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Hidden Inequality: Financial Aid Information Available to College Students with Disabilities Attending Public Four-Year Institutions

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Cover Page Footnote

The authors acknowledge that there are many perspectives with regard to the ways that disability is identified and the language that is used. Some individuals prefer identity-first language while others prefer person-first language. For the purpose of this article, we have elected to use person-first language – i.e., students with disabilities. The authors are grateful to Michael DiRuzza, Office of Student Literacy and Financial Aid, Worcester Polytechnic Institute, for his feedback on the manuscript.

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Hidden Inequality: Financial Aid Information Available to College Students with Disabilities Attending Public Four-Year Institutions

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College students with disabilities often encounter systems and processes that do not serve them well. Financial aid, structured in ways that can be particularly burdensome to students with disabilities, is one such system. This study used web-based content analysis of the largest public four-year institution in each state to explore how institutions explain and provide information and resources related to financial aid and whether they are equitable, consistent, and useful for students with disabilities specifically. The findings suggest that available information most often does not assist students in understanding how their disability-related needs can be supported or hindered by financial aid policies. The authors offer recommendations for practices that can improve equitable access to financial aid information¹.

Keywords: Financial Aid, Disability, Accessibility, Equity, Universal Design, Content Analysis

Javier is pursuing his biomedical engineering degree at a large land grant institution in his state. He dreams of developing assistive devices to help people who, like him, were born with muscular dystrophy. Javier's daily routine requires support from a personal care assistant who comes to his residence hall and accompanies him to class. His campus is small, and because of somewhat limited transportation across the campus, Javier plans to purchase a specially-equipped van to help him shuttle from his residence hall to the main campus. Between the costs of the van, adaptive devices in his apartment, and the personal care assistant, his living expenses far exceed what is accounted for in a typical student's financial aid package. As he looks at his financial aid package for the coming year, Javier is not sure how he will be able to afford college. He looks on his college's website to see if there is anyone who can help him.

Christina attends a public flagship institution and aspires to be an accountant. She is motivated and hard-working. Unfortunately, her daily anxiety can sometimes be debilitating, making it very difficult for her to complete tests and assignments. Christina works with the Accessibility Services Office on her campus to receive academic accommodations; however, even with accommodations in place, taking a full course load is very challenging. Her medical professional has provided documentation to support a university-approved reduced course load so that Christina can still maintain her full-time student status even while taking fewer classes. This will, however, prolong her degree pursuit process, and because her institution's policies only allow her to retain aid for 12 semesters or six years, this arrangement may leave her without access to institutional financial aid in the later part of her degree pursuits. Christina is not sure that she should bother pursuing a degree if she will not have aid later in her college career. She is thinking maybe she should withdraw and give up on college all together.

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Both Javier and Christina are diligent and bright. They desire to complete their degrees and are committed to overcoming the challenges they face in navigating campus with a disability. Like many students, the cost of paying for college is a challenge. For Javier, the cost of living is far more than the typical student, and for Christina, whose degree progress is slower than the average student, the stress of paying for each future semester may be even higher. As these students turn to their university websites to look for answers, will they be guided to policies and people who can help?

More than 99% of colleges enroll students with disabilities (Raue & Lewis, 2011). At those colleges, on average 19.5% of undergraduate students report a disability (Snyder et al., 2019), compared to 11.5% in 2011 (Snyder et al., 2016) and just 5% identifying as such at the turn of the century (Snyder & Hoffman, 2001). However, these rates almost certainly underestimate the number of students with disabilities on campus as many students do not disclose or formally register with campus accessibility services (Marshak et al., 2010; Newman & Madaus, 2015; Newman et al., 2009).

Students' disabilities are varied, including (but not limited to) physical disabilities, sensory impairments, neurodiverse learning styles, chronic medical conditions, and psychological conditions. As a result, each student's needs are different. Thus, the pathways to degree completion should ideally be designed to be accessible by all, or the accommodations each student needs must be individually tailored to support their success. Despite existing accommodation support services, which have been improving but still leave unmet needs on many campuses, college success rates for students with disabilities are relatively low. Only 40% of students with disabilities attending 4-year institutions graduate within 6 years, compared to nearly 51% of students without disabilities (U.S. Department of Education, National Center for Education Statistics, 2018). These lower rates may be due to a number of policies, practices, and other barriers at colleges and universities.

One of the greatest barriers to degree completion for almost all students is the financial cost of attending college. In 2015, 86% of students received some type of aid to attend college (McFarland et al., 2017). Nearly 60% of students who graduated from public four-year colleges or private non-profit schools in 2016 held student loan debt. On average, these students borrowed \$28,400 (Baum et al., 2018). For students with disabilities, there may be even more costs in college attendance. Whether their cost of living is greater, they need to pay for support services that colleges are not required or able to provide, or their pace of completion is longer and therefore more expensive, college often simply costs more for students with disabilities compared to other students.

In addition to finances, the challenges to success imposed on students with disabilities by colleges and their environments are many, ranging from receiving accommodations, to retrieving course content in an accessible manner, to navigating outdated or inaccessible facility design. The burden of advocacy typically falls on students in these cases. However, without clear guidance on university websites, students may not know whether pathways exist that meet their individual needs. This is particularly true for financial concerns or questions.

