Online Disability Accommodations:
Faculty Experiences at One Public University

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Abstract

As the number of postsecondary students with disabilities in online courses continues to rise, it is important that faculty and their institutions continue to assess their ability to provide online accommodations. In this study, researchers examined the online accommodation experiences of faculty at one public university. Roughly 24% of faculty said they had made accommodations for students with verified disabilities and 15% reported experience with making online accommodations for students who stated they had disabilities but had not been verified through Disability Services. Due to their limited experience at making online accommodations, a majority (54%) of faculty were unsure whether they had the knowledge, technology, and support to handle online accommodations. Faculty recommended ongoing support and training for new and experienced faculty, and they also asserted that students needed assistance in increasing awareness of their own responsibilities and of available university resources.

Keywords: Online accommodations, students with disabilities, disability accommodations

In their ninth annual report on online learning in higher education, *Going the Distance: Online Education in the United States, 2011*, the Babson Survey Research Group and the College Board reported that "over 6.1 million students were taking at least one online course during the fall 2010 term," and that "the ten percent growth rate for online enrollments far exceeds the less than one percent growth of the overall higher education student population" (Allen & Seaman, 2011, p. 4). A similar trend is reflected in a 2011 study by the Pew Research Center, which found that 89% of four-year public colleges and 60% of four-year private schools now offer online classes (Parker, Lenhart, & Moore, 2011). With the general increase in online students, the number of online students with disabilities is estimated to be significant (Roberts, Crittenden, & Crittenden, 2011). In a 2006-2007 study by the United States Department of Education (Parsad & Lewis, 2008), 49% of 2-year and 4-year Title IV degree-granting postsecondary institutions reported occasional requests for accommodations for students

with disabilities in distance courses and 7% of the institutions reported frequent requests.

Although the explosion in online courses is well-documented and is viewed as a result of technology's ability to meet both student demands for flexible access and higher education's interest in increased student enrollment (Government Accountability Office [GAO], 2011), it is less clear how well postsecondary online education is responding to the needs of online students with disabilities. A survey of 344 full- and part-time faculty at one university found that 80.2% of faculty had not considered the needs of students with disabilities in their courses and 11.8% of faculty had "partially" taken these students' needs into account (Bissonnette, 2006). Kinash, Crichton, and Kim-Rupnow (2004) provided evidence to assert that "people with disabilities are among the least considered in the educational context of online learning" (p. 5). Gladhart (2010) outlined the various barriers that students with disabilities encounter with web-based course materials including uncaptioned videos, disorganized websites,

and course media unreadable by screen readers. Roberts et al. (2011) reported that 45.8% of students who had taken online courses perceived their disabilities to be a barrier to their success in online courses and 69.7% of students had not disclosed their disabilities to online instructors. In addition, a 2010 survey of 183 two- and four-year colleges and universities found that 17% of institutions had no formal policies ensuring online course compliance with the regulations of the Americans with Disabilities Act, and 58% reported that either individual faculty or academic programs or departments were the responsible parties for ensuring online ADA compliance (Green, 2010).

With faculty and academic departments expected to be at the frontline of online disability accommodations, faculty, universities, national centers, and others have developed recommendations and resources to assist faculty and their institutions with using accessible instructional materials, guaranteeing web accessibility, ensuring an inclusive educational environment, and applying Universal Design for Learning (UDL). Universal design reflects related approaches used by architects, engineers, and instructors who anticipate diversity in the population and proactively build inclusive features into the design process principles (Burgstahler, Corrigan, & McCarter, 2004; Case & Davidson, 2011; Georgia Institute of Technology, n.d.; Grabinger, Aplin, & Ponnappa-Brenner, 2008; Lewis, Yoder, Riley, So, & Yusufali, 2007; Murray, Wren, Stevens, & Keys, 2009; National Center on Accessible Instructional Materials, n.d.; Universal Design Education, n.d.; University of Connecticut, n.d.; W3C, n.d.).

