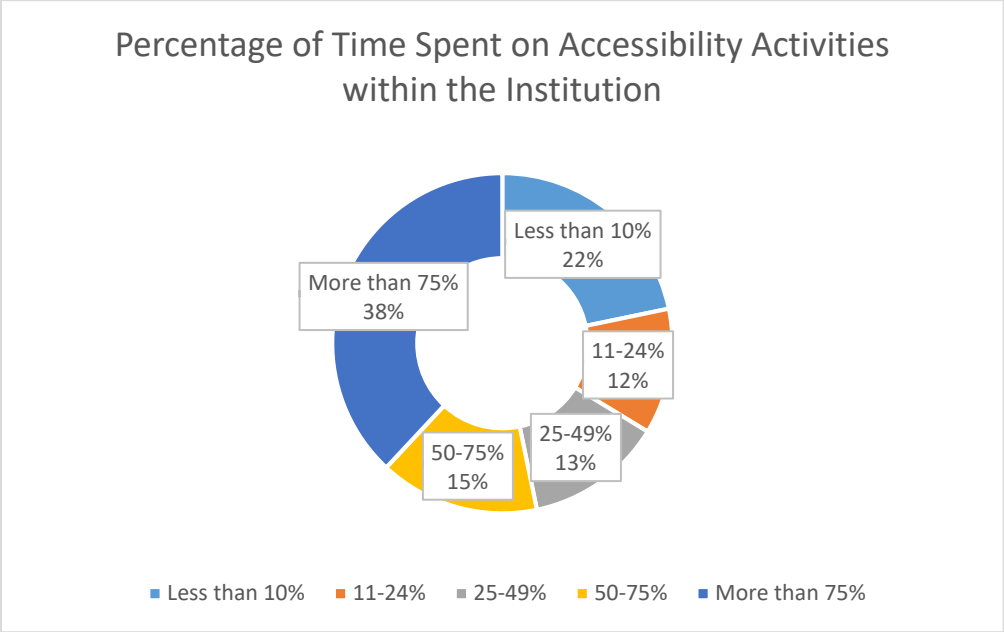

Figure 3. Respondents indicate percentage of work time which is dedicated to accessibility work within the institution, relative to total time spent on work with institution.

Executive Administration Involvement

While it seems prudent to task the accessibility coordinator with maintaining a policy, other responsibilities involve institution-wide communication. Because of this, it makes sense that the accessibility coordinator needs to have sufficient support from top-level administrators as well as from grassroots initiatives in order to be effective within the organization. It is important for institution-wide initiatives to demonstrate executive support. Birnbaum describes executives in higher education institutions as having roles that are "highly symbolic rather than instrumental" due to their time being taken by internal and external constraints (1989, p. 29). Legon et al. consider that if these constraints did not exist then "the president could lead the university into significant change over some reasonable period of time", but also suggest that this change takes time in higher education (2013, p. 28). Despite this, executive management at universities play a pivotal role in setting a culture and creating hierarchical structures which are designed to effectively solve problems and support diverse populations and programming. Legon et al. state that "if the president can maintain control of the university's bureaucracy with the help of strong provosts and other senior administrators" then the president can be more effective with good data, and can influence and even change the trajectory of a university (2013, p.29). Digital accessibility is a new initiative in many institutions, so it is important to emphasize the need to maintain executive-level engagement for accessibility initiatives, in order to gradually change institutions. The following table demonstrates responses related to the question: do you communicate with executive leadership about accessibility?

Table 10. Respondents indicate whether they communicate with executive leadership.

Communication status with executive leadership	**Responses (n=84)**
Yes	59 (70.24%)
No	19 (22.62%)
Not sure	0
Prefer not to Respond	6 (7.14%)

These results are promising, with 70.24% of respondents indicating that they do communicate with leadership. As accessibility matures within organizations, it makes sense for there to be an end-goal of defining several reporting structures to executive leadership, depending on where the accessibility coordinator exists within the institution. In this area, accessibility does need more maturity. The following figure shows the ways in which individuals report involving executive leadership.

Figure 4. Respondents indicate how executive leadership is engaged by individuals who do accessibility work in higher education.

