A Rural University Instructors' Perceptions about Students with Disabilities and Their Willingness to Accommodate Instructions and Assessments

Jeasik Cho[1]
Scott Crawford[2]
Dorothy Jean Yocom[3]
Tiffany Hunt[3]
Reed Scull[3]

Abstract

Research highlights the importance of faculty awareness regarding the varying needs of students with disabilities and the ways in which these students may better be supported within the postsecondary educational setting. However, there is a dearth of research regarding how instructional and assessment accommodations are offered in a rural university context. The purpose of this study was to investigate the extent to which rural instructors (faculty, adjunct faculty, and graduate teaching assistants) demonstrated willingness to accommodate instruction and assessments to meet the needs of students with disabilities. A survey questionnaire was designed to collect data (*N*=309) at a university in the Rocky Mountain region. Results showed that instructors were largely willing to accommodate many aspects of their instructional practices, even in areas that faculty were known to be unwilling in previous research findings. Likewise, while instructors were in strong favor of providing assessment accommodations in many areas, they were neutral or unwilling to accommodate other key areas of their assessment practices. Chi-square tests showed significantly different degrees of willingness among varying colleges, academic positions, and years of service. Implications for practice specifically related to faculty training and the support from administrators are discussed.

Keywords: access and success, students with disabilities, university instructors, willingness to accommodation, instruction, assessment

According to the National Center for Education Statistics, three million or approximately 11% of undergraduates on university campuses are students with documented disabilities (Raue & Lewis, 2011). These students face more challenges than the average student (Ingersoll, 2016). By asking what colleges and universities can do to improve the experience for students with disabilities, Fleming et al. (2018) identified areas of improvement from students with disabilities themselves such as "accessibility problems, negative attitudes of faculty and peers, and a need to address disability awareness" (p. 320). As noted above, imagine that one in 10 freshmen students nationwide have some type of learning disability. Students with physical disabilities are just a small portion of these students which creates a challenging issue for most colleges and university faculty. Most learning disabilities are invisible to everyone but the student affected. Students with disabilities need extra support to succeed in college (Crotty & Doody, 2016; Disability Rights California, 2013; Edna, 2016; Murray et al., 2008; Rieck & Dugger-Wadsworth, 2005; Roth et al., 2018).

Much is known about general perceptions of faculty or instructors regarding students with disabilities in large or medium-sized college or university contexts (Barazandeh, 2005; Bruder & Mogro-Wilson, 2010; Greenberger & Leyser, 2010; Leyser et al., 1998; Lombardi et al., 2013). Little study has been done about specific perceptions of instructors in a rural university with regard to their willingness to accommodate students with disabilities.

This research adopts the U.S. Census Bureau's urban-rural classification focused on a delineation of

[1] Texas Tech University; [2] University of Wyoming; [3] Texas A&M University

geographical areas, along with representing densely developed territory and encompassing residential, commercial, and other non-residential urban land uses. This four-year university falls into one of the two types of rural areas where the population is less than 50,000 (The population of the town is about 32,000 and that of college students is about 12,000). To our knowledge, empirical studies available in literature seldom indicate their researched universities or colleges as urban, suburban, and rural, with some exceptions. This research infers Lombardi et al.'s (2013) study to be conducted in urban, Skinner's (2007) in suburban, and Kraska's (2003) in rural institutions through the analysis of their method sections. Murray et al. (2008) mentioned the word urban in their paper. While comparing their findings to those of this study to some extent, we want to make sure that the comparison itself is not a primary research purpose of this study. Exploring a rural four-year doctoral university for this important topic with this vulnerable student population is new and in the end will shed light to the advancement of future scholarly discourses and practical implications under the broader social justice banner.

It is typical for faculty/instructors to receive about 10-15 minutes of instruction when they are hired concerning procedures and requirements specific to their university disability student center (Roth et al., 2018; Salzberg et al., 2002). One problem for colleges or universities is a misunderstanding or misconception about accommodations among faculty members (Wolanin & Steele, 2004). The request to keep information confidential leaves many faculty with the impression that they cannot question what is said by the university disability student center. This means some professors begrudgingly do as they are instructed concerning students with disabilities and nothing more. In some cases, this may create resentment toward students with disabilities (Bruder & Mogro-Wilson, 2010; Crotty & Doody, 2016; Leyser et al., 1998).