Researchers have also studied faculty experiences with and attitudes toward students with disabilities and their need for accommodations. The vast majority of these studies, however, examine faculty attitudes and accommodations in face-to-face rather than online classes (Houck, Asselin, Troutman, & Arrington 1992; Leyser, Greenberger, Sharone, & Vogel, 2011; Jensen, McCrary, & Krampe, 2004; Kraska, 2003; Lombardi & Murray, 2011; Murray et al., 2008; Rao, 2004; Rao & Gartin, 2003; Vogel, Leyser, Wyland, & Brulle, 1999; Zhang et al., 2010.) Fichten et al. (2009) examined disabilities and e-learning problems and solutions, but significantly more research is needed on how higher education faculty are viewing and responding to students with disabilities in online courses and the accommodations they may need and request.

Method

Research Purpose and Question

The authors work at a doctoral-granting public university in the upper Great Plains. Three of the four authors teach online courses and the fourth is the director of the campus Center for Instructional Learning and Technology. In their conversations about online accommodation practices on their campus, it became clear that, while institutional assistance was available to faculty for implementing online accommodations, virtually no information existed on the types and quantity of online accommodations being made by faculty, what kind of support faculty were receiving, and whether faculty felt able to make accommodations. By gathering this information they hoped to determine how the institution could better support faculty and students with disabilities in online courses. Their research question was, "What has been the experience of online instructors in making accommodations for students with disabilities?"

Setting

The university setting for the research project is an institution of 14,000 students located in one of the most rural states in the country. It offers undergraduate and graduate degrees in over 200 fields of study and has been offering online courses for 10 years. As of fall 2011, approximately 277 unduplicated online courses, both synchronous (taking place in real time) and asynchronous, were being taught each semester. Twenty-five departments offer 30 degrees and 12 certificate programs online.

Study Participants and Data Collection

During the spring 2011 semester, the university's Center for Instructional Learning and Technology provided a list, obtained from the Registrar's Office, of all faculty who were teaching online courses. The list contained 190 names of faculty from various disciplines across campus and representing all instructional statuses and ranks (non-tenured, tenured, and lecturer through full professor). After receiving IRB approval for the study, the research team sent an email to all 190 faculty and invited them to participate in the study by accessing a link to the online survey. Two weeks later, researchers sent a reminder to the participant list. The survey, distributed during one semester only, gathered no identifying information and took approximately 20

minutes to complete. Eighty-three faculty responded (a 43.7% response rate).

Survey Instrument

The survey's introductory page explained that the purpose of the study was to better understand the types of accommodations made by faculty for online students and to provide the university with information that might further enhance its ability to provide accommodations in an online learning environment. The survey asked questions divided into three sections: Participant Information, Course-Specific Accommodations, and Perceptions of Accommodations. The first two sections contained fixed-response questions requesting participant demographics and accommodation experiences. The third section gathered responses to open-ended questions about perceptions of online accommodations. The university's Disabilities Services for Students office helped the research team develop a list of disabilities/impairments and types of accommodations referenced in the survey. Table 1 contains the questions from each section.

Data Analysis

For the first two sections of the survey, frequencies were obtained and computed to percentages. These percentages were calculated using the number of respondents (n=83), not the original sampling frame of 190.

In the third section, researchers analyzed the four opened-ended questions using Braun and Clarke's (2006) "thematic analysis" as a guideline – a process that "involves the searching across a data set--be that a number of interviews or focus groups, or a range of texts-- to find repeated patterns of meaning" (p. 86). This methodology places meaning and understanding at the root of analysis and promotes discursive interpretation of data as individual codes may cross reference multiples themes. Braun and Clarke stated that this approach is utilized to report experience, meaning, and the reality perceived by participants without limiting interpretation to themes supported by a pre-determined, potentially irrelevant, theory.