Many college students rely on technological interfaces for information that are both instantaneous and ubiquitous. They are likely to turn to the web to find answers to their financial questions. As a result, Javier and Christina first turn to the financial aid or disability services pages on their university websites for information that can help them evaluate their financial aid options. What they do or do not find on these webpages may determine their college financial decisions and may ultimately determine if they are able to remain enrolled.

Wolanin (2005) identified numerous financial aid policy issues affecting students with disabilities more than a decade ago. He cited hurdles to obtaining the funds necessary to pay for disability related expenses, access to sympathetic financial aid officers, required degree completion timelines, and systems that require advanced self-advocacy skills as substantial barriers. As a follow up to that work, this study explored the ways four-year public institutions across the U.S. provide information on their websites about institutional resources and processes related to finances and financial aid for students with disabilities.

While the needs of students with disabilities exists at all institution types, we selected this type of institution because public four-year universities served 8.7 million college students in 2016, nearly two times

more students than those who attended private four-year institutions (McFarland et al., 2018). With nearly 20% of college students reporting a disability (Snyder et al., 2019), this means that state institutions serve an estimated 1.7 million students with disclosed disabilities. More importantly, public institutions have an obligation to serve all citizens of their state. Such public service includes providing adequate financial aid information equitably to students with and without disabilities. As a check on how well these institutions are serving students with disabilities, we gauged the degree to which resources and support to navigate complex financial aid processes were available to students with disabilities seeking such information. Through web-based content analysis, this study assessed whether public colleges' websites communicated to students with disabilities about relevant college finance and financial aid issues and policies in an equitable, consistent, and useful manner with clearly outlined action steps.

Review Of Literature

The Financial Landscape for Students with Disabilities

The cost of completing a higher education degree in the U.S. continues to rise, making college increasingly difficult to afford without financial aid. In addition to the financial burden for all students, higher education can be even more expensive for students with disabilities, who may have additional disability-related services, equipment, and accommodations for which they must pay out-of-pocket because their college does not provide the service or resource. Significant steps have been taken to make higher education more accessible and inclusive for students with disabilities, though much work remains. The American with Disabilities Act (ADA) of 1990, the Higher Education Opportunity Act (HEOA) Reauthorization of 2008, and the Section 504 of the Rehabilitation Act of 1973 have increased access to higher education for students with disabilities, facilitated greater inclusion in higher education environments, and attempted to protect them against discrimination (Kimball et al, 2016; Timmerman & Mulvihill, 2015). However, efforts are still needed to make higher education affordable for this growing student population.

While higher education institutions have a legal obligation to provide necessary and reasonable accommodations for students with disabilities (Kaplin & Lee, 2014), even with these accommodations, obtaining a higher education degree can be costlier for students with disabilities compared to their peers for a number of reasons. First, students with disabilities incur additional disability-related costs for daily living expenses, including medication, therapy, personal assistance, and adaptive equipment such as a wheelchair (Chambers et al., 2013; Harrison et al., 2008; Mitra et al., 2017). Additionally, college students with more significant disabilities who require more costly care often fall within the lowest income brackets (Madaus et al., 2014). Although these costs are not directly related to higher education, they are costs of living that are essential for the academic success of students with disabilities (Harrison et al., 2008). Importantly, although necessary for success, these expenses are rarely included when institutions calculate costs of living.

At some institutions, students with disabilities have to pay for additional fee-based academic services, such as note-taking and one-on-one tutoring (Harbour, 2009; Longtin, 2014; Mytkowicz & Goss, 2012). Additionally, students with medical disabilities might have living expenses such as a personal care assistant or adaptive equipment that far exceed average costs of living. In one study, students with medical disabilities perceived that they would have higher debt loads than students with other forms of disability in order to support their medical needs, leading to greater worry about the affordability of college (Chambers et al., 2013). Even if some of the costs are elective services chosen by students with substantial financial means, the key point here is that on average, the net cost of attendance for a student with a disability is likely to differ from the net cost for a student without a disability attending the same institution.

Additional costs borne by students with disabilities are not automatically considered in making financial aid decisions. In theory, these costs can be covered by student financial aid if students include them

in their Free Application for Federal Student Aid (FAFSA) or petition for a financial aid adjustment with their institution (Moore, 2003; Wolanin, 2005). While campus financial aid officers can exercise professional judgement or the authority to adjust aid packages (Federal Student Aid, 2020a), students have to know to ask for a review to their financial aid package. Processing financial aid depends on the student's self-advocacy, understanding of financial aid policy, documentation of the expenses associated with their disability, the availability of funds at the institution, and the professional judgement of the financial aid officer (Wolanin, 2005). Additionally, Obama era professional judgement guidance has been rescinded as of June 2020, which may make financial aid administrators more hesitant to offer aid adjustments even for well justified reasons like a disability (Turner & Nadworny, 2020).

Financial Aid Policies Affecting Students with Disabilities

In general, students tend to be unaware of the type and amount of aid they are eligible to receive (Horn et al., 2003) and students find it difficult to accurately estimate the cost of college attendance (Dynarski & Scott-Clayton, 2013). Additionally, some financial aid policies may impact students with disabilities differently from students without disabilities. Specifically, it is important for students with disabilities to know when they can request an adjustment to their financial aid package, how their financial aid eligibility can be affected by academic progress and part-time/full-time status, and how much they can borrow under certain loan programs.