Much of how accessibility professionals in higher education reach leadership is informal or as-needed, as opposed to an established practice. Informal discussions (35%) and meetings as needed (30%) account for 65% of the meeting formats that individuals who do accessibility work have with leadership. In this case, just 29.07% of respondents indicated that they had regular meetings with leadership. Just as there is a wide variety in offices that accessibility comes from or is situated within, there are a vast number of topics that accessibility professionals work on in higher education. Meetings with executive leadership where accessibility was discussed had a wide range of potential topics. The top 4 executive meeting topics were as follows:

- Addressing concerns related to faculty research and accessibility (16.23%)
- Incorporating accessibility into more conversations on campus (16.23%)
- Asking how to fund or resource accessibility more effectively (14.34%)
- Asking for more staff for accessibility efforts (13.58%)

It is worth noting that there is a huge diversity in response to this question, and that there is potential for these discussion points to change as the field matures. The following table demonstrates the full range of responses that were recorded.

Table 11. Respondents indicate topics of accessibility meetings with executives.

Executive leadership meeting agenda items	Responses (n=265)
Incorporating accessibility into more conversations on campus.	43 (16.23%)
Adding accessibility into web development workflows.	34 (12.83%)
Asking for more staff for accessibility efforts.	36 (13.58%)
Addressing concerns related to faculty research and accessibility.	14 (5.28%)
Addressing concerns related to faculty teaching and accessibility.	43 (16.23%)
Considering how to reach out to other executive leaders.	17 (6.42%)
Asking how to empower accessibility on campus more effectively.	35 (13.21%)
Asking how to fund or resource accessibility more effectively.	38 (14.34%)
Other (priorities, processes, reports)	4 (1.5%)
Other (not involved)	1 (<1%)

Implications

The current state of digital accessibility in higher education from the practitioner's viewpoint is relatively new. Some institutions have been doing digital accessibility work in various forms for a very long time, while most respondents indicate that their institution is just now approaching digital accessibility. As digital accessibility is a comparatively new challenge for higher education (especially when we consider that digital and accessibility as their own challenges are not so established either), it is important for practitioners in the field to reflect on the purpose, impact, and structure of their work, and to consider what their peers are doing. One of the reasons basic classification and type data was gathered about institutions with this study is that higher education institutions vary wildly based on their type, size, state, financial intake structures, general student population, and mission. The Carnegie Classification is a useful mechanism for assessing and studying institutions. The goal of this work was to fuse ideas from higher education administration with technical communication research methods in order to evaluate the complex issue of accessibility in higher education.

Value of an Accessibility Coordinator

Having an accessibility coordinator appears to be an important part of maintaining accessibility initiatives on campus. The cross-tabulation analysis relating to the accessibility coordinator question and the question which asks if individuals are working at an institution with an accessibility policy indicates that there is a strong correlation between institutions that have an accessibility coordinator and institutions that have an accessibility policy. Accessibility policies are important for presenting accessibility professionals in complex organizations with a mechanism for building buy-in. Higher education administration is a complex space and digital accessibility is an equally complex issue for organizations to approach. Accessibility

practitioners in this space should try to be cognizant of the different resource, governance, and support models within their institution and should try to communicate with institutions of similar type and classification. Seeing that 23.4% (Table 3) of respondents were unsure of their institution classification was not surprising. Further understanding this classification and how the institution operates, and understanding literature from higher education administration will help individuals to advocate for, and understand accessibility within their organization. I would argue that a key component of an individual's role in an organization is to understand how that organization operates.

If accessibility professionals in higher education can develop this skill, then it will accelerate efforts to bring accessibility to organizations, and allow accessibility to mature within these spaces. One key finding from this study is that the placement for the coordinator varies heavily, but that the coordinator has responsibilities in many veins. As an administrative role, the tasks of the coordinator are new and complex, entrepreneurial in activity, and require skills as an influencer. Some of the core skills of an accessibility coordinator in higher education might be:

- Policy-writing
- Buy-in building
- Technical standards
- Familiarity with legal frameworks
- Organizational awareness
- Process development

These skills coupled together can make better the ways in which accessibility professionals do work. Once we understand better how accessibility professionals do work, researchers can use that knowledge combined with user research with persons with disabilities,

standards development, and organizational research to better analyze how accessibility professionals can do work in higher education. As one respondent mentioned “there is a lot of talk, but not action or accountability – this institution needs to stop acting like accessibility is optional”. It stands to reason that a key role of the accessibility coordinator should be to maintain and uphold an accessibility policy which reflects institution type, classification, and the needs of institutional stakeholders inside and outside of the institution.