Data analysis began with a classification procedure known as open coding. Through constant comparison and reconceptualization, codes were then analyzed using a pattern coding method, called categorization, to identify categories from relationships amongst codes. Next, a search for patterns among these categories was employed to identify themes. Finally, the relationships

that tied themes together were identified and labeled "assertions." Data were initially analyzed by the second author, with the findings cross-checked by the third and fourth authors for the purpose of assessing internal reliability. As Mays and Pope (1995) have noted, assessments of a data set by more than one researcher and a comparison of rater agreement can enhance data analysis. The second author presented an analytic schema to the third and fourth authors that detailed how findings from the study were coded. The authors conducted a subsequent analysis by collapsing inter-related codes into the predetermined categories. Agreement was achieved when researchers recorded identical codes within the categories. Inter-rater agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements. In cases of disagreement, the authors discussed their reasoning and came to consensus. Ultimately, the inter-rater agreement reached 92%, which is high. As Miles and Huberman (1994) suggested, 70% is an acceptable level of agreement for qualitative research.

Results

Participant Information

As can be seen in Table 2, 44.6% of respondents indicated that they considered their online teaching experience to be at an "advanced level," 49.4% delivered online courses both synchronously and asynchronously, 24.1% taught online courses at both the undergraduate and graduate levels, and 75.9% taught only semester-based online courses.

Course-based Accommodations

In response to the question, "Have you made accommodations for any online students who have been *verified* by Disability Services to have functional limitations due to disabilities?" 77.8% (n=63) of respondents said no and 23.5% (n=19) said yes. In response to whether or not participants had made accommodations for any online students who had not notified Disability Services but who informed instructors that they had a disability (not including temporary disabilities, such as a broken arm), 84.6% (n=66) said no and 15.4% (n=12) said yes. Table 3 shows the total number of students (inclusive of both groups) faculty accommodated over their years of teaching online, along with the disability category. Table 3 also shows the types of accommodations made for each category.

Table 1

Survey Questions

Section 1. Participant Information
1.   At what level do you consider your online teaching experience?
2.   What online delivery method(s) have you used?
3.   At what academic level do you teach online students?
4.   Are your online courses semester, non-term, or both semester and non-term?

Section 2. Course-Specific Accommodations
1.   Have you made accommodations for any online students who have been verified by Disability Services for Students to have functional limitations due to disabilities?
2.   Have you made accommodations for any online students you know who had not notified Disability Services for Students but who informed you that they had a disability?
3.   How many students and what types of accommodations have you made for various disabilities?
4.   Did you contact any university support services to assist you with making accommodations? If so, which ones?
5.   Have you referred one or more students to formal university support services in relation to disabilities/accommodations? If so, which ones?

Section 3. Perceptions of Accommodations
1.   Have you seen requests for online accommodations change over time?
2.   What thoughts do you have about accommodations in an online versus face-to-face environment?
3.   Do you feel you have the knowledge, technology, and support to handle online accommodations? Explain your answer.
4.   What recommendations do you have for how UND could improve its ability to provide online accommodations for students with disabilities/impairments?

In response to the question, "Did you contact anyone (such as a university service or a colleague or supervisor) to assist you with making accommodations?" five respondents who made accommodations for students who had been verified by Disability Services said no and 12 respondents said yes. Of these 12, nine (75%) contacted Disability Services, five (41.7%) contacted the Center for Instructional and Learning Technologies, three (25%) contacted Continuing Education (the entity responsible for online education), three (25%) contacted the Counseling Center, two (16.7%) contacted other university departments, and five (41.7%) received assistance from a colleague or supervisor. Percentages do not add to 100 since respondents were able to indicate multiple contacts they made.

Of the faculty who accommodated students who had not been verified by Disability Services, eight faculty responded that they had not contacted anyone for assistance and two faculty responded that, yes,

they had contacted someone for assistance. Both of these individuals contacted Continuing Education. One also requested assistance from a colleague and one requested assistance from a supervisor.

The survey also asked participants if they had referred one or more students to university support services in relation to disabilities. Eight faculty who accommodated students who had been verified through Disability Services had referred students to Disability Services, four faculty referred students to the Center for Instructional and Learning Technologies, two faculty referred students to Continuing Education, four faculty referred students to the Counseling Center, and one faculty referred students to Student Health Services.

Of the faculty who had accommodated students who had *not* been verified by Disability Services, five referred students to Disability Services, two referred to the Center for Instructional Learning and Technologies, two referred to the Counseling Center, and one referred to Continuing Education.