From the perspective of students with disabilities, they may feel "embarrassed to disclose their learning disabilities" (U.S. Senate, 2015, p. 7). The most common accommodation at colleges or universities is for these students to take their exams at a university disability student center, out of sight of the instructor. This means instructors are largely unaware of who in their class has special needs or what could be done to help them (Greenberger & Leyser, 2010; Ingersoll, 2016; Lombardi et al., 2013).

A better understanding of these students' struggles could help faculty adjust their instruction to make learning more accessible for these students (Becker & Palladino, 2016). To do so, there is a need to investigate what college or university instructors believe about students with disabilities and how students perform in their classrooms. Therefore, the purpose of this research is to investigate specific perceptions of instructors (faculty, academic professional lecturers, adjunct professors, and teaching assistants) regarding students with disabilities in a rural university and to study their accommodation considerations as it relates to their classroom instruction. This paper answers the following research questions:

1. How do instructors of a rural university perceive students with disabilities as being different from students without disabilities?
2. How willing are instructors of a rural university to provide instructional accommodations?
   a. Is there a statistical difference among academic ranks of instructors?
   b. Is there a statistical difference among different colleges?
3. How willing are instructors of a rural university to provide assessment accommodations?
   a. Is there a statistical difference among academic ranks of instructors?
   b. Is there a statistical difference among different colleges?
4. How willing are instructors of a rural university to be interested in training for working with students with disabilities?
   a. Is there a statistical difference among academic ranks of instructors?
   b. Is there a statistical difference among different colleges?

Literature Review

"Only 41% of students with disabilities graduate, compared to a 52% graduation rate for students without disabilities" (U.S. Senate, 2015, p. 1).

There is a legal motivation to improve the treatment of students with disabilities. Section 504 of the 1973 Rehabilitation Act and the 1990 Americans with Disabilities Act, which was amended in 2008, prohibit discrimination by higher education. Students with disabilities often feel vulnerable when dealing with college professors, and as such, send their complaints to the Office for Civil Rights of the U.S. Department of Education, or the U.S. Department of Justice rather than address the issue directly with the processors in question (Disability Rights California, 2013). One of the goals of the 2007 Access to Success Initiative (The Education Trust, 2012) was to increase the num-

ber of college graduates with different backgrounds and its mid-term report shows that "both enrollment figures and degrees conferred have increased, and improvements are driven largely by African-American, Latino, American-Indian and low-income students" (The Education Trust, 2012, p. 1). However, a recent U.S. Senate report (2015) stated that the success goal has not yet been met and more support should be provided for students with disabilities.

There are more students with disabilities than ever before attending college (Austin & Peña, 2017; U.S. Senate, 2015). There are still many reports of faculty in ignorance of the law (Roth et al., 2018; see examples from Disability Rights California, 2013). Denhart (2018) addressed voices of college students labeled learning disabled by mentioning sociocultural barriers in higher education that include, but are not limited to, "being misunderstood by faculty, being reluctant to request accommodations for fear of invoking stigma" (p. 483). As with sociocultural barriers, individual faculty's attitudes are "recognized widely as an impediment to success of persons with disabilities" (Rao, 2004, p. 191). Research noted that faculty attitudes and the entrenched academic culture are major barriers to implementing accommodations for students with disabilities in higher education (Austin & Peña, 2017; Barazandeh, 2005; Bruder & Mogro-Wilson, 2010; Greenberger & Leyser, 2010; Ketterlin-Geller & Johnstone, 2006; The Institute for Higher Education on Policy, 2004).

For example, Austin and Peña (2017) argued that because students with disabilities in general and autism spectrum disorder in particular, "experience difficulty navigating classroom environments and interacting with faculty members, …[they] need support from responsive and understanding faculty members," (p. 18) to succeed in postsecondary settings. Unfortunately, students with disabilities are often not afforded the opportunity to work with faculty who are actively aware of their needs or are supportive and encouraging. Being concerned about the attitude of his faculty participants who provided "accommodations in a neutral or unwilling manner" (p. 41), Skinner (2007) pointed out the likelihood that students will not actively assert themselves by requesting appropriate accommodations. This difficulty in advocating for their needs exacerbates the message students with disabilities often receive explicitly or implicitly from faculty, "'You are not college material' or 'You don't belong in college'" (Anthony & Shore, 2015, p. 11).

