"Without That Detail, I'm Not Coming": The Perspectives of Students with Disabilities on Accessibility Information Provided on Academic Library Websites

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Although most academic library websites include a webpage of information intended for users with disabilities, no research was located that solicited feedback about users' needs or preferences for these pages. To address this discrepancy, 12 university students with disabilities were interviewed about their perspectives on navigation, search terms, organization, desired content, and the overall look and feel for such a webpage. These interviews revealed numerous important considerations around accessibility and inclusivity, and a list of recommendations was compiled.

Introduction

Discussions around accessibility and library websites have often focused on compliance with the Web Content Accessibility Guidelines (WCAG),[1] which describe appropriate technical configuration to support users with disabilities. Since these guidelines were first implemented, a considerable amount of research has been conducted on the extent to which library websites do, or do not, comply with them.[2]

While the technical accessibility of a library website is certainly one very important aspect of accessibility, it does not represent the only potential challenge users with disabilities might encounter to using library resources, services, and spaces. In recognition of this, most academic library websites include a dedicated webpage of information intended for users with disabilities.[3] These pages, which may highlight information on topics such as assistive software, book paging services, or wheelchair-accessible entrances, will be referred to as libraries' "accessibility webpages" for the purposes of this paper.

Despite most academic libraries having an accessibility webpage as part of their larger website, only a few studies were found that examined these pages,[4] and none of them involved consultation with users with disabilities. Although some creators of accessibility webpages may have personal experience with disability that can inform their choices for it, a 2019 study found that librarians with disabilities had encountered a lack of awareness of

disability issues among their colleagues,[5] signaling that library employees are not always well positioned to anticipate the needs of users with disabilities.

Even those with greater familiarity with disability issues might find it difficult to envision how best to design and populate an accessibility webpage, for its potential pool of users is likely a large and varied group. Statistics on the number of students with disabilities are not always tracked on the university level; but, if they were, these students could potentially constitute the largest minority group on a campus.[6] Indeed, in 2015–2016, 19.4 percent of undergraduate students and 11.9 percent of postbaccalaureate students surveyed reported having a disability.[7]

Library employees may also be unaware of the wide range of disabilities their students have, particularly since many disabilities do not involve visually obvious markers, such as the use of a wheelchair or cane. ADHD, depression, mental and emotional illness, dyslexia, and autism are all examples of "invisible disabilities," a term that encompasses any disability that "interfere[s] with day-to-day functioning but do[es] not have a physical manifestation."[8] Invisible disabilities are in fact some of the most prevalent on college campuses, with a 2011–2012 study finding that for full-time undergraduates with disabilities the highest percentage (20.9%) of respondents reported their disability as ADD [the term used at that time], followed by depression (17.7%), Other (14.9%) and then mental, emotional, psychiatric condition (14.3%).[9] The traditional age of entry into postsecondary education is also a time when some invisible disabilities, such as acquired brain injury or mental illness, often are incurred or first develop.[10]

It should also not be assumed that library employees will learn about the needs of students with disabilities due to disclosures from the students themselves. Students with disabilities often prefer not to disclose their disabilities if possible, especially to people who do not themselves have a disability.[11] Due to concerns with respect to stigma, they may only disclose in close relationships or when strictly necessary.[12] Students with disabilities may also not be aware of library resources or services that have the potential to be useful for them, or feel comfortable asking about whether such resources or services exist. Insufficient knowledge of relevant services and the desire to avoid negative social interactions were, in fact, two of five themes identified in a study that investigated why students with disabilities did not use university services available to them.[13]

A library's accessibility webpage could potentially serve to help reduce barriers to access by allowing users with disabilities to review information about the library's accessibility resources, services, and facilities without requiring them to disclose information about their disability. To examine what an accessibility webpage could and should look like from a user-centered perspective, this study interviewed 12 university students with disabilities about their needs, preferences, and expectations for such a page.

Literature Review

Three studies were identified that specifically examined the existence of, and the information on, accessibility webpages within academic library websites. In 2018, Stephanie Graves and Elizabeth German, who were investigating disability inclusion for library instruction on library websites, found that 93% of the library websites reviewed included an accessibility webpage.[14] When Mary Cassner, Charlene Maxey-Harris, and Toni Anaya gathered their data in 2009, they found that, while 88 percent of the surveyed ARL libraries had an accessibility webpage, these pages differed widely in terms of both their length and their content.[15] Rebecca Power and Chris LeBeau created a rating scale for accessibility webpages based on the ease

of locating them, their level of detail, and their inclusion of specific information and links.[16] Only half of the libraries Power and LeBeau surveyed had an accessibility page that scored in the "good" end of their scale, and the amount of content on them was sometimes as little as a single sentence. Both Cassner et al. and Power and LeBeau included recommendations about what content should be included on accessibility pages based on their findings. Power and LeBeau identified the following as the five essential content components of a disability services page: contacts, services, building access, assistive technology, and database accessibility.[17] However, users with disabilities themselves were not consulted as part of these studies, which Cassner et al. specifically noted as a limitation.[18]