Table 2

Participant Information

Online Teaching Experience	*n*	%
Experience Level		
Novice (has taught no more than 2 online courses)	20	24.1
Intermediate (has taught more than 2 online courses but still needs assistance with setup and delivery)	19	22.9
Advanced (has taught several online courses and generally does not need assistance with setup and delivery)	37	44.6
Expert (provides formal mentoring and/or consultation to others)	7	8.4
Online Delivery Methods Used		
Synchronous	10	12.0
Asynchronous	32	38.6
Both synchronous and asynchronous	41	49.4
Online Academic Levels Taught		
Undergraduate	30	36.1
Graduate	33	39.8
Both undergraduate and graduate	20	24.1
Course Structure		
Semester based (including summer sessions)	63	75.9
Non-term	0	0.0
Both semester-based and non-term	20	24.1

Perceptions of Accommodations

Instructors' perceptions of online accommodations were measured using four open-ended questions. The responses to these questions were qualitatively analyzed and the findings from each of these questions are reported below.

Question 1

If you have been teaching online courses for several semesters, have you seen the request for accommodations from online students change over time (e.g., increase in the number of students requesting accommodations, increase in the type of disability)? Fifty-three instructors responded to this question. Their responses were classified into nine codes, and after categorization, two categories emerged. Three themes within these categories were identified, as well as one assertion that tied the themes together.

Theme 1. The majority (75%) had seen no change or had never been asked to make an accommodation in their online courses. Instructors who answered this question had identified themselves as "advanced" or "expert" in Section 1 of the survey based on the criteria of (a) having taught across several semesters, (b) generally not needing assistance with course design, or (c) being a mentor/consultant to others. Of the instructors who responded, 57% had never been asked to make an accommodation, while the remaining 43% have seen no change. Interestingly, some instructors reported an increase in student requests for an accommodation in face-to-face classes, but not online.

Theme 2. Instructors' perceptions are that *students choose to accommodate their own learning needs, choose not to request assistance, or choose not to self-accommodate.* Regarding self-management of accommodations, an instructor supported this theme

Table 3

Number of Students Assisted According to Primary Disability and Accommodations Made

Disability Category	Over years teaching online, approximate number of online students assisted:						Type of Accommodations Made
	0	1	2	3	4	5	
Learning Disability	5 26%	9 47%	2 11%	2 11%	0 0%	1 5%	• Extended testing time • Assignment extension • Copies of notes • Sign language interpretation • Real time captions • Assistive technology
Health Related/ Chronic Impairment	10 56%	6 33%	1 5%	0 0%	1 5%	0 0%	• Extended testing time • Alternate testing format • Assignment extension • Textbook in alternate format
Physical Impairment	10 59%	5 29%	1 6%	0 0%	1 6%	0 0%	• Assignment extension • Extended testing time • Alternate testing format • Copies of notes • Real-time captions
Mental Health Impairment (e.g., depression, anxiety)	12 63%	5 26%	1 5%	0 0%	0 0%	0 0%	• Assignment extension • Alternate testing format • Extended testing time • Copies of notes • Textbook in alternate format • Assistive technology • Real time captions
Visual Impairment	11 65%	4 23%	1 6%	1 6%	0 0%	0 0%	• Textbook in alternate format • Alternate testing format • Copies of notes • Assignment extension • Extended testing time
Neurological Impairment (e.g., ADHD, Tourettes Syndrome)	12 80%	2 13%	1 7%	0 0%	0 0%	0 0%	• Extended testing time • Assignment extension • Copies of notes • Sign language interpretation • Assistive technology
Communication Disorder (e.g., Speech Impairment)	12 86%	1 7%	2 7%	0 0%	0 0%	0 0%	• Alternate testing format • Copies of notes
Hearing Impairment	11 79%	1 7%	1 7%	1 7%	0 0%	0 0%	• Extended testing time • Assignment extension • Sign language interpretation • Real-time captions
Development Disability (e.g., Asperger's Syndrome)	13 93%	0 0%	1 7%	0 0%	0 0%	0 0%	• Alternate testing format

by stating, "My experience has been that most students with disabilities have had many years of experience and have already found what resources exist." Another concluded that disabilities can be hidden online because students are able to work through the content by taking the time they need. A few instructors asserted that distant students taking online courses do not request accommodations as much as on-campus students, nor do they access disability support services.