Financial Aid Adjustment Policy

Title IV of the Higher Education Act allows students to request that their financial aid be adjusted based on legitimate circumstances, including additional expenses related to a disability (Hegji, 2018; Wolanin, 2005). For example, if a student needs to pay for expenses not previously included in their award determination, such as adaptive equipment not provided by the institution or a personal care assistant to support them with day-to-day functions, they may request an adjustment to their financial aid (Federal Student Aid, 2020a). When students receive their initial financial aid package from an institution, how are they to know they can request a modification on the basis of a disability? For Javier, finding information on the institution website would help him know he can request additional support and may help retain him as student. This study seeks to determine the degree to which the process for aid modification is transparent to students with disabilities.

Satisfactory Academic Progress

Many federal and institutional financial aid awards include criteria that require students to continually show satisfactory academic progress (SAP) to remain eligible for financial aid (Satisfactory Academic Progress, 2010). SAP measures a student's academic progress toward their degree. Progress is measured qualitatively through GPA or other comparable measure and quantitatively through evaluating the pace of completion (Federal Student Aid, 2020b). For a student, like Christina, whose documented anxiety may make it difficult to perform well in her courses at times, she may take longer to complete her degree, and as a result, find herself ineligible for aid later in her academic journey due to her disability. It is critical for students to be well-informed about SAP policies and appeal processes at both the federal and institutional levels. In particular, SAP criteria must be clear about how situations such as departing the institution after the established withdrawal date due to disability-related reasons, or struggling to complete courses, can put students with disabilities at risk of not meeting the SAP criteria.

Time Limits to Degree Completion

Federal and state aid designate caps on the length of time a student can receive aid. For example, federal aid allows for 150% of the time allotted for degree completion, which is six years at most four-year institutions. After passing the six-year mark, a student may no longer be eligible for federal aid (Satisfactory Academic Progress, 2010). Time limits for state or institutional aid may be determined by number of semesters a student can request aid. These time limits may disproportionately affect students with disabilities, given issues at the intersection of disability policy and financial aid policy.

The Americans with Disabilities Act (1990) and Section 504 of the Rehabilitation Act (1973) specify that students with certain documented disabilities may be accommodated with a reduction in academic load while maintaining full-time status, thus allowing access to services such as health insurance and participation in athletics as a reasonable accommodation. A reduced course load is different than part-time status in that a reduced course load is an accommodation for a documented disability to allow the student access to all of the supports available to full-time students. While a student can take a reduced course load for academic purposes, Title IV of the Higher Education Act of 1965, as amended, specifies that in order to be considered a full time student for the purposes of student aid, a student must enroll in a minimum of 12 credits (Federal Student Aid, 2020b; Student Assistance General Provisions, 2019). Enrolling in fewer credits, as in the case of a reduced course load, can reduce the amount of federal and state aid available to the student, making it difficult to fund the costs of college attendance. This conflict in guidance between ADA and Section 504 of the Rehabilitation Act and the Higher Education Act is often not explicit to students and families. While students with disabilities may find guidance on their disability services website about taking a reduced course load, it is not always clear to students that this may lessen the availability of aid accessible to them.

More importantly, a student on a reduced course-load status at some point in their academic career will take longer to complete their degree because they take fewer courses each semester and may reach the time limit for allowable aid. The information about the time limits to degree completion is important for students with disabilities because some may take longer to complete their degree compared to their peers without disabilities or may be advised to do so by well-meaning advisers or disability services personnel, which can affect their eligibility for the financial aid they receive. This study seeks to determine whether time limits are clear to students and whether an appeal process to request more aid is clearly outlined.

Loan Borrowing Limits

Federal, state, and institutional aid also designate borrowing limits based on amount of time and amount of money per student. Students who surpass these limits are not eligible for some forms of aid, such as federal loans, state grants, and institutional aid (Federal Direct Loan Program, 2019; Federal Student Aid, 2020b). For students with disabilities who take more semesters to complete their degrees or who stop out mid-semester, aid caps can be challenging. Information about loan borrowing limits is important for students, specifically information about ways that borrowing limits can be problematic for students with disabilities. This study seeks to understand the degree to which this information is available to students with disabilities so that they can make informed decisions.

Access to Financial Information

Access to quality financial aid information, including the key policies outlined above, is important for students with disabilities for at least three reasons. First, among students with disabilities, as with all students, those from lower-income backgrounds are less likely than their peers from higher-income

backgrounds to attend college (Newman et al., 2009). Financial aid can help alleviate the additional costs associated with disability, which are more difficult to absorb for low-income students. Better information is the first necessary step toward challenging the exclusion of students with disabilities from the higher education setting (Chambers et al., 2013).

Second, national statistics indicate that 60% of students with disabilities leave college without obtaining a degree (U.S. Department of Education, National Center for Education Statistics, 2018). A common reason why students with disabilities leave college is that it is too expensive. Increasing student access to federal funding could be a method of increasing the enrollment and retention of students with disabilities (Madaus et al., 2012). However, students with disabilities must know about the financial aid resources available to them to be able to apply for and secure additional funding. For many such students to be able to afford college, it is especially important to have knowledge of financial aid eligibility and the application process (Barber, 1996). Financial aid programs including grants, loans, work-study, and scholarships have historically provided funds for most or all costs of a higher education degree for low-income students attending state institutions (Haynes, 2008). Therefore, information about financial aid is critical for students with disabilities in their college-going process and decisions.