Building accountability infrastructure into the organization through policy writing and enforcement is important. The find that individuals are unsatisfied with current support in the organization is unsurprising given that the accessibility coordinator role has many administrative hats to wear (in addition to responding to technical services) based on where the role is currently placed within organizations. Due to the newness of this role at institutions, it is also likely that this number will go down once institutions find out more of both how to support individuals in this role, but also which specific responsibilities this individual should hone in on. Workplace studies help to bring forward conversations that need to happen to better organizations. More of these types of studies can help build more connections between ideas and mature digital accessibility in higher education.

Digital Accessibility Work in Higher Education: Communities of Practice & Alignment with Brand

When asking respondents to rank their most important service that needs to be upgraded related to digital accessibility, we see that 50.62% of respondents think that the most important offering is that consultation/training need to be offered more widely in their institution. It makes sense that accessibility professionals consider this to be of great importance, and we can see why the community is interested in gaining more support at their institutions. To get more people

involved, there needs to be a heavy focus on “impressions” within institutions (i.e., how many people are hearing about it). This needs to develop into scaffolded training. It is promising that some accessibility coordinators are localized within centers for teaching & learning—skills related to instructional design can further move the dial here. Institutions should actively seek to create partnerships between instructional designers and accessibility professionals, and curricula should be created to support different user groups within the institution, such as faculty versus staff.

The core activities which individuals think should receive more support are workshops, consultation, and training. This demonstrates the need for more grassroots communities in higher education institutions, and also the need for more personnel to coordinate those initiatives. Accessibility is not a problem that a digital accessibility coordinator can solve alone. The institutional awareness needs to be there in order for change to happen. Grassroots communities often serve the role of encouraging a more conscionable institution, and in trying to change institutional values. For accessibility to move forward past this stage, accessibility professionals need to get more people involved within their institutions, and build larger communities of work.

While the findings from this study show that legal, advocacy, mission/vision priorities are important, it makes sense to consider how brand and mission/vision can help to elevate the platform of accessibility within institutions. Scholars cite that language itself can be a barrier for students with disabilities (Peña, 2016, p. 87). We can see how language has symbolic value based on the models of disability that have emerged in different systems. Acknowledging that academic leaders in some purpose serve a symbolic role, and that institutions of higher education thrive on theater and ceremony (Bolman & Deal, 2017, p. 245 – 270). Digital accessibility is a field dominated by individuals who value empathy, change, and technology. I believe that

connecting legal and advocacy reasons to the brand and missions and visions of organizations is likely to create a multi-faceted argument for accessibility that will intimately align with the brands that institutions of higher education cultivate, create, and live. Establishing a connection between digital accessibility work and mission/vision, brand, legal frameworks, and advocacy is important for the organization to consider how it will understand accessibility initiatives. In fact, disability studies scholars' Depoy & Gilson consider writing policies related to disability to be an effective act of branding disability within organizations (2013, p. 489 – 491). Understanding justice issues within organizations as inherently branded by how organizations position their commitment, respond to crises, and revise and revamp policies and structures is an interesting way to understand complex issues such as disability and digital accessibility in higher education. This practice will help to develop a sense for how institutions of higher education can more adequately approach accessibility.

Executive Leadership: Bringing Accessibility into Administrative Channels

A further 38.27% of respondents ranked communication from executive leaders who represent accessibility as the most important activity that needs to be strengthened at their university. Accessibility professionals are seeking accountability within the institution, whereas executive leaders look to regulatory agencies, which change strategies every election cycle, for accountability. This divergence creates ebbs and flows where accessibility may not feel like a strong priority to the individuals who do the work. This further points to the need for an empowered accessibility coordinator. Many respondents indicated that the mantle of accessibility coordinator was attached to another role, such as CIO or Deupty CIO, or to a committee focused on accessibility. This appears to cause frustration and a lack of consistent, supported buy-in.

There also seems to be a lack of regular, formal meetings between accessibility professionals and executive leadership. Responses to the open-ended final question expressed frustration at systems which did not support various aspects of accessibility that they thought to be important. Some of these aspects were vended technology, course accessibility, training of staff and faculty, and awareness and culture-building.

Accessibility professionals must:

- Anchor their reporting structures to executive offices which make organizational sense
- Encourage regular meetings with executive leaders, and work to build influence with leaders across the institution
- Demonstrate grassroots initiatives and the value of institution-wide training to executive leaders

Accessibility must be attached to an effective executive leader in order to move forward. As Birnbaum discusses "organizational leadership is important, but it is a mistake to believe that all leadership must come from 'leaders.'" (1988, p. 206). Beyond working with effective leaders within the organization, accessibility professionals must consider how to become leaders of change in their respective organizations. A huge part of that is building a community of fellow practitioners, and empowering those persons to affect change of their own.