Some instructors have encountered students who wait and fail before they request accommodations. For example, one instructor commented, "They do not apprise you of a disability until they do not do well on an assignment. When they do disclose a disability, it's with the request to redo their assignments coupled with explanations as to why they performed low."

Theme 3. *Implementing UDL can accommodate students' learning needs.* UDL is a research-based framework for curriculum delivery that reduces barriers in instruction through providing multiple means of representation, of action/expression, and of engagement (National Center on Universal Design for Learning, n.d.). UDL uses information from the fields of neuroscience to ensure that educational practices are responsive to the recognition, strategic, and affective networks of the brain (Center for Applied Special Technology, n.d.). UDL principles encourage implementation of basic proactive (rather than reactive)

accommodation strategies as a general approach to all classes. Some instructors who responded to the survey were familiar with UDL practices and one instructor indicated that adhering to UDL principles would ensure responsiveness to students with disabilities: "I believe the understanding of universal design assists in this manner. When educators know these principles, accommodations are not necessary." Some instructors provided examples of UDL practices that they have found to benefit all students such as increased time to work through content, larger print size, and detailed notes. Although these instructors did not provide evidence that these practices mitigated students' need to formally request accommodations, instructors' use of some UDL strategies may explain why students had not requested accommodations.

The relationship among these three themes is that *students rarely request accommodations in online courses.* Instructors who participated in this study had no or limited experience at making accommodations in the online setting largely due to minimal requests from students. More specifically, an item on the questionnaire asked instructors if they had made accommodations for any online students who had been verified as having a disability through the university's Disability Services for Students; 77.8% had never made an accommodation. Figure 1 offers a visual display of findings from Question 1.

Question 1:
If you have been teaching online courses for several semesters, have you seen the request for accommodations from online students change over time (e.g., increase in the number of students requesting accommodations, increase in the type of disability)?

Themes:
1. *The majority (75%) has seen no change or has never been asked to make an accommodation in their online courses.*
2. *Students either choose to accommodate their own learning needs or choose to not request assistance or do not self-accommodate.*
3. *Implementing universal design for learning can accommodate students' learning needs.*

Assertion: Students rarely request accommodations in online courses.

Figure 1. Analytic schematic for open-ended question about requests for accommodations.

Question 2

What thoughts do you have about accommodations in an online environment compared to accommodations in a face-to-face environment? Fifty-two instructors responded to this question. Their responses were classified into 15 codes, with three categories emerging after categorization. Four themes were identified, as well as two assertions that tied the themes together.

Theme 1. Although instructors have had limited experience, making appropriate accommodation for students is important to them. Instructors supported this with phrases such as, "every effort should be made" and "ensuring students with disabilities have needed accommodations." One participant shared, "I strongly believe one should do as much as possible to make the learning environment comfortable and supportive to students no matter if it is an online or traditional classroom."

Theme 2. Instructors are aware of resources available to them to assist with making accommodations. When asked specifically whether or not they contacted anyone to assist them with making accommodations, 52% reported they had sought assistance, with Disability Services for Students as the department with the most number of contacts.

For the instructors who had not made accommodations for students, they identified organizational resources they would seek assistance from such as the Center for Instructional and Learning Technologies and Disability Services for Students. They also knew of other faculty who could assist, mainly colleagues and faculty from the special education department.

Theme 3. When comparing online to face-to-face courses, *instructors felt that identifying/verifying necessary accommodations is (or might be) harder in an online course.* For some instructors, their basis was experience. One concluded, "Harder to notice the online. On campus it is relatively easy to identify the students who struggle with test anxiety, physical disabilities, etc. Much harder to identify online." For others, their basis was perception, hypothesizing, "This is (as far as I know) not an easy thing to do for a single student in an online environment." Contrary to this view, another participant noted, "I believe that many [disability needs] could be handled as well in an online environment much the same as face-to-face environment."