Third, it is imperative for publicly-funded institutions to equitably serve the entire populace of their state, including those with disabilities. Including financial aid information specific to the needs and financial situations of students with disabilities on institution websites could benefit these students, who likely face disproportionate amounts of financial difficulty and may not know that they can request special consideration of their financial aid package. While specific financial aid options that may benefit students with disabilities do exist, institutions do not always make these details clear and easy to locate for students.

Web-based Information

Today's students are nearly always connected to the internet; most do not know a world where people cannot access information instantly from smart devices. On average, students are connected to multiple devices: from their smartphones to their laptops to their tablets. When seeking information, the first places many students turn to are to these devices (Estabrook et al., 2007; Saichaie & Morphew, 2014). Since students are not likely to make a phone call when they have needs, colleges and universities must provide accurate and useful information on their websites.

As a result, colleges increasingly use the internet as a means of communicating information to prospective students (Bruyère, 2008; Saichaie & Morphew, 2014). Thus, university websites tend to be valuable sources of financial aid information for students. However, these students are not likely to spend much time looking for the information (Haile, 2014), especially if it is difficult to do so. In a study examining college student research strategies, students were more likely to choose information that was easily retrievable on the web versus reading journals or full documents (Brown et al., 2003; Emde et al., 2008), meaning most students are unlikely to read a financial policies manual or extensive rule book regarding financial aid. In looking at college student information-seeking behaviors, students also valued ease of access to the information they were seeking (Connaway et al., 2011; Emde et al., 2008). Students want information that can be accessed very quickly with few clicks (Meyer, 2008; Poock & Bishop, 2006) and that is easily understandable. For example, in a study of community colleges, when users perceived they understood information that relied on little jargon, they perceived the information had greater usability (Margolin et al., 2012). Thus, highly complex, jargon filled, or overly legalistic financial aid information is likely harder to understand and less usable for students. Additionally, students want consistent financial aid information that is centralized in one location to avoid information overload (Eichelberger et al., 2017). In summary, students want information that is easy to access within a few clicks, easy to understand, avoids overly technical language, is consistent across sites, and provides clear action steps. Colleges can support students by providing clear, consistent, and thorough information on their websites.

Despite the fact that students are looking for information on the web, unfortunately, information tailored to students with disabilities may not be easy to find or may not provide information about relevant

services and contacts (Irwin & Gerke, 2004; Jackson & Jones, 2014; Nachman & Brown, 2019). The process of locating accessibility services information on college websites can be difficult or time-consuming (Irwin & Gerke, 2004; Jackson & Jones, 2014). For example, only two out of 51 colleges analyzed had direct links to disability services information on the university's home page (Jackson & Jones, 2014). Without direct links that lead students to information, students must go through the task of guessing search terms to input, which may be difficult for students unfamiliar with the terminology used in higher education (Irwin & Gerke, 2004), particularly regarding financial aid. Difficulty in navigating a website hinders access to the information available. Additionally, while beyond the scope of this study, many college websites and associated online content have been flagged as non-ADA compliant, which is yet another barrier to some students with disabilities (Lewin, 2015; McKenzie, 2018; Silberman, 2018). Whether students with disabilities are able to retrieve relevant information about financial aid from a college's website may affect whether they are able to afford and, thus, access a quality education.

Given these circumstances, we aimed to understand the extent to which a college student with a disability seeking information related to financial aid from their institution would find useful information tailored to their needs. Specifically, we asked: How do college websites communicate to students with disabilities about:

- the process for requesting financial adjustment on the basis of disability related costs?
- satisfactory academic progress policies and the ways these policies can impact students with disabilities?
- whether time limits to degree completion are clear to students with disabilities, particularly as they relate to a reduced course load or part-time status? and
- the degree to which borrowing limits can be problematic for students with disabilities?

Methods

To address these questions, we utilized web-based content analysis. Content analysis can take many forms and can serve a wide range of research goals (Krippendorff, 2004). For the purposes of this study, we created an instrument through which to quantitatively code content from university websites. Our design was informed at each step by our overall desire to investigate what a student would find on their institutional website about financial aid related to disability.

Data

The data for this project consisted of web content from 51 public four-year universities in the U.S. To get national representation of institutions, we identified the public university with the largest enrollment in each state and the District of Columbia according to the 2015-2016 Integrated Postsecondary Education Data System (IPEDS), as it was the most recent data set available at the time of data collection. For each of these institutions, we used IPEDS to identify the specific website for the disability/accessibility services office (or equivalent) as well as the website for the financial aid office. These are the primary sources of web content for analysis.