As Amey discusses, "academic leaders create learning environments that include cultural awareness" (2006, p. 56). One role of individuals who seek to change cultures and practices in higher education institutions is to identify and work with leaders. This appears to be an area where the field needs to advance in order to solidify its impact. Digital accessibility as a discipline within higher education is one that is still tightly connected with outcomes on the end-

user. In order to increase impact, professionals in higher education must work to funnel conversations to executive leaders within the university.

The frequency of interaction between accessibility professionals in organizations is promising, but many individuals still are doing this work alone. Some researchers see academic institutions as organized anarchies. Birnbaum describes this paradigm in his work (1989, p. 151 – 174), and discusses the types of "streams" (which is similar to studying how communication *flows* through an organization) which move through an organization; problems, solutions, and participants move through the organization (1989, p. 160 – 161). These streams funnel to executive leaders, who have to use strategies like garbage-can decision making (1989, p. 162) to make decisions that make sense. Garbage-can decision making involves taking all of these streams into receptacles. The effective executive in higher education will create receptacles as they learn more about the organization, and task individuals from their teams to sort problems, solutions, and participants into respective receptacles. Garbage-can decision making involves people, genres, and processes more than anything. The more accessibility professionals can learn about their institution's leaders style of decision making, the more effectively they can frame accessibility as an issue that can be utilized by leadership. Accessibility is an institutional challenge that relies of institutional culture and communities to impact change—this is why models like garbage-can decision making might be of interest to the accessibility professional, because the model is heavily focused on people.

Figure 3 demonstrates a wide range of time being devoted to accessibility by accessibility professionals within higher education, but a relatively uniform assertion that was discussed in the result section that there is not enough capacity to support accessibility needs within institutions, broadly, with 80.95% (Table 8) of individuals articulating that there is not enough capacity to

support demand. As such, accessibility professionals are right to focus on training, and on awareness building. Accessibility is a serious justice issue that institutions need to address, and many leaders in higher education will be interested in digital accessibility from that standpoint. A core performance indicator of accessibility maturity in higher education is how many people get involved in accessibility work, and parallel to how well supported decisions are made by executives related to accessibility.

Conclusion

Digital accessibility professionals in higher education institutions play an important role in making those institutions more accessible for persons with disabilities. With the evolution of standards for digital accessibility progressing forward, professionals in the space need to continue to create discourse between similar institutions in order to develop more mature approaches to accessibility which are mindful of resource constraints, arguments for accessibility, and opportunities that may arise. Survey studies of practitioners in this space are an effective way to view accessibility in institutions of higher education from a different viewpoint, and a way for individuals to align strategies across different institutions. This study provided interesting context through which to review the trajectory of digital accessibility conversations. Further survey research can be done to develop new strategies for professionals in the space to advance their work. Those studies should focus on higher education frames/organizational theories, and investigate training and awareness programs, as professionals indicate that those are areas that need to advance in order to increase the accessibility of their institutions for persons with disabilities.

APPENDIX

Appendix

Survey Instrument

Digital Accessibility in Higher Education

Below follows the full-text of the survey, with survey options indicated with numbers.

Q1 Digital Accessibility in Higher Education

You are invited to participate in our short research survey focused on digital accessibility in higher education. This survey has been distributed to lists and individuals who do work related to accessibility in higher education. Responses to this survey are recorded confidentially, and results are de-identified. Any demographic data relating to institution is obtained only to understand institution classifications and how that may impact digital accessibility initiatives. This survey should take approximately 10-15 minutes to complete. You must be 18 years or older to respond, and participation is voluntary. You may choose not to participate at all, or you may refuse to participate in certain procedures or answer certain questions or discontinue your participation at any time without consequence. The data collected for this research study will be protected on a password protected computer or in a locked file cabinet on the campus of Michigan State University for a minimum of three years after the close of the project. Only the appointed researchers and the Human Research Protection Program (HRPP) will have access to the research data. For more information contact _____.

Page Break

Section1 Section 1 of 3: Policy & Coordinator

This section will ask two to nine multiple choice questions related to accessibility policies and coordinators at your institution.

Q2 Does your institution have a Digital/Web/Electronic and Information Technology (EIT) Accessibility Policy?