Other studies have interviewed users with disabilities about aspects of their library experiences.[19] While some of these studies involved usability testing of library websites,[20] none of them focused on users' perceptions of accessibility webpages (although some had findings with potential implications for these pages). Clayton Copeland's interviews with five long-term library users with disabilities found that the participants experienced a number of issues including inaccessibility of facilities within libraries, technology issues, and feelings of being a burden or a source of confusion for staff.[21] J.J. Pionke interviewed library patrons with a variety of disabilities, and a number of themes emerged, including: empowerment, facilities, communication, accessibility, signage, privacy, universal design, marketing.[22] Adina Mulliken interviewed library users who are blind to learn about their library experiences, finding that, while most users would have preferred to work independently, many ended up working with a librarian because of the difficulty navigating the library website.[23] Mulliken also found that the significant time investment it takes to navigate a new webpage with a screen reader can present an impediment to keeping up with academic work.[24] Wondwossen Beyene interviewed 10 library users with print disabilities and found that participants appreciated having content in a variety of formats, and for online environments to be inclusive and allow them to make informed, personalized choices.[25]

While these studies shed light on some of the complexities of the lived experiences and needs of users with disabilities, library research about disability often does not include the perspectives of users with disabilities themselves.[26] The library literature also appears to skew toward a focus on visual impairments or print disabilities, consistent with a previous finding by Hill that the largest segment of the library disability literature pertained to visually impaired users.[27] Common invisible disabilities such as ADHD, autism, and depression have been less commonly studied. However, a shift may be occurring in this area, with two recent studies focusing on services for and/or challenges experienced by students with Autism Spectrum Disorder (ASD),[28] although neither of these studies involved direct consultations with students.

Given the modest number of studies that interview students with disabilities, particularly invisible disabilities, as well as the limited number of studies examining library's accessibility webpages, interviewing students with disabilities about these pages addresses a current gap in the literature.

Methods

If handled poorly, discussions around disability can erode trust rather than build it. To learn more about how best to connect with and sensitively interview students with disabilities on the University of Illinois at Chicago (UIC) campus, the author met with a variety of experts and stakeholders. These stakeholders included staff members at UIC's Disability Resource Center and Disability Cultural Center, a researcher who focuses on accessibility in libraries,

and UIC's Library Accessibility Committee. Prior to submitting the project for IRB review, the interview instrument (see appendix A) went through a pilot examination by a faculty member who studies Disability Studies and who also identifies as having a disability.

This research project was reviewed by UIC's IRB and granted approval under an exempt review under protocol # 2018-1443. Recruitment through flyers and targeted listserv emails began in January 2019.

To be eligible, participants had to be 18 or older, a current UIC student, and to self-identify as having a disability. The recruitment materials emphasized that the study would benefit from a wide range of representation of disabilities and indicated that students who attended an interview would receive a $20 gift card for the university bookstore. Students who completed the screening and met eligibility requirements were contacted by the author. This initial email included an attachment of the consent form, so they had the option to review it ahead of time, and an offer for them to also receive the interview instrument prior to the meeting upon request. Three students requested to receive the interview instrument and were sent a copy accordingly.

The interviews were conducted between February and April 2019. Participants were given the option to meet at either of the two libraries on campus, to suggest an alternate campus location, or to do an online interview via Zoom if this would be the best fit based on either geographical or accessibility factors. After the consent form was reviewed and signed, the participants answered a series of questions about their experiences accessing or using library accessibility webpages and what they would hope for in terms of the organization and content of these pages. They were also asked how they would expect to locate such a page and, if searching instead of browsing the library's homepage, what search terms they would use.

During the interview, two lists were provided to participants for them to review and provide feedback on (see appendix B).

The first was a list of four website categories under which accessibility webpages had been commonly located in a survey of library webpages for Big Ten alliance institutions and additional institutions noted by Cassner et al. as having notably robust accessibility information. These four categories were:

- "Visit"
- "Help"
- "Services" and
- "Information for…"

Participants were asked to rank the order in which they would click on the categories to attempt to locate information on accessibility.

The second list contained types of information that might be discussed on an accessibility webpage (such as assistive software, parking/transportation information, or research assistance) and was created using the list compiled by Cassner et al. as a starting point and then adding additional categories found on surveyed websites, and modifying the language to try to avoid library jargon. Participants were asked to indicate which five types of information would be the highest priority for them to locate information on if they were new to a library.

The respondent interviews were audiorecorded; and, after the interview was completed, the audio file was transcribed using the automated transcription service Temi[29] and was then reviewed and edited for accuracy.

The transcripts of the interviews were entered into the online software program dedoose.[30] Transcripts were analyzed for responses to specific queries, such as whether partici-

pants expected such a page to exist; an inductive coding approach was also used to identify patterns and highlight notable quotes. The participants' responses to the two provided lists, which were recorded by the participants, were entered by the author in a private Qualtrics[31] form created for these questions and then exported into Excel for further analysis.