Here is another example. Lombardi et al. (2013) predicted that participation in disability training was associated with improved faculty attitudes toward inclusive instruction. With the administration of the *Inclusive Teaching Strategies Inventory* (ITSI), they found that "faculty who had received less intensive training (e.g., read books, visited websites) were more willing to provide accommodations to students than faculty who reported they received no prior training" (p. 227). Results highlighted the lack of support or training faculty generally receive regarding inclusive instruction in the traditional academic classroom. However, faculty who were even minimally exposed to the characteristics of students with disabilities and applicable instructional strategies showed improvement in inclusive practices. In fact, Lombardi et al. found that there were "no particularly striking differences between more and less intensive training opportunities" (p. 230), emphasizing that the intensity or modality of disability training is far less important than simply being offered training opportunities. Lombardi et al. suggested providing a variety of faculty training options ranging from articles, books, websites, workshops, etc. to improve faculty attitudes and support of students with disabilities in their classrooms.

It is also well reported in literature that faculty (broadly, anyone in a teaching position) are unfamiliar with formal student support offices, such as university disability student centers (Ingersoll, 2016). Even if faculty are familiar with them, literature shows that they are generally unwilling to work with a university disability student center in searching for better accommodation options for students with disabilities (Yssel et al., 2016). In many cases, it is likely that faculty resent being told what to do by low-level administrators in the disability services offices and faculty dislike not being able to review or question the legitimacy of a student's disability or their accommodations (Lombardi et al., 2013; Wolanin & Steele, 2004). The fact that faculty and staff must hold themselves accountable for promoting respectful, equity-based learning and assessment environments is an important issue of ethics (Yssel et al., 2016). In recent years, a growing body of literature has appeared to encourage colleges or universities to offer accessibility training or workshop for faculty, staff, and students (Gallego & Busch, 2017; Kulkarni et al., 2018; Moriña & Carballo, 2017; Roth et al., 2018). Edna (2016) argued that:

> the success of students with disabilities in higher education does not depend only on their own efforts, on the ease of physical access to university facilities, or the support services available to them on campuses. Their success is also largely dependent on the faculty's attitudes toward people with disabilities and their place in higher education. (p. 6)

Edna's (2016) summary of research findings indicated that a majority of college professors think positively about integrating students with disabilities in higher education while having little to no training in how to handle students with disabilities. However, some professors, according to Edna, showed negative attitudes toward students with disabilities and remained skeptical about whether or not these students would successfully find a job after graduation. Recently, this kind of observation was clearly exemplified by Moriña et al. (2015), who interviewed 44 college students with disabilities through a biological-narrative method and made a strong recommendation for faculty training, focused on not only disability itself to assist faculty in understanding students with "disability itself," but also "principles of universal design for learning as a basis . . . [that] involves adopting a diverse repertoire of teaching methods, including the use of technology to present new information" (p. 803). Alongside the necessity of faculty training, one of the commonly suggested improvement plans in literature is to take full advantage of "students support centers that should maintain contact with professors and initiate surveys to check the attitudes of the faculty and the students" (Edna, 2016, p. 12). Establishing a culture of inclusive teaching and assessment in colleges or universities to improve faculty attitude toward students with disability is a demand of the 21st century (Thousand, Villa, & Nevin, 2007).

Skinner (2007) conducted a seminal study on faculty willingness to provide instructional and examination accommodations and course alternatives to students with learning disabilities at a sub-urban, mid-sized, liberal arts institution. The survey (N=253) produced a response rate of 52% and consisted of eight items associated with instructional and examination accommodations.

Faculty indicated *willingness* to provide instructional accommodations for Tape-recorded Class Sessions, Use of a Student Note-Taker, Use of a Laptop Computer for Taking Notes, and Syllabus Provided Early. Faculty were neutral or less willing to accommodate with Copy of Instructor's Notes Provided to Student; Extended Deadlines; Use of Alternative Assignments (e.g., oral presentations in place of written assignments); and Extra Credit (when option is not available to other students). Faculty's overall positive responses (very willing or willing) to the examination accommodation part of the survey were Extended Time on Tests, Alternate Test Location, Use of a Calculator during Exams, Use of a Laptop Computer. Their negative responses to the examination accommodations were Alternate Test Format, No Penalty for Writing Mechanics, Use of a Reading during Exams, and Use of a Scribe during Exams.