Theme 4. The ease of making accommodations depends on the type of disability and the technology; meaning, some accommodations are more easily made

online while others are harder. There was consensus amongst the instructors that the sensory disabilities (i.e., visual and hearing impairments) were the types of disabilities that were (or might be) more challenging to accommodate.

While some instructors denoted the limitations of technology for making accommodations in an online course (e.g., "The technology interface can make it more difficult."), others recognized the benefits, remarking, "Given all of the technology available, I think it's easier to make accommodations for students in an online format than it is in an on campus/face to face format." Some instructors went so far as to assert that an online environment is a "friendlier setting for [students with disabilities]" and "it may be helpful… depending on the disability."

The "easier" accommodations instructors were able to make, independent of university support services, were extending time to complete lessons and assignments and enlarging print size. One instructor stated how she produced materials in a variety of formats by utilizing technologies for providing students with recorded demonstrations and lectures, but had not thought of including transcription of what was stated during these recordings.

Relative to accommodating student with sensory disabilities, an instructor noted that when a student with a visual impairment enrolled in the course, the Center for Instructional Learning Technologies provided all the accommodations. This instructor "did not even know what was done." While only one instructor denoted an *actual* experience, others provided *anticipated* challenges of accommodating students with said disabilities. Some instructors perceived accommodating students' sensory needs as being time intensive, needing assistive technology (e.g., voice activated), and simply being "trickier." Consequently, university support systems would have to be utilized.

Ascertained from these four themes is that instructors want to make appropriate accommodations using the resources available to them. However, some accommodations are more easily made online while others are harder. Although this question did not query instructors about specific accommodations they perceived as easier or harder to provide, a few chose to share their actual experiences while some provided examples of anticipated challenges. As a reminder, the majority of instructors had limited experience providing accommodations. Since the question asked

participants to give their "thoughts" rather than only experiences, instructors' responses were rooted in both actual and hypothetical experiences. Figure 2 offers a visual display of findings from Question 2.

Question 3

Instructors were asked if they felt they had the knowledge, technology, and support to handle online accommodations. Of seventy-six respondents, 26 (34.2%) answered yes, nine (11.8%) answered no, and 41 (53.9%) answered not sure. Respondents were then asked to *"Please explain why you answered "No" or "Not Sure" to the question about whether you have the knowledge, technology, and support to handle the online accommodations."* Forty-five survey participants responded and their responses were classified into nine codes, with two categories emerging. Three themes within these categories were identified, as well as an assertion that tied themes together.

Theme 1. The majority (53.9%) was "not sure" *due to limited experience at making online accommodations.* Most responded to this question simply stating that their uncertainty was directly linked to limited exposure (e.g., "I haven't had to think about this.") Others were a bit more reflective, stating, "…I'm not sure what my limitations are or if I have considered all possibilities," and "How do I know if I have the right technology and support until I have a student who needs accommodations?"

Theme 2. "*Handling" the accommodation is largely dependent on the type of request and the technology needed.* Instructors were asked to identify the number of students they have made accommodations for across each of the disability categories, as well as to select the types of accommodations they made (see Table 3). Instructors had the most experience providing accommodations for students with learning disabilities. They felt they could "handle" the most common types of accommodations, which were extended testing time, assignment extensions, and copies of notes.

Theme 3. Due to limited experience, instructors would seek resources available to them on campus in order to make appropriate accommodations, especially for sensory disabilities. For the "more complex" accommodations, typically associated with students with sensory disabilities and assistive technology, "handling" would need to be done in collaboration with organizational and human resources who were more trained in these areas.

Interwoven in the aforementioned themes is one assertion. *Due to limited experience, making appropriate accommodations would depend on the resources available to instructors, mainly for the type of disability and for the technology to utilize.*

Question 4

What recommendation do you have for how the University could improve its ability to provide online accommodations for students with disabilities/ impairments? Forty-nine individuals responded to this question. Ten codes were developed and later reorganized into two categories. Three themes were identified within these categories, with one assertion connecting them.

Question 2:
What thoughts do you have about accommodations in an online environment compared to accommodations in a face-to-face environment?