Analysis

Fifteen students expressed interest in participating in the study, and ultimately, twelve completed interviews. Of the twelve participants, 2 (17%) were undergraduates, 10 (83%) were graduate students, and the preferred pronouns indicated were she/her/hers for 9 participants (75%), he/him/his for 1 (8%), they/them/theirs for 1 (8%) and Other for 1 (8%). The disability category/ies selected by the participants are summarized in table 1, which includes comparisons to the university wide statistics for undergraduate and graduate students registered for disability services from UIC's 2018 Profile of Students, Faculty, and Staff by Racial/Ethnic Group, Gender, and Disability. Perhaps due to the broad and potentially overlapping nature of some of the disability categories used in this study, which came from the same 2018 profile, only two of the students in the study selected a single category of disability, and six selected two categories, and four selected three categories.

The participating students did not closely reflect the overall student population enrolled in disability services, however this study was intentionally not restricted to students who had enrolled in these services, and it also appears that in the profile students were represented in only a single category. No participants identified as having a disability they would classify as blind/low vision or deaf/hard of hearing, which is not necessarily surprising since at both the undergraduate and graduate level only 4% of the disabilities of students enrolled in disability services identified as having one of these disabilities.

Participants were not asked to provide any information about their specific disabilities during the interviews, but students who participated chose to divulge a variety of disabilities, including dyslexia, ADHD, brain injury, autism, mobility issues, chronic pain, nerve dam-

	# of Participants (%)	% Undergraduate Students Reporting Disabilities*	% Graduate Students Reporting Disabilities*
TABLE 1 Disability Categories Reported by Participants Compared to All Undergraduate and Graduate UIC Students Enrolled in Disability Services			
Disability category*			
Learning	2 (17%)	13%	9%
ADHD	7 (58%)	18%	24%
Psychological	7 (58%)	34%	32%
Developmental	1 (8%)	3%	1%
Mobility	3 (25%)	7%	5%
Blind/Low Vision	0 (0%)	2%	3%
Deaf/Hard of Hearing	0 (0%)	2%	1%
Systemic/Chronic health problems	5 (42%)	17%	20%
Other	1 (8%)	4%	3%
*Categories used in UIC's 2018 Profile of Students, Faculty, and Staff by Racial/Ethnic Group, Gender, and Disability			

age, vision impairment, depression, anxiety, and chemical sensitivity. Multiple participants remarked on how their disabilities, or their own understanding of their disabilities, had changed or fluctuated over time. One student mentioned how a head injury had exacerbated an existing condition, and another referred to themselves as a "part-time cane user." A student with physical disabilities disclosed that they had only recently learned that they also have learning disabilities and another student also commented that their disability diagnosis was a comparatively recent one.

The interviews varied in length, with the recorded portion ranging from 16 minutes to 38 minutes. In the first interview, the participant seemed to occasionally conflate the idea of the library's accessibility webpage with the technical accessibility of the library website, or even the technical accessibility of the larger university website. Subsequently, a printout of the library's accessibility page was brought to the interviews, not for extended review or commentary, but to be available as a concrete indicator to respondents of the intended focus of the study. Due to the imbalance in terms of the number of students who used female pronouns versus male pronouns, and the single student who used plural pronouns, all students shall be referred to with plural pronouns to avoid potential loss of anonymity.

Findings

Participants' responses have been largely organized by the nature of the questions asked in the interview, with coding and transcript analysis informing the responses and themes highlighted within each section. One exception is the overall tone and feel of the webpage, which was not a topic specifically prompted for by the author but was found to emerge as an important consideration during the coding process.

The participants' perspectives and feedback are clustered as follows:
- experience/expectation for such a page existing
- navigation and language preferences
- overall tone and feel of the webpage
- organization of the webpage
- content for the webpage

Experience/Expectation of Such a Page Existing

At the beginning of the interview, participants were asked about whether they had previously used an academic library's accessibility webpage and, if not, whether they had anticipated such a page existing.

Of the 12 participants, five of them had previously used a library's accessibility webpage. Of the remaining seven participants, one said that yes, they would expect such a page to exist, while the others indicated more mixed responses, including that they would hope it would but not necessarily expect that it did. For some, their responses were based around disappointments that they had experienced in the past, with one participant stating that:

> I've honestly not looked up that many resources up on these [library] pages simply because I'm so doubtful about access in general… it's never occurred to me that the resources on the library page would provide information, which is sad to say, but I have very low standards at this point.

For others, their uncertainty was based partially on their still emerging relationship with a new diagnosis, such as the participant who commented:

> I wasn't diagnosed until I was transitioning into graduate school, so I'm very new to services that are provided. So I probably would expect that it would exist, but I have never searched out for it.

Navigation and Language Preferences

When asked how they would initially try to locate such a page, three students mentioned their first inclination would be to search for such a page via Google, combining terms for "library," the university of interest, and relevant search terms rather than navigating through the library website. Among those who discussed looking for the links from the library homepage, four participants mentioned they would likely check the bottom of the website for a link, since they felt like that was a common location for this information. One student mentioned they typically used control+F rather than using the library's search mechanism. Another mentioned they usually first try using the search box when they see one, but that:

> [A] lot of times it comes up with things you're not looking for, so then you have to try to guess. I always find that frustrating.