Instrumentation & Coding

The research team created a coding instrument, based on the literature reviewed and our collective experiences as professionals, regarding financial aid policies, normative procedures, and information that can help or hinder the academic success of college students with disabilities. Specifically, we focused on a)

financial aid adjustment policies, b) policies related to “satisfactory academic progress” to remain eligible for financial aid, c) time limits for financial aid eligibility, and d) loan borrowing limits for aid eligibility. As discussed in the review of the literature, each of these policies has unique significance for students with disabilities. The coding instrument was designed to capture the extent to which information about each of the four policies existed on the website, could be found easily within a few clicks, was consistent across all web content at the institution, was presented in a useful way, and included adequate contact information and instructions for next steps and additional information. The coding instrument asked coders to determine the following about each area of focus:

- *Does this information exist?* This was measured by whether the information was available and whether the information specifically mentioned disability.
- *Is this information easily findable?* This was determined by the number of clicks from the home page or search function that the information was found. Because a majority of people spend fewer than 15 seconds on a webpage (Haile, 2014), information found three or more clicks into a website was considered hard to find.
- *Is the information consistent?* This was measured by whether conflicting information was present in multiple pages or documents across the institution website. This could be within the same functional area—for example in two different places on the financial aid website or an out of date and updated version of the same document—or across multiple functional areas—such as on the accessibility services website and on the financial aid website.
- *Is the information useful for students?* This was measured by the degree to which the information used easy-to-understand language or had a heavy reliance on overly legalistic or regulatory language.
- *Is there clear information about action steps that need to be taken?* If an appeal process or form along with a timeline for review and clear submission instructions were outlined, action steps were clearly outlined.
- *Is it clear who to contact for more information?* If specific contact information was provided including the name of a specific contact, this was considered clear contact information.

The research team piloted the instrument with four-year public universities not in our sample, revising it for clarity and ease of use in an iterative fashion. With the completed instrument, the research team systematically coded the web content. First, we searched for content through the university’s web search function using these terms: a) disability and financial aid, b) disability and aid adjustment, c) disability and aid eligibility, and d) disability and loans. Pages within the first two links in the search results were eligible for coding. Then, using the web address from IPEDS for each institution’s financial aid office and disability/accessibility office, content from these areas was also coded using the coding instrument. Researchers captured specific links or specific excerpts of text to support or provide evidence of their codes.

In order to maximize validity and reliability, members of the research team were trained on the coding procedures and protocols, then coded the websites of two colleges outside the sample. Differences in coding were reviewed and discussed as a team to ensure consensus, with the coding instructions revised with each team decision. Each college in the sample was coded by two coders, who then discussed any differences in coding results and came to consensus. Any unclear items or items which could not be agreed upon were brought to the entire coding team for group consensus and to maximize alignment of the coding team’s coding procedures.

Analyses

Once the web content was coded, we used a descriptive approach to report the overall totals and frequencies for each coding category. This provided a broad picture of large public institutions in the U.S. Additionally, we used excerpts of text that were highlighted during coding to provide evidence to support

our findings and to illuminate the findings in greater depth. These text examples may have been selected due to their exemplary nature of the overall findings, or they may have been selected as outliers, which did not fit the overall findings but show important variation among institutions.

Limitations

Despite our rationale for solely studying public four-year institutions, that decision means many students were not represented in our data. Students at community colleges, private institutions, for profit institutions, or other types of colleges likely have different experiences given cost profiles, student profiles, and institutional values. Our findings may be suggestive, but do not address financial aid information for students with disabilities at those institutions. Our coding also does not address all issues related to financial aid that would be important for students with disabilities; additional research will be needed to extend our set of issues to others that may also be salient.

Results

If a student with a disability was searching for information about financial aid, the student might first look on a disability/accessibility services webpage. Our findings suggested that disability/accessibility services office websites rarely included information about financial aid policies specific to the students they serve. A student might then turn to the institution's website search engine to search for relevant terms. Coders found the search terms often resulted in links that caused more confusion because these links led to outdated information, information targeted at one specific population (e.g., veterans), to a research study or outreach program, or an external resource outside the institutional domain. If search terms yielded a link to the institution's financial aid website, this often yielded the best quality, most useful information, but this did not happen consistently across all institutional search engines. Using direct links to an institution's financial aid website generally resulted in the best information with the fewest clicks.

Financial Aid Adjustment Policy

We first investigated whether students would find information about financial aid adjustment policies when investigating their campus websites, and specifically if they were presented with any disability-specific information related to such policies. Costs associated with a disability can be included as one of the "special circumstances" in which a financial aid administrator adjusts a student's financial aid at their request (Federal Student Aid, 2020a). More than one third (39%) of institutions presented information about financial aid appeal policies and processes, but did not reference disability in any way. Another quarter of institutions did not have any information about these policies within the search parameters of this study. Only about a third of institutions (35%) referenced disability as a reason one might appeal financial aid-related decisions. Of those 35%, most referenced some sort of change in status related to disability (e.g., a medical or health status change that resulted in disability), which creates uncertainty for students with lifelong disabilities. A few of the 35% provided information that encompassed disability-related needs more inclusively. The University of Central Florida, for example, provided clear guidance. The website detailed information about how and when students can request an adjustment to their financial aid based on increased costs of attendance associated with a disability (University of Central Florida Office of Student Financial Assistance, n.d.).