- O Yes (1)
- O No (2)
- O Unsure (3)
- O Other (please specify): (4) _____

Q3 Does your institution have a Digital/Web/EIT Accessibility Coordinator?

- O Yes (1)
- O No (2)
- O Unsure (3)
- O Other (please specify): (4) _____

Skip To: Section2 If Does your institution have a Digital/Web/EIT Accessibility Coordinator? != Yes

---

Q4 In which office is your Digital/Web/EIT Accessibility coordinator (please select multiple if applicable)?

- ☐ Compliance/Equity (1)
- ☐ Disability Services (2)
- ☐ Inclusion (3)
- ☐ Information Technology (4)
- ☐ Unsure (5)
- ☐ Other (please specify): (6) _____

Page Break

Q5 How long has your institution had a Digital/Web/EIT accessibility coordinator/coordinating office?

- O Less than one year (1)
- O 1-2 years (2)
- O 3-4 years (3)
- O 5-7 years (4)
- O 8-9 years (5)
- O 10-15 years (6)
- O Other (please specify): (7) _____

Page Break

Q6 What kind of contact does this office/coordinator have with the rest of your campus community (please select multiple if applicable)?

- ☐ Committees (1)
- ☐ Consultation (2)
- ☐ Email (3)
- ☐ Fliers (4)
- ☐ Memos (5)
- ☐ Regular Meetings (6)
- ☐ Social Media (7)
- ☐ Web (8)
- ☐ Workshops (9)
- ☐ Other (please specify): (10) _____

Q7 How often does this office/coordinator communicate with the campus community about accessibility?

- O Daily (1)
- O Weekly (2)
- O Bi-weekly (3)
- O Monthly (4)
- O Annually (5)
- O Other (please specify): (6) _____

Page Break

Q8 How does this office/coordinator provide support to the institution?

- O Automated scanning of websites and web applications. (1)
- O Coordinating services with a third party accessibility vendor. (2)
- O Evaluating vended technology solutions. (3)
- O Providing captioning/transcription services for multimedia. (4)
- O Manual accessibility evaluation and review. (5)
- O Other (please specify in brief): (6)

_____

Page Break

Q9 How many people work in the office that manages Digital/Web/EIT accessibility at your institution?

- O 1-2 (1)
- O 3-5 (2)
- O 6-10 (3)
- O 11-15 (4)
- O Other (please specify): (5) _____

Q10 Do you think that the level of personnel support for accessibility matches your institution's needs for accessibility?

- O Yes (1)
- O No (2)
- O Unsure (3)
- O Other (please specify): (4) _____

Page Break

Section2 Section 2 of 3: Institutional Context

This section will ask 11 multiple choice questions about your institution and your relationship with accessibility work at your institution.

Q11 What type of institution do you work for?

- O Public (1)
- O Private (2)
- O Unsure (3)
- O Other (please specify): (4) _____

Q12 What is your institution's Carnegie Classification ®? Note: If you are unsure of the answer, please select unsure. The Carnegie Classification is a system for defining the type of a college or

university. Different types of colleges or universities may have different needs or considerations relating to a variety of functional areas.

- O Doctoral University (R1-R3) (1)
- O Master's College or University (M1-M3) (2)
- O Baccalaureate College (3)
- O Baccalaureate/Associate's College (4)
- O Associate's College (5)
- O Special Focus Institution (2 year) (6)
- O Special Focus Institution (4 year) (7)
- O Tribal College (8)
- O Unsure (9)
- O Other (please specify): (10) _____

Page Break

Q13 Please rank your institution's priorities when examining the importance of digital/web/EIT accessibility. Please rank the following 1-4, with 1 being the most important, and 4 being the least important.

_____ Advocacy for Persons with Disabilities (1)

_____ Brand (2)

_____ Legal (3)

_____ Mission/Vision (4)

Q14 On average, what percentage of your time working for your institution is spent on accessibility?

O Less than 10% (1)

O 11-24% (2)

O 25-49% (3)

O 50-75% (4)

O More than 75% (5)

Q15 Would you say that your percentage of time spent on accessibility is consistent year round?

O Yes (1)

O No (2)

O Other (please explain): (3) _____

Page Break

Q16 How many individuals on your campus do accessibility work?

- O 1-2 (1)
- O 3-5 (2)
- O 6-10 (3)
- O 11-15 (4)
- O Unsure (5)
- O Other (please specify): (6) _____

Q17 How often do you interact with other individuals on your campus who do accessibility work?