Students mentioned a variety of words and phrases they would use to search for a library's accessibility page, often specifying multiple terms that they would try from the outset. The terms "accessibility" and "disability" were each used by six students. Other terms included "disabilities," "access," and "accommodations." These words were sometimes included as part of a phrase such as "disability services," "disability support," "disability resources," or "disability accommodations."

Some students also mentioned that they might search for a specific service or technology of interest, such as speech-to-text functionality, private rooms, OCR (Optical Character Recognition), book delivery, or screen readers. One participant mentioned that they might search for dyslexia, since they might want to know what resources were available that were pertinent to that disability, but searching for a specific diagnosis or condition was not otherwise mentioned.

Even though "accessibility" and "disability" were both frequently mentioned as search terms, students had different perspectives on how they viewed and interpreted these terms. Accessibility was referred to more than once as being interpreted as pertaining specifically to mobility accommodations, such as the presence of ramps for wheelchair users.

One participant commented that sometimes when they searched for access or accessibility on a website:

> I find the required legal language of 'this website is required to be accessible because of x law'…that's not what I'm looking for. I'm looking for accessibility information about your physical space.

Some found the term "disability" more straightforward than accessibility, as illustrated by this participant's comment:

[M]aybe because my disability [is] more invisible, so it's not really something that I'd be like, oh, is this 'accessible' to you? I have learning difficulties—reading difficulties, comprehension things and struggle to focus—so just be straight into the point. Like 'help for persons with disabilities.'

However, this perspective was not uniform, and another student was less inclined to identify with the term, stating that:

I might search for the feature I'm looking for, maybe like book delivery or e-resources instead of thinking "disability." The title of disability is a newer title for me so I don't always think to search that way.

When shown a list of four headings under which accessibility services and resources had been found in a sample of university library websites, "Services" was the one students were most likely to select first. "Information for…" was the second most popular choice, and then "Help" and "Visit" tied for third choice for students to select. Some students clarified that "Visit" might be the one they would click first if they had a disability that involved mobility impairment and they needed information about physically accessing and navigating the building. Participants sometimes expressed bemusement or frustration with all four of the offered headings, stressing the need for this to be a top-level item rather than being hidden underneath a broader heading.

TABLE 2 Anticipated Website Section for Accessibility Page	
	Average score for selection order (1 = first selection, 4 = last selection)
Services	1.5
Information for…	2.17
Help	3.08
Visit	3.25

Overall Tone and Feel for the Website

While none of the questions specifically asked about participants' thoughts about the overall tone and feel for the website, a pattern emerged in the transcripts about this being an important consideration.

An emphasis on welcoming and inclusive language was mentioned by several participants, with one stating that:

A big thing, I think, is attitude. So having it be positive… having language that students have different needs regarding like physical and web accessibility or library accessibility, and here are some of the things we offer to any student. I think it's important to have open access so students don't have to have necessarily like a letter of accommodation or anything, especially within the library.

Another student commented more broadly on language used on the website, saying:

[W]hatever language is used needs to be vetted multiple times by multiple disabled people. Because there might be specific terms that are not welcome and super out-dated…it's a minor thing, but it's still a thing that can really make a significant impact.

Such a vetting could help avoid a potential pitfall that another participant commented on, warning that care should be taken to avoid the website seeming:

> childish…you can make it fun because maybe it's a cool page that you can actually do stuff with. But also it's not necessarily something you need to infantilize.

The need for sensitivity and care to be taken with the libraries' accessibility webpage was reflected similarly in the following participant's comment:

> I would hope it would be easy to find and thorough to make it seem like it wasn't just tacked onto the website as an afterthought.

The importance of acknowledging gaps and shortcomings was emphasized by one participant, who recommended addressing these directly.

Organization for the Page

Starting the page with some welcoming introductory language on the webpage was emphasized by multiple students. Having contact information at the beginning of the page for someone familiar with disability resources and services was also mentioned. One student stated that it might be best to start off with information about the physical accessibility of the library in terms of the building and concerns for users with mobility concerns. However, another student cautioned that there shouldn't be an:

> [A]ccidental inherent prioritizing of one type of disability over another [due to how the content is positioned on the page]….[S]ometimes when I'm trying to find stuff that applies to me it can be difficult…especially not being someone who's physically disabled, a lot of times it's like weeding through that to find, okay—what services can I use as someone who has a mental disability?

Participants were often unsure, or had mixed feelings, about how content should be categorized on an accessibility page. Some of them talked about how best to organize the content; however, doing it by diagnosis might be inadequate or inappropriate:

> I would want it to be, not necessarily organized in a way which is disability or disability specific but more so needs specific…That would also get confusing at times though because there are certain resources that can fall into multiple categories. But I almost wonder if it would be helpful to have those resources in multiple spaces and recognizing the overlap.

Multiple students made comments about trying to break up the content so that it was less overwhelming, emphasizing the importance of headings within a page. One student mentioned that, due to their disability, they found it much easier if some kind of color coding could be used to break up the content, and another mentioned appreciating the use of images and icons.

Five of the participants stated that they would prefer one page with more information, and six participants said they would prefer more pages with less information per page. One student stated it really depended on the design of the page, and while the other users did state a preference, many of them did include similar caveated language about how either option could work well as long as the organization and labeling were clear.