Among institutions that had information about financial aid adjustment, 26% had the information more than two consecutive clicks into a website which we considered not easy to find as few students are willing to dive several clicks into a website to find information (Connaway et al., 2011). Of those institutions that had information that was findable in two clicks or less, the information was largely consistent across

pages and was presented in non-technical language easily understandable to the lay reader. Unfortunately, however, fewer than 1 in 5 institutions provided adequate information to understand what steps to take to engage this policy, and only one institution provided a specific person to contact to ask about the policy. In this case, the University of Wyoming provided contact information for a specific financial aid professional on a website dedicated to resources for financing adaptive technology (University of Wyoming Disability Support Services, n.d.). A student like Javier, whose living expenses far exceed what was accounted for in his financial aid calculations, would need all of this information to have a chance of navigating a successful petition for an adjustment to his aid. Without clear information on an institution's website that students with disabilities can request an adjustment to their financial aid, many students may find the out-of-pocket expenses of attending college insurmountable.

Satisfactory Academic Progress

We next searched universities' web-based information to see if students with disabilities would find helpful information about satisfactory academic progress (SAP) to remain eligible for financial aid. All 51 institutions in our sample had information about SAP available, but only 9 of them (18%) provided information related to disability specifically. Arizona State University offered easy to interpret progress examples and cited "academic hardship due to disability" as a specific reason for appeal (Arizona State University Financial Aid and Scholarship Services, n.d.). Across the institutions, information was found about as often within one click (43% of the time) as it was within 2 clicks (49%). All of the institutions were consistent in their presentation of this information, and most of them (84%) used language that was understandable to most people and not overly technical in nature. In regard to SAP, about half of the institutions outlined clear action steps for students to follow to learn more, but again, a very small number (3 institutions, or 6%) provided specific contact information for students to use. Unfortunately, students who may consider taking a leave of absence to seek medical or psychological care, for example, may find themselves in a situation where they may have benefited from understanding the ways SAP policies intersect with leave of absence policies as they weigh their options.

Time Limits to Degree Completion

For information about time limits for aid eligibility, all but one institution provided information about general time limits for all students on their websites, but only 20% thoroughly talked about these limits across all levels of aid: federal, state, and institutional. About a third of the institutions had information concerning how part-time status might affect these limits. As with other information in our searches, the ease of finding the information was pretty evenly split between one and two clicks (39% and 49% respectively). The vast majority of institutions were consistent in providing information across multiple pages (92%) and using useful, understandable language (84%). Action steps for students to take were defined by all but six institutions, with 23 (45%) providing thorough information that included forms for request, timeline for review, and the way to submit appeal forms. As with the other searches, only one university provided specific contact information for students to use if they wanted to follow up with a professional on campus.

Christina would have benefited from information about time limits for aid eligibility with respect to a reduced course load when she was considering if and how to proceed in college, given advice she received about taking fewer courses and thereby extending her time to attain a degree. Unfortunately, she would have a hard time finding this information. For information that related a reduced course load to these limits specifically, or when relating these limits to disability specifically—which are the two types of specific knowledge Christina would need to make an informed decision about her future—each piece of information was only provided by one institution in our sample. The University of Washington provided clear guidance to students about the impact of a reduced course load, stating "It is important for students to understand how the Reduced Credit Load accommodation affects these key areas before deciding to move forward with

the accommodation” and specifically identified the impacts to the amount of available financial aid, their time to finish their degree, and ability to live on campus (University of Washington Disability Resources, n.d., para. 4).

Loan Borrowing Limits

The final content we investigated was information related to loan borrowing limits and how they may be specifically related to disability. Students with disabilities who take more semesters to complete their degrees may reach their loan limits before completing. While only two institutions provided thorough information about these limits at all levels, most institutions (76%) provided at least some information, in most cases about federal loan limits. About twice as many of these were found in two clicks as opposed to one click. However, none of the universities we studied provided clear information about how these limits may affect students with disabilities specifically. The information found was largely consistent for readers (84%) and presented in a useable way for a lay reader (77%). Again, very few institutions provided adequate follow-up information: two provided clear action steps for students to take should they wish to appeal loan limits, with only one providing contact information a student could use if desired.

Discussion

Christina and Javier are just two of the millions of students at public higher education institutions navigating college with a disability. As these students seek information on their institutional websites about how their learning needs, accommodations, and financial policies and procedures intersect, they may find their questions unanswered. Searches including the term disability, or specific searches of the disability/accessibility office web content, most often yielded little. When information was findable, it most often resided on financial aid office websites. Results from this study suggest that institutions over-rely on students with disabilities to navigate the financial aid system, with few cues on institutional websites about what the options and processes are. Particularly for first generation students with disabilities who may not have family members to help guide them, the absence of information may lead students to wonder if they can afford higher education and struggle to make informed decisions.

Among public four-year institutions, few in the sample provide tailored financial aid information to students with disabilities. It is rarely clear that students are able to request an adjustment to their aid packages for disability-related expenses. Few institutions help students understand that by pursuing a reduced course load as an accommodation, students may find themselves without access to financial aid in their later academic years as they either reach time limits or loan limits. While many of these policies or procedures may have built-in appeal options, these processes and procedures are often not clearly outlined on institutional websites. For students who do not know how to ask or who do not feel responsible for asking, these processes are effectively hidden.

While the information that is provided to students about financial aid policies and procedures appears to be reasonably understandable and is typically written in clear language, this does not constitute equitable access to information. Equal access to general information is not equitable if the information shared with all students effectively place students with disabilities at a disadvantage. In other words, if the information necessary for students with disabilities to navigate the financial aid system is less often available, disparate educational outcomes are likely. In future research and institutional decision-making, such considerations should also include the extent to which relevant financial aid information is presented on ADA-compliant websites. Such instances are not likely to be intentional actions to disadvantage students with disabilities, yet serve as examples of institutional ableism (Dolmage, 2017).