- O Daily (1)
- O Weekly (2)
- O Bi-weekly (3)
- O Monthly (4)
- O Annually (5)
- O Other (please specify): (6) _____

Page Break

Q19 Of time spent on accessibility, how often do you do the following activities related to accessibility?:

	Daily (1)	Weekly (2)	Bi-weekly (3)	Monthly (4)	Annually (5)	Never (6)
procuring accessible technologies (1)	O	O	O	O	O	O
assisting in the development/remediation of accessible courses (2)	O	O	O	O	O	O
assisting in the development/remediation of accessible websites or web content (3)	O	O	O	O	O	O

working to increase the accessibility of multimedia such as podcasts or videos (4)	O	O	O	O	O	O
working with assistive technology (5)	O	O	O	O	O	O
working directly with persons with disabilities (6)	O	O	O	O	O	O
leading accessibility programs or initiatives (7)	O	O	O	O	O	O

Page Break

Q20 Please indicate level of confidence you feel in the following statements when considering your institution.

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Prefer not to answer (6)
I believe that my institution has sufficient buy-in to support policies, procedures, and practices related to accessibility. (1)	O	O	O	O	O	O

My institution has a clear central office which provides guidance around accessibility policies. (2)	O	O	O	O	O	O
I believe that my institution is organized in a way to meaningfully support individuals with disabilities. (3)	O	O	O	O	O	O

Web sites and digital assets which my organization newly publishes tend to meet accessibility standards. (4)	o	o	o	o	o	o

Web sites and digital assets which my organization newly publishes tend to meet my institution's relevant accessibility policies. (5)	o	o	o	o	o	o

I believe that persons with disabilities feel supported by my institution. (6)	O	O	O	O	O	O

My organization relies on federal, state, or local regulations to provide guidance on how to increase accessibility in our websites and digital assets. (7)	O	O	O	O	O	O

My institution provides sufficient support to individuals who work on Digital/EIT/ Web accessibility. (8)	o	o	o	o	o	o

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Page Break

Q21 Which of the following accessibility activities or programs does your institution offer to support faculty and staff in increasing accessibility for persons with disabilities?

- ☐ Consultation/Training (1)
- ☐ Web development (2)
- ☐ User research with persons with disabilities (3)
- ☐ Communication from executive leaders who represent accessibility (4)
- ☐ Conferences/workshops (5)
- ☐ Other (please specify): (6) _____

Page Break

Q22 Please rank the following activities based on how important you think it is that your institution should provide more services or programs related to digital accessibility 1-5 with 1 being the most important to you and 5 being the least important to you.

_____ Consultation/Training (1)

_____ Web development (2)

_____ User research with persons with disabilities (3)

_____ Communication from executive leaders who represent accessibility (4)

_____ Conferences/workshops (5)

Page Break

Section3 Section 3 of 3: Leadership Involvement

This last section will ask a few one to four multiple choice questions and one short answer question about how leadership is involved with accessibility on your campus.

Q23 Do you communicate with executive leadership about accessibility?

- O Yes (1)
- O No (2)
- O Not sure (3)
- O Prefer not to respond (4)

Skip To: Q27 If Do you communicate with executive leadership about accessibility? != Yes

Q24 How often do you communicate with executive leadership about accessibility?

- O Daily (1)
- O Weekly (2)
- O Bi-weekly (3)
- O Monthly (4)
- O Annually (5)

Q25 What is the structure of meetings involving communication with executive leadership?

- ☐ Regular, formal meetings with agendas (1)
- ☐ Meetings as needed (2)
- ☐ Informal discussions (3)
- ☐ Other (please specify): (4) _____

Page Break

Q26 What are the general topics of these discussions with executive leadership?

- [ ] Incorporating accessibility into more conversations on campus. (1)
- [ ] Adding accessibility into web development workflows. (2)
- [ ] Asking for more staff for accessibility efforts. (3)
- [ ] Addressing concerns related to faculty research and accessibility. (4)
- [ ] Addressing concerns related to faculty teaching and accessibility. (5)
- [ ] Considering how to reach out to other executive leaders. (6)
- [ ] Asking how to empower accessibility on campus more effectively. (7)
- [ ] Asking how to fund or resource accessibility more effectively. (8)
- [ ] Other (please specify): (9) _____

Page Break

Q27 Briefly describe steps that you think your institution needs to take/challenges that your institution needs to address in order to increase accessibility for persons with disabilities.

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