Content for the Page

Participants were asked what would be the five highest priority items of information on a library website if they were new to an institution, and they were provided with a list of 21 options to pick from. They were also encouraged to suggest additional options, if any came to mind.

The results of their selections are listed in table 3 (participants were not asked to rank within the five, only to select five total). The three types of information that were most often chosen were sensory information, information about library materials with accessibility features, and physical building accessibility. Eighteen of the listed types of information were chosen by at least one student.

TABLE 3 Participants' Top Five Priority Selections for Accessibility Information	
	# of Participants Selecting (%)
Sensory information (noise, privacy, lighting)	10 (83%)
Information about library materials with accessibility features (closed captioning, read aloud)	7 (58%)
Physical building accessibility (ex. ramps, restrooms, elevators)	6 (50%)
Parking/transportation information	5 (42%)
Contact information for questions related to disability services	4 (33%)
Interlibrary loan (requesting materials from another library)	4 (33%)
Assistive technology hardware and equipment (adjustable tables, scanners)	3 (25%)
Reference (help with quick questions)	3 (25%)
Using someone to check out materials on your behalf	3 (25%)
Assistive software (ex. JAWS, Kurzweil)	2 (17%)
Branch (other affiliated) libraries accessibility and services	2 (17%)
Circulation assistance	2 (17%)
Library instruction for courses	2 (17%)
Other campus resources related to disabilities	2 (17%)
Photocopying	2 (17%)
Communication options (online, in person, phone, interpreters)	1 (8%)
Pulling of materials from shelves (by staff, for a patron)	1 (8%)
Research assistance (help with more in-depth research)	1 (8%)
Emergency/evacuation procedures	0 (0%)
Other community resources related to disabilities	0 (0%)
Service animals or emotional support animals	0 (0%)

Transcript analysis revealed that important content to be addressed on these pages included the following:

- physical layout of the library
- sensory details (examples: quiet spaces, lighting)
- type of furniture available
- parking and transportation
- technology/equipment
- shelf pulling/proxy borrowers
- clear contact information for further questions
- chat services

Some of these, like physical layout and sensory details, were often discussed together, such as trying to find a space within the library that supported their sensory needs. Some types of information that did not come up as frequently as expected by the author, including external resources and software, are also discussed.

The need for information about interior spaces, including factors such as seating options, privacy, bathroom availability, lighting, and quiet, came up frequently. More than one participant indicated that the lack of needed information could lead them to either avoid visiting the library altogether or could lead to their being overwhelmed or frustrated once they arrive. One participant, who experiences chronic pain and brain fog and who needs quiet, private spaces for study, gave this assessment:

> I would definitely want to know what the physical space is going to be like and what I'm going to encounter when I get there…this is something that people often push back a lot—they're like, that's a lot of detail that you're asking for, and I'm like, without that detail, I'm not coming….[in the absence of that information] I'll choose to just stay at home instead of coming to the library when in reality I would be a lot more productive at the library.

Four students mentioned that they would be interested in having a map available with detailed information about the physical library environment. This interest in maps came up for multiple students who identified as having ADHD or ASD (Autism Spectrum Disorder) and wanted to locate quiet places in the library that would not be overly distracting. One participant remarked:

> I am autistic, so sensory is a big deal for me. Especially if I'm going to want to be using a space to be studying or working on my thesis or whatever—making sure that that's a space where I'm not going to be super distracted by a certain noise or lighting.

For some students, navigating the physical space represented a potential challenge in terms of their physical capabilities, and they referenced difficulties and frustrations in needing to move between multiple floors because it had not been clear which floor had what they needed. Information on the layout of the library was likewise mentioned in the context of helping to mitigate anxiety:

> I would also look for are there things that might reduce my anxiety to coming. Even a map before—what the building looks like—just so I can [know] here's where this is or here's where that is so I can navigate easier.

One participant commented about chemical sensitivity issues, expressing a wish that libraries could have a dedicated area available where the use of scents was prohibited and more mindfulness in terms of the use of, or at least signage around, cleaning supplies. They mentioned that unexpected exposure to certain chemicals would force them to immediately leave the space and use their inhaler to avoid hospitalization.

The importance of having a variety of seating types was mentioned by two participants, with one mentioning their delight at a conference website that provided photographs of the available seating. Attributes of furniture described included whether the chairs had arms, whether they were heavy wood furniture that was difficult to move versus lighter-weight wheeled chairs, and the angle of the incline of the chair backs.

Getting to the library presented a logistical challenge for some participants. As such, challenges with public transportation, and the need for detailed information about parking were discussed. One student stated:

> I would want to know specific information about where the parking is, how many disability spots there are within the parking, what the cost of parking is, how far a distance it is from the main entrance to the library.

The student went on to mention an experience in which they located parking for a building only to find that payment was only taken in the form of quarters and they did not have sufficient change with them.

The need for information about specific accessibility software did not come up frequently in these interviews. One student with dyslexia mentioned interest in the presence of scanners that have OCR capabilities and in a listing of useful digital tools—subscription or free—for allowing users to engage with text in different ways. Photocopying and printing were mentioned by two students as being very important to them because they relied heavily on having printouts available to them, finding this an easier way of ingesting content. One student mentioned that having whiteboards available in the library was very useful due to nerve damage in their hand that makes small muscle movements difficult.