Responses showed an overall positive attitude or a willingness to provide accommodations across all academic ranks and different schools, with very little variation. One of the important findings of this research, however, was "faculty are less likely to be willing to implement relatively intrusive accommodations that require extra instructor time and effort, such as alternative assignments and testing in an alternative format" (Skinner, 2007, p. 40). Conversely, faculty are more likely to be willing to be supportive of adjustments that require minimal instructor time and effort. In their survey research, conducted in a large urban, private university, Murray et al. (2008) firmly confirmed this finding.

Additionally, Skinner (2007) found that there was no difference among academic ranks regarding their attitudes toward instructional and assessment accommodations. With the exception of the School of Humanities, there was also no difference among academic schools in this realm. Of note, these practical findings were inconsistent with many research findings (Abu-Hamour, 2013; Edna, 2016; Kraska, 2003; Murray et al., 2008).

Similar to Skinner's (2007) research, Abu-Hamour (2013) also conducted a research study regarding the attitudes of college or university faculty members towards inclusion of students with disabilities at a large public university in Jordan. The survey, with a sample size of 170, including assistant professors (n=94, 55.3%), associate professors (n=51, 30%), and full professors (n=25, 14.7%), revealed three major findings, one of which was very similar to that of Skinner. "Regardless of the academic discipline, the majority of faculty members have positive attitudes toward inclusion of students with disabilities" (p. 74). Using a 2×3 Chi-square test, Abu-Hamour investigated the significant relationship between academic rank and instructors' attitude toward inclusion of students with disabilities (χ^2 (2) = 24.64, p< .001). Assistant professors expressed a higher percentage of positive attitudes toward inclusion of students with disabilities (65.2%), compared to 24.4% and 10.4% for associate professors and full professors, respectively. These results are consistent with previous research reports where faculty showed either neutral or positive perceptions of accommodations in higher educational contexts (Barazandeh, 2005; Bruder & Mogro-Wilson, 2010; Crotty & Doody, 2016; Edna, 2016; Lombardi et al., 2013; Murray et al., 2008). Abu-Hamour (2013) concluded that a majority of faculty who responded to the survey expressed unfamiliarity and lack of training. Faculty also had "little knowledge about their legal responsibilities regard-

ing students with disabilities" (p. 79). Related to this finding, Gallego and Busch (2017) identified an urgent need to help graduate teaching assistants prepare ways in which they learn their legal responsibilities relative to Section 504 of the Rehabilitation Act and make their teaching practices accessible for students with disabilities.

Kraska (2003) conducted a survey called *The Survey of Faculty Attitudes Relative to Serving Students with Disabilities* with a sample size of 106 and response rate of 54 % in a public four-year, state-supported institution in the rural southwest. As with the major research question to what extent is there a difference in perceptions of postsecondary faculty members toward serving students with disabilities, Kraska tested each of the following six variables: gender, age, academic rank, academic unit, years of teaching experiences, and extent of contact with students with disabilities. The overall finding of this research noted that faculty had "generally positive attitudes toward students with disabilities" (p. 17). Two variables, academic rank and academic unit were found to be statistically different with regard to the faculty scores. Specifically, a variable of academic rank was tested between full-time faculty and adjunct faculty, while a variable of academic unit was compared among colleges such as Business, Education, and A&S (Arts & Sciences). Interestingly, full-time faculty showed lower mean scores in contrast to their counterparts. As implied before, the fact that full-time faculty tend to be less willing to accommodate students with disabilities than faculty at the other levels is currently well confirmed in many research findings (Abu-Hamour, 2013; Edna, 2016; Murray et al. 2008). It is interesting to learn that educational faculty had a low level of willingness for accommodating students with disabilities, as compared to Business and A&S faculty. In contrast, Murray et al. (2008) found educational faculty in a large urban university were more willing to provide accommodations than other Colleges including Liberal Arts and Sciences. In relation to our present research comprehensively conducted in a rural university context, Kraska's research findings with a small sample size in a similar rural university context provide some useful information on how faculty differently perceived students with disabilities in terms of their rank and academic unit.

Method

This research conducted a survey of faculty/instructors (instructors, hereafter) at a university in the rural mountain West. The surveyed institution is a four-year university that is contextualized as rural with a student population of about 12,000. This university is the only four-year doctoral one in the state that has a relatively equal balance of males and females with 73% of the students being White students from rural communities across the state and other states that border Wyoming. This institute, which has about 1,000 faculty members with about 30% of faculty of color, consists of seven colleges and offers over 120 undergraduate, graduate, and certification programs (College Factual, 2019).