Most campus processes require students with disabilities to know to ask for flexibility to policies or adjustments to aid. This is disadvantageous for all students with disabilities but especially hinders those who may not have the cultural knowledge, connections, or experience to navigate such systems (Lareau, 2015), such as low-income or first generation students. For example, many institutional processes for aid adjustment ask students to complete a form. On the form, it lists the reasons why a student may request an adjustment. At the many institutions studied by the authors, disability was not included on that list, even though many disability-related expenses that affect overall cost of living are eligible. Thus, students may believe, incorrectly, that they are not eligible to request an adjustment.

Additionally, institutions rarely provided contact information for a specific person in the financial aid office. While it is essential that all staff in the office be able to field disability specific questions for any students who may not have disclosed their needs to the institution previously, students should not have to disclose their disability to a different person each time they speak with someone in the department. This stigmatizes students with disabilities and lowers the trust felt by students (Eichelberger et al., 2017; Wolanin, 2005). It is imperative that web-based information provide clear contact information for staff who are well versed in disability-related needs and the ways these needs intersect with financial aid policies. It is also essential not to over-rely on disability services professionals or disability services websites to provide information to students. Not all students with disabilities disclose their disability status or use the available services and accommodations provided to them by their institutions (Timmerman & Mulvihill, 2015). Only 35% of secondary school students receiving special education services in high school disclosed their disability status when admitted to college, and only 23% used disability services and accommodations available at their campuses (Newman & Madaus, 2015). As a result, it is imperative to provide high-quality, useful information on financial aid websites for students with disabilities who do not disclose to their institution. This information is necessary for making educational decisions that affect their accessibility to financial aid.

While this study provides useful information about the information supplied at large public 4-year institutions, it also leads to several more questions that need to be addressed. It would be interesting to explore the ways in which the findings are the same or different among other institution types, such as small private colleges or community colleges. While some of our findings may be applicable to these institutions and/or their students, we do not overgeneralize our findings to include them. Rather, we hope that this study will generate additional research across institution types in order to find similarities, differences, and the best ways to serve students with disabilities in all types of institutions. We also suggest exploring whether website content that discusses disability is accessible for those students who might use a screen reader or need closed captioning to access the content, as this has been a source of recent litigation for numerous institutions (Lewin, 2015; McKenzie, 2018).

Implications for Practice

It is imperative that institutions create more robust web-based resources about financial aid eligibility for students with disabilities. These web resources need to explain how to request a reassessment of aid packages and what specific needs qualify. The resources should also include the ways that longer time to degree completion may affect financial aid availability, including loan limits and time to degree measures such as satisfactory academic progress, along with implications for student stop-out enrollment patterns. Most importantly, this information must be easy to access, rather than buried in a form five clicks into a website. Search engines must be improved to allow for the information to be found with a web search by using common search terms.

It is also important to present information in a way that students want to consume it. Many of today's college students want personalized, interactive web experiences that are responsive to their needs and interests specifically (Eichelberger et al., 2017; WP Engine & the Center for Generational Kinetics, 2017). They do not have the patience or willingness to comb through many webpages or read a long policy manual. Consumers expect their online shopping or news reading experience to show them content based

on their needs or interests. Why would they expect anything different from their college? As a result, students will also come to expect a tailored, personalized experience when it comes to accessing information from their college, including financial aid information.

Ideally, students should not have to search for the information they need to make informed decisions about financial aid, because many will not know what they are missing, or what to search for. This information should be available through multi-modal means that do not require students to search, by highlighting processes and resources in orientation, through financial aid application processes, through the admissions pipeline, and through academic advising appointments. Students may presume that if they have already disclosed their disability, this information will be used to offer them the appropriate resources tailored to their customized needs. Institutions would be well-served to hold focus groups with students with disabilities to better understand their context-specific needs, identify barriers they have experienced, and to create more informed systems and processes that serve all students equitably.

Too many institutions are fragmented in their support for students with disabilities. In our review, only a few disability/accessibility services websites referred to information about financial aid. Additionally, many disability services staff members, who may be the first people students like Javier or Christina contact for help, lack the requisite expertise to interpret complicated financial aid policies and the ways these policies intersect with disability accommodations. A few of the institutions we reviewed offered a specific contact in financial aid for students with disabilities. This person is assumed to be well-equipped to explain the intersection of institutional policies to students and allows students to only have to disclose disabilities to one person and to build a relationship with this person ideally.

Often students with disabilities, along with other underrepresented students, perceive that the staff in offices outside of their identity centers lack understanding of their specific needs, leading to distrust (Eichelberger et al., 2017). To combat this perception, financial aid offices should partner with disability/accessibility offices to offer broader training to campus professionals to help them support students with disabilities in navigating complex financial processes. This starts with a detailed analysis of campus policies and the ways these policies and subsequent messaging compete with or complement one another. For example, when a mental health counselor is advising a student to request a reduced course load for their mental health, the counselor may not mention (or even know) this will delay their degree completion and could lead to the reduction of aid or the absence of aid in later years. It is imperative that students receive consistent, integrated information across all areas of the institution. These cross-departmental contacts should then refer students to the appropriate person in financial aid.