Shelf pulling or retrieval of materials and proxy borrowing came up multiple times, often in the context of the student assuming that these services would not be an option, but that they would be very helpful. One student specified that they used to work at the library so they knew shelf pulling was technically an option because they had done it for other patrons, but they did not know how to request having it done for themselves. Another commented that having books pulled for them could reduce their anxiety and make library visits quicker and less stressful, since they found the library shelving overwhelming to navigate. One student shared that sometimes their depression left them homebound, so in the past, they had their significant other pull and check out materials for them.

Eight of the participants emphasized the need for contact information, with several indicating a specific preference for a named individual that they could connect with. One participant stated:

> I always will prioritize contact information for questions, because I just think there will never be an accessibility page that captures every single thing for every disability.

Another participant mentioned a preference to have the option to fill in a form, so that they didn't have to write an email explaining their need and why they were contacting that person, referencing the feeling of awkwardness and imposition such an email would engender. Having a clear way of contacting the library for accessibility information, preferably a named individual, was both a practical matter of interest, with the assumption being that not everyone in the library was likely to be well-informed about available resources and services, and a way to emphasize that questions were welcomed and expected by the library.

Chat services were mentioned by three students. One participant specified they liked the option to chat instead of call for quick questions, and another stated they had found the service helpful when they had a very specific question that they could not come to the library to answer themselves. They went on to say this::

> [H]aving communication options where you can get library based resources without necessarily having to be in the library is fantastic.

The third participant who mentioned chat services mentioned it in the context of its not being a good substitution for having a direct contact, as it may be difficult for some students to use chat, and the person staffing chat might not be well informed on disability issues.

Most of the participants did not end up suggesting specific other external resources that they would like to see included on this page, but one participant mentioned that they would like to see links to suggested free software that might be useful for students with disabilities, and another mentioned information on public library resources could be useful.

Discussion

The goal of this study was to gain insights from university students with disabilities about how library accessibility webpages can be made findable and useful for them. Far from reaching a saturation point, each participant brought up distinct issues, providing rich insights and demonstrating the value of wide, and also preferably deep, representation from students with disabilities.

While the author's initial intention was to focus only on the interviewees' needs and expectations, participants sometimes commented not only on their own needs and expectations but also on the needs of their peers with disabilities. This interest in both speaking to their own needs and advocating for other users with disabilities was also encountered by Pionke.[33] The discussion around others' needs often combined both advocacy and pragmatism, with an awareness that no website could address all needs and that needs might sometimes conflict. One student described it in these terms:

> one person's access need could be another person's access nightmare. So that makes it tricky.

Of the participants who had not previously used a library's accessibility page, many were unsure if they would expect such a page to exist, indicating that its existence may often not be anticipated by its intended users. Participants at times expressed a desire for services and resources that do exist but they assumed would not be available. This assumption may reflect Pionke's finding of regarding the inadequacy of library outreach to patrons with disabilities[34] and highlight the need for more active promotion of accessibility services, including greater visibility for the link to the accessibility webpage from the main library page.

The interviews underscored the need for inclusivity and for a re-examination of potential assumptions by library employees around which users would benefit from available services. At the time of the survey from Cassner et al., the majority of the libraries that offered retrieving materials services indicated that these services were intended for library users with mobility concerns,[35] but participants in this study with anxiety, depression and attention disorders also articulated that they would find these services helpful. A strong desire for work environments that were quiet and free from distraction previously emerged as a trend in Amelia Anderson's study of comments from students with ASD,[36] but it was also mentioned in this study by participants with ADHD and participants with brain injuries. Some participants with invisible disabilities in this study acknowledged both the desire to support and even prioritize the needs of users with more visible disabilities, and their disappointment and frustrations around how difficult it could be to locate information pertinent to their own needs. Additionally, the fact that many participants identified with more than one disability category both speaks to intersectionality in this area and possibly to how broad disability categories may not be consistently understood or applied.

The emphasis by many participants on sensory aspects of the library and information about its physical layout indicates a potential weakness in libraries' accessibility webpages. In Cassner's study, libraries' accessibility pages were found to sometimes include information on facilities such as parking, structural modifications, restrooms, and elevators, but there was no mention of any of them discussing information about navigation within the library, or sensory information such as lighting, sound levels, private spaces, or furniture.[37] Similarly, Power and LeBeau noted in their study that many accessibility pages fell short in terms of the level of detail they provided about building access and facilities, often lacking information about classrooms, stacks, and study areas.[38] Participants' strong interests and needs in regard to details about the physical space of the library also have potential implications beyond the accessibility webpage, indicating that discussion around space planning or renovations would benefit from proactive consultation with students with disabilities.