Themes:
1. *Making appropriate accommodations for students is important to instructors.*
2. *Instructors are aware of resources available to them to assist with making accommodations.*
3. *Identifying/verifying necessary accommodations might be harder in an online course.*
4. *The ease of making accommodations depends on the type of disability and the technology.*

Assertion:
1. Instructors want to make appropriate accommodations using the resources available to them.
2. Some accommodations are more easily made online while others are harder.

Figure 2. Analytic schematic for open-ended question about perceptions of accommodations.

Theme 1. Instructors recommended ongoing support, both human and organizational. For instructors who have sought both collegial (e.g., departmental peers) and organizational resources (e.g., Center for Instructional and Learning Technologies, Disability Services for Students) for making accommodations, they identified the utility and necessity for them; as a result, they denoted the importance of sustaining this infrastructure. For instructors who had not utilized these resources, ensuring they are available to them when needed is important.

Theme 2. Instructors recommended that training be available to both new and experienced instructors that targets expectations for making accommodations, types of accommodations, and resources available. Collectively, the "training" instructors recommended could be conceptualized as a 3-tiered system. For the bottom tier, guidelines should be available that delineate expectations, types of accommodations, and resources available. Some instructors wanted "standardized procedures" to be included and others wanted "examples" and "scenarios." In addition, instructors stressed the importance of "clear" expectations that were temporally "realistic" for both the short and long terms. The middle tier should focus on outreach from experts in this area (e.g., Disability Services for Students, Center for Instructional and Learning Technologies, Special Education department). This was operationalized as focused, small group sessions for instructors at all levels of teaching experience. The top tier should be the one-on-one support to address specific, complex accommodations for individual students.

Theme 3. Instructors recommended making students aware of their responsibilities and of the availability of resources. Instructors wanted students to disclose their disabilities to ensure equity in their courses and equitable access to the supports and services available to them on campus (e.g., Disability Services for Students, the Counseling Center). There was agreement amongst instructors that students needed to become more aware that the responsibility to disclose their disabilities and to request accommodations was theirs. Unfortunately, instructors did not make any specific recommendations as to how this could be achieved.

In sum, instructors offered three recommendations. Although these three have distinctive qualities, there is an undercurrent that flows succinctly among them, which is *both instructors and students need ongoing support.*

Discussion

This mixed methods exploratory study examined the experiences and perceptions of faculty at one university related to making accommodations for students with disabilities in online classes. Of the 83 faculty who responded to a survey, 44.6% considered their online teaching experience to be at an "advanced level" and 49.4% delivered online courses both synchronously and asynchronously. Nineteen faculty (23.5%) had made accommodations for students who were verified by Disability Services as having a disability and 12 faculty (15.4%) had made accommodations for students who had disclosed their disabilities but had not

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Question 3:
Please explain why you answered "No" or "Not Sure" to the question about whether you have the knowledge, technology, and support to handle online accommodations.

Themes:
1. *The majority (53.9%) is "not sure" due to limited experience at making online accommodations.*
2. *"Handling" the accommodation is largely dependent on the type of request and the technology needed.*
3. *Due to limited experience, instructors would seek resources available to them on campus in order to make appropriate accommodations, especially for sensory disabilities.*

Assertion:
Due to limited experience, making appropriate accommodations would depend on the resources available to instructors, mainly for the type of disability and for the technology to utilize.

Figure 3. Analytic schematic for open-ended question about handling online accommodations.

contacted Disability Services. Study participants indicated the disability categories for which they had most often made accommodations were learning disabilities, health related/chronic medical impairments, physical impairments, visual impairments, and mental health impairments. This finding reflects a similar frequency of postsecondary disability categories as reported in Tandy and Meacham (2009) and in Fichten et al. (2009), who also noted that students with health/medical impairments and psychological or psychiatric disabilities represent a newer trend in postsecondary education.

As mentioned, few respondents in this study had made accommodations in their online courses. It was their perception that students either chose to self-accommodate or, for whatever reason, chose not to request accommodations. This perception seems consistent with student reporting in the study by Roberts et al. (2011), in which 69.7% of students had not disclosed their disabilities to online instructors. Although student respondents in the 2011 study were not asked why they had not disclosed disabilities, the authors posited that students may not have known which accommodations to ask for or that students may have already been using assistive devices that mitigated their need for accommodations.