While the practices outlined above would be improvements over the current state of affairs as revealed in this study, they would represent small incremental change to institutional systems, when what is really needed to achieve equity is transformative change. Having specific areas of content on websites, or having a specific person knowledgeable about how policies impact students with disabilities is not an inclusive practice, and still segregates and excludes students with disabilities to some extent. The larger goal is to have universally designed policies and procedures, such that all students are proactively provided with information that, in content and form, is widely useable and relevant. Universal design is a concept drawn from architecture that proposes to create environments that are accessible and navigable by all people regardless of ability or need (Mace et al., 1991). The goal is to provide web content that does not require students with disabilities to do extra work or take extra steps to have a smooth college experience. Interactions with any financial aid or disability services personnel could yield the information needed to understand the system and act in ways to succeed within it. The intricacies of how financial aid policies affect successful college-going as outlined in this paper would be useful to students well beyond those who identify as having disabilities, and certainly beyond those who are formally registered with the campus, which is what a universally designed system would provide.

Building a financial aid package for each student is complex. Often these packaging processes do not consider the unique needs of the student, particularly for those students who may have living expenses that far exceed the estimated cost of attendance. The financial disclosures during the application process should also, therefore, be built with a universally accessible design in mind. The funding model, application, and packaging process should be modified to allow for individuals to disclose their living expenses as part of the application process. Rather than treating the needs of students with disabilities as an exception, which further stigmatizes disability, their needs should be simply accounted for as part of the packaging process. A universally designed application and packaging process can reduce barriers for students with disabilities, and also serves all students more effectively.

By improving the quality, quantity, and findability of information for students with disabilities, institutions can better support efforts to ensure equitable access to quality financial information and subsequently to financial aid. Efforts should include both immediate incremental improvements to current processes and practices, as well as efforts to more fundamentally change the system holistically toward universal design principles. With students with disabilities making up a substantial proportion of today's college students, there are many who would benefit from such information. Most importantly, such improvements can help students like Christina and Javier better navigate institutional process, make informed choices that support their higher education pursuits, and succeed in their college careers from admission through to graduation.

Nexus: Connecting Research to Practice

Working to better tailor financial aid information for students with disabilities can help create more equitable access to financial aid resources. For campus-based practitioners, we recommend the following initial incremental steps, with an eye toward more systemic change.

- **Create financial aid resources with the needs of students with disabilities as a priority.** High quality financial aid information that explains the nuances of navigating institutional policies with a disability is imperative. Students need access to web-based information that explains their options, the implications of reduced course-loads and part-time attendance, limits to institutional and governmental aid, and clear processes for requesting adjustments to aid policies. Consider creating a web presence that addresses the needs of students with disabilities and offers additional guidance and resources; for example, information about how to request consideration for additional disability related expenses.
- **Hold focus groups with students with disabilities to understand their specific needs, challenges, and frustrations.** Ask students what information would have been helpful to them in navigating financial decision-making. These conversations can help give an institution-specific context to the challenges faced in accessing quality, clearly understandable, and relevant information about financial aid. These focus groups should include students beyond those who are formally registered with the campus, which are a minority of the actual population of students with disabilities.
- **Take a multi-dimensional approach to institutional policies.** Students are whole people who are affected by each institutional policy and process. Rather than treating policies and practices as free standing, analyze the ways in which financial aid policies intersect with other campus institutional policies and clearly outline these on institution websites. This can help students better understand the ways in which a decision in one area, for example, a reduced course load, can have implications in other areas.
- **Partner with disability/accessibility services professionals.** Through this partnership, provide cross-departmental training to disability/accessibility services, academic advising, admissions, behavioral intervention teams, counseling services, health services, and the dean of students on the needs of students with disabilities and ways that institutional policies intersect to affect their degree pursuits. This allows any professional that a student may contact about their individual

circumstances to best refer or advise a student on the available options and the benefits and risks they can expect with each option.

- **Provide specific contacts in financial aid who are well-versed in student accessibility needs.** Students want to know they can contact someone who can help and who will demonstrate appropriate knowledge of their specific needs. This also prevents the student from having to disclose their specific needs to different people over and over each time they contact the office. When possible, provide the contact information for specific individuals in financial aid that a student can contact with questions about their disability status and financial processes. This builds trust and improves the likelihood students will use office resources (Eichelberger et al., 2014). While this recommended practice would be useful for many, it does not mean that no one else should know and understand disability related needs and issues. While a specific contact is helpful for some, campus personnel should be widely trained on these issues such that a student can be successful through the typical campus channels as well.
- **Create financial aid systems and processes that are universally designed and accessible.** Universal design is a process in which all individuals needs can be met without specific accommodation. In such a system, necessary information and resources are proactively made available, without additional complexity or burden for any subgroup of students. As practitioners, explore funding models that accommodate student disability-related expenses as part of the standard packaging process rather than requiring students to request an adjustment to their aid after the packaging process. This may mean asking some additional questions upfront that help with building a budget that accommodates each individual student's needs. It also means ensuring that information about the intersection of financial policies and other policies such as leave of absence and reduced course load are clearly communicated.

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