The importance of welcoming language was consistent with findings in Pionke's study in which participants expressed concerns about imposing upon library employees and worries around being seen as a burden[39] and a statement by a participant in Copeland's study who mentioned that, despite positive experiences, they continued to feel like they should apologize to librarians for their disability.[40]

No clear consensus emerged in terms of how best to organize the webpage or whether having a single long page or multiple short ones would be preferable. Instead, this seemed to come down to individual preferences, potentially confirming Beyene's finding that profiling users based on their disabilities might be unproductive since they could have distinct preferences for the same page.[41]

Limitations and Future Research

Given the scale of this study, and its intentional emphasis on breadth rather than depth in terms of inclusion of disability types, it cannot presume to provide a complete picture of the needs and preferences of users with disabilities for accessibility webpages. A larger pool of participants, from a variety of different colleges and universities, would likely provide additional insights.

Within this pool of participants, there ended up being a skew in terms of participants' academic status, as well as a lack of representation for some categories of disability. The majority of the students who participated were graduate students, so most interviews reflect the perspectives and experiences of students who have already completed an undergraduate degree and may have had more experience navigating bureaucracy around disability services. No participants identified themselves as being blind/low vision or deaf/hard of hearing, which could be a significant factor behind the limited commentary around assistive technology and contribute to the lack of personal prioritization of emergency/evacuation procedures, service animals/support animals, and community resources. Additionally, although a remote interview option was offered, no users ended up using it, so this study did not include any users who were unable to physically make it to campus.

Another potential limitation occurred in terms of the discussions around searching for this page and preferred language for it. Since it was necessary for recruitment materials, the consent form, and the interview itself to use concrete language to describe the intent of the page, the author had to select and use a term for it rather than simply allowing users to supply their own. The author's repeated use of the term "accessibility webpage" could certainly have impacted participants' suggestions in terms of how they would search for such a page, especially for users unfamiliar with such pages.

While this study had its limitations, it did raise questions about the current status of accessibility pages and how well, or poorly, they match some of the user preferences and needs that emerged in this study. A planned next step is to use the findings from this study to construct and conduct an updated survey of ARL academic libraries' accessibility webpages. This survey could provide an overview of the current state of library accessibility pages, identify potential best practices in terms of the provision of accessibility information, and also document the variety of services and resources different libraries currently offer.

Recommendations

Based on the findings from this study, academic libraries should consider doing the following as they review their existing accessibility pages or create new ones:

- Provide detailed information about the sensory aspects of the library, such as availability of quiet spaces, private spaces, lighting, and available furniture
- Include maps labeled with relevant facilities and sensory information
- Include contact information, preferably to a named individual or group familiar with the library's disability resources, services, and facilities information
- List information and services that could be useful to users with many different types of disabilities
- Avoid building in assumptions about who might need information about which services
- Highlight content with accessibility features in the collection
- Include information on known weaknesses in terms of services, resources, or facilities

so that users are not left to uncover these on their own
- Provide useful headings within the page
- Evaluate whether the language on the website is welcoming and indicates that students with disabilities are an expected and welcomed part of the community
- Determine if there is a group of students with disabilities on campus who might be available to vet the language and information on this page
- Review the page regularly, particularly after a web redesign
- Ensure appropriate search engine optimization (SEO) for both the library search and external search engines for a variety of keywords and phrases, especially terms related to both disability and accessibility
- Have a clear direct link to the page from the main library webpage
- Include links to this page from other relevant sites to provide greater visibility

While not discussed by participants in this study, the recommendations made by Power and LeBeau to provide a detailed list with descriptions of the adaptive technology offered would be an additional valuable component of a library's accessibility webpage.[42]

Since students may not expect a library to have an accessibility webpage or anticipate that particular services or resources might be available, active promotion of the webpage and the information therein, outside of the library websites, in venues such as library orientations, instruction sessions, and library promotional materials is also recommended. It could also be worth reviewing whether any restrictions around services, such as requiring registration in the campus disability services office, are necessary due to legal restrictions or limited resources, or if some of these restrictions could be potentially removed to better accommodate students who may prefer not to disclose their needs more broadly.

Conclusion

These interviews demonstrated the value of speaking to students with disabilities about a library's accessibility webpage. This study also benefited from wide, albeit incomplete, representation in terms of different categories of disabilities, including multiple students with invisible disabilities.

The importance of both language and inclusivity was emphasized by the participants, and it was found that detailed information may be needed for them to assess whether they will be able to successfully access, navigate, and study within the physical library. A desire for information about attributes of/within the physical library building such as furniture, sound levels, and lighting, which had been rarely, if ever, addressed in previous studies, was repeatedly mentioned. Participants' comments indicated that active promotion of the webpage may be necessary in order for students to find it.

A library's accessibility webpage has the potential to empower students who have a disability by providing them with clear, easily located answers to their questions and highlighting the resources and services that the library has for them. However, if this webpage incorporates erroneous assumptions about its audience, poorly chosen and/or unwelcoming language, and insufficient information, it can become instead simply another impediment.

APPENDIX A.
Interview Guide: The expectations, priorities, and preferences of students with disabilities when seeking accessibility information on academic library websites

Introduction:
Thank you so much for agreeing to meet with me today.

I'm going to start by talking through the consent form with you.

[provides copy of consent form, talks through the language]

Do you have any questions?

[answer any question]

If you are still interested in being part of the study, then please go ahead and sign the consent form at this time.