Although limited requests from students was the primary reason given by this study's respondents for their minimal experience with making accommodations, instructors universally asserted that they were receptive to making online accommodations. This finding is also consistent with previous studies examining faculty attitudes, even though most of these studies examined accommodations in face-to-face classrooms

(Leyser & Greenberger, 2008; Murray, Wren, & Keys, 2008). Respondents acknowledged, however, that some disabilities (such as visual and hearing impairments) were, or might be, more challenging to accommodate than others. Interestingly, faculty who made accommodations for students whose disabilities had been verified by Disability Services for Students were more likely to request assistance in making these accommodations than were faculty who had made accommodations for students whose disabilities had not been verified. This may indicate that the disability verification process positively impacts the likelihood of faculty requesting accommodation assistance.

Due to no or limited experience with accommodations, 65.7% of respondents felt that they did not have or were "not sure" if they had the knowledge, technology, and support to make online accommodations. They did, however, articulate specific recommendations for how the university could support instructors. These recommendations included regular distribution of guidelines or "standardized procedures" related to online accommodations, small-group informational sessions by on-campus accommodations experts, and one-on-one support for individual faculty. Respondents also asserted that they wanted students to disclose their disabilities so that instructors could ensure equity in their classes, but they believed students needed to be made more aware that such disclosure and the commensurate request for accommodations was their responsibility.

Question 4:
What recommendations do you have for how the university could improve its ability to provide online accommodations for students with disabilities/impairments?

Themes:
1. *Instructors recommend ongoing support, both human and organizational.*
2. *Instructors recommend there be training available to both new and experienced instructors that targets expectations for making accommodations, types of accommodations, and resources available.*
3. *Instructors recommend making students aware of their responsibilities and availability of resources.*

Assertion:
Both instructors and students need ongoing support.

Figure 4. Analytic schematic for open-ended question about recommendations.

Limitations

This study is limited in that it addresses faculty experiences and perspectives at only one institution. In addition, the study was not based on a random sample, and the respondents may not be representative of the larger group of online instructors at the university. Finally, the data collected are in need of validation since it is only based on self-reports that may reflect socially-desirable responses.

Recommendations and Future Research

Based on this study's findings, the authors believe that colleges and universities would benefit from an intentional and comprehensive "tiered model" of information and support for students and faculty. This tiered model would involve:

Tier 1: Promotion and increased availability of a series of basic educational materials outlining legal obligations, approaches to, supports for, and answers to FAQs about online accommodations. These materials would include hard-copy brochures, websites, and asynchronous webinars distributed and/or publicized on a routine basis via academic and student affairs venues. Online faculty should also be strongly encouraged to include a statement in their syllabi inviting students with disabilities to discuss accommodation needs early in the semester with faculty and asking students to register with Disability Services if appropriate. The Disability Services for Students office at the authors' university provides a recommended statement for syllabi, and the office also emails all faculty a reminder of the services it offers (to faculty and students), but it is unclear how many faculty use the statement or the services;

Tier 2: Routine face-to-face or online synchronous discussion between instructional technology staff and/or experienced faculty and individual academic and student affairs departments. Centers for Instructional Learning Technologies could also sponsor campus-wide, small group information sessions about online accommodations and provide an online classroom as a format for faculty and student information sessions.

Tier 3: Individual outreach to and sessions by Centers for Instructional Learning Technologies with online instructors to enhance their skills in reaching out to students, offering and managing accommodations, and improving their universal design abilities.

Future research directions for this and other universities would include student surveys and focus group interviews with online students to determine: the extent to which students with disabilities feel comfortable requesting accommodations; why students do not disclose a disability in the online setting; if students with disabilities are aware that the university can offer accommodations for online courses; and student perceptions of what it means to contact Disability Services for Students (i.e., any potential stigma issues). Additional research is also needed to determine whether faculty, and the university in general, are providing effective supports for students and faculty around online accommodations (along with identifying specific accommodations being used), as well as what additional supports, attitudes, or behaviors are needed to ensure faculty and student success in the context of teaching and learning.

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