As a clarification, I want to note that, while this study is not intended to be specifically about the _____webpages, there will be questions where any interactions that you've had with _____s pages may be pertinent.

At the end of the interview, I will ask if there is any feedback or comments that you'd like me to forward to the Library Accessibility committee about ways to improve the library's resources and services for students with disabilities.

You'll also be welcome to ask me any questions that you have about the library, though in some cases I may need to research the answer and then get back to you.

Before I turn on the recorder and start the interview, I wanted to check if you're feeling comfortable or if there is anything that you'd like us to adjust before we get started?

[Pause, make any needed adjustments]

Okay, great, I'm going to start recording now.
<div align="center">****Turn on recording****</div>

This is a recording of an interview with participant number [participant identification code].

Interview Questions
Previous access:

I wanted to start by asking if you have previously accessed a library's webpage (or webpages) of information about resources and services available to students with disabilities, either here or at a previous college or university?

> If so,
>> Do you remember your reason for looking for this page?
>> Were you looking for information on a particular topic?
>> Did you find the information that you needed?
> If not,
>> Would you have expected such a page to exist?
>> Have you used other content from the library webpage, either here or at a previous college or university?

Expected language/navigating to the page:

If you were trying to find such a page on a library website that was not familiar to you, how might you go about trying to locate it?

Search:

If you did a search, what terms might you initially use to try to search for it?

If those didn't work, what other ones might you try?

Browse:

If you were to try to locate the page from the library webpage by clicking links on the page, is there a particular menu or category that you'd expect to find it under?

[Provides participant with list #1]

Can you please rank the order in which you'd click on the below categories to find more information? (1 being first, 4 being last)

Note: These are based on actual categories found on a sample of academic library webpages (Big Ten Alliance, plus three institutions previously noted as having more substantial pages of information pertaining to disabilities)

- *Services*
- *Visit*
- *Help*
- *Information for…*

Expected and preferences for webpage information:

What information would you be expecting and/or hoping for when you access such a page?

Prompt: Information about specific services? Information about facilities? Information about technology?

What information would you need about this service or the facility in order to proceed with using it?

Are there any potential barriers/frustrations that might occur here?

Priorities:

Here is a list of information that could potentially be included on such a website:

[Provide List #2]

I'll give you a few minutes to read through the list, then when you're ready please talk a little bit about why you're choosing each of them, and feel free to ask for clarification if any of them are unclear.

Also, if there is something that would be a priority that isn't on this list, please mention that as well.

Layout and structure:

How would you want information on this webpage/webpages to be organized?

Is there anything you'd really want to be addressed first?

How would you want information clustered?

Example: By type of information (services, facilities, resources), by type of disability, by some other approach

For you, does it work best to have more information on a single page, or less information per page but more pages?

Is there information that isn't about services and resources that are specifically for people with disabilities, but that would be useful to include on this page?

In conclusion:

Are there any other thoughts or comments that you'd like to share about potential best practices for these pages?

Okay, I will now stop the recording.

******Stop the recording******

Do you have any questions about resources and services available to users with disabilities at the _____ library, or comments that you'd like to make?

   If there are comments:

      Would you like me to forward that concern to our Accessibility committee within
      the library, or see if I can get it addressed in some other way?

[If applicable] Would you like me to provide you with contact information for your liaison librarian/DRC/DCC so that you can learn more about how they might be able to help you?

APPENDIX B

List #1

Browse options:

Can you please rank the order in which you'd click on the below categories to try to locate a library webpage with information about accessibility resources, services or facilities? (1 being first, 4 being last)

Note: These are based on actual categories found on a sample of academic library webpages (Libraries that are part of the Big Ten Alliance, plus three institutions previously noted as having more substantial pages of information pertaining to disabilities)

___ Services

___ Visit

___ Help

___ Information for…

List #2

Types of information that could be included on a library webpage focusing on information for users with disabilities

If you are new to a library and trying to learn about it, which of the below would be the five highest priority items for you to locate information on?

I'll give you a few minutes to read through the list, then when you're ready, please talk a little bit about why you're choosing each of them, and feel free to ask for clarification if any of them are unclear.

Also, if there is something that would be a priority that isn't on this list, please mention that as well.

- Assistive software (examples: JAWS, Kurzweil)
- Assistive technology hardware and equipment (adjustable tables, scanners)
- Branch (other affiliated) libraries accessibility and services
- Circulation assistance
- Communication options (online, in-person, phone, interpreters)
- Contact information for questions related to disability services
- Emergency/evacuation procedures

- Information about library materials with accessibility features (closed captioning, read aloud)
- Interlibrary loan (requesting materials from another library)
- Library instruction for courses
- Other campus resources related to disabilities
- Other community resources related to disabilities
- Parking/transportation information
- Photocopying
- Physical building accessibility (examples: ramps, restrooms, elevators)
- Pulling of materials from shelves (by staff, for a patron)
- Reference (help with quick questions)
- Research assistance (help with more in-depth research)
- Sensory information (noise, privacy, lighting)
- Service animals or emotional support animals
- Using someone to check out materials on your behalf

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