A letter from the authors was sent to the Office of Institutional Review Board to obtain a human subject research approval. Upon approval, one of the assistant vice presidents, who supported this research, helped us obtain email lists of all faculty, academic professional lecturers, adjunct professors, and graduate teaching assistants currently employed in the spring of 2018. In the meantime, one of the authors shared the present research with the institution's Faculty Senate to make them aware of the upcoming survey. An introductory email was sent a week before the main survey was delivered.

To develop the study's survey instrument, the research team reviewed prior published instruments used to assess faculty attitudes. The instrument developed by Michael Skinner (2007) was particularly so informative that the team adopted his instrument. At the same time, however, the team believed that new questions were necessary and relevant in obtaining a deep sense of faculty and instructors' perceptions on students with disabilities. The survey instrument of the present study asked participants to answer questions pertaining to the study variables (e.g., demographic characteristics, knowledge about the 2007 Access and Success Initiative and a university disability support center, previous experience with students with disabilities, and training experiences in teaching students with disabilities). In terms of validity, the survey was sent to two reviewers who are professors in the field of special education to examine and critique the constructs of the instrument. Additionally, about one month prior to launching the study, a pilot was carried out with five faculty members, who were sent the survey and asked to provide suggestions for improvement. The Statistical Package for the Social Sciences (SPSS) was used to analyze the data. This research can't report the Cronbach alpha coefficient of internal consistency reliability for the survey, because of diverse forms of the survey items. The research team evaluated data using descriptive statistics and Chi-square tests.

The survey, administered in the fall of 2018, used a voluntary sample of 309 out of 1,198 instructors with a response rate of 25.8%. The affiliation break-

down of respondents was: College of Arts and Sciences (*n*=159, 51.26%), College of Agriculture (*n*=34, 11.00%), College of Business (*n*=22, 7.12%), College of Education (*n*=22, 7.12%), College of Health Science (*n*=32, 10.36%), College of Law (*n*=6, 1.94%), College of Engineering (*n*=32, 10.36%), and Other (*n*=1, 0.32%). In this sample, more than half of faculty/instructors at this university belonged to College of Arts and Science (51.26%).

To further understand if different types of colleges, academic positions, and years of service affect participant choices, we conducted Chi-square tests. Note that these tests account for the fact that some colleges (such as Law) had dramatically different sample sizes than others (such as Arts & Sciences). The overall sample included Full Professors (*n*=29, 9.39%), Associate Professors (*n*=37, 11.97%), Assistant Professors (*n*=41, 13.27%), Academic Professor Lecturers (*n*=50, 16.18%), Administrators (*n*=5, 1.62%), Adjunct Professors (*n*=17, 5.50%), Part-time Instructors (*n*=37, 11.97%), Graduate Teaching Assistants (*n*=92, 29.77%), and Others (*n*=1, 0.32%). Graduate Teaching Assistants had the highest percentage of representation on the sample. We offered a $20 gift card with a chance to win of 1 in 6. There is a strong possibility that this gift card motivated graduate teaching assistants and increased numbers in this category.

In our plot, "willing" refers to both "very willing" and "willing." The two categories were combined to simplify the results. In a similar vein, "unwilling" refers to both "very unwilling" and "unwilling." Combining the categories did not alter the narrative of the results.

Findings

Research Question 1, How do Instructors of a Rural University Perceive Students with Disabilities as Being Different from Students Without Disabilities?

More than half of instructors (68.28%) said they believed students with disabilities did not have a lower GPA on average, while 6.15% believed students with disabilities had a higher GPA on average. Although 22.98% of the instructors had a different opinion and felt that students with disabilities had a lower GPA on average, the results indicated that the instructors chiefly thought that students with disabilities were not much different from ordinary students regarding academic achievement.

To compare students with disabilities to other students, eight statements were used, for example, *They seem to have clear career goals, They ask for extra help in class, or They actively participate in class discussion*, etc. (see Table 1). Overall, the instructors did not think that there was a significant difference between the students with disabilities and other students regarding their academic life. Interestingly, some of them rated that the students with disabilities had tried harder than typical students. Three quarters to a half of instructors reported that there was no difference between the students with disabilities and other students in terms of each of the eight statements.

Research Question 2, How Willing are Instructors of a Rural University to Provide Instructional Accommodations?

There were eight statements to assess how willing instructors were to provide instructional accommodations in class (not assessments). The majority of instructors expressed their willingness to provide instructional accommodations for students with disabilities who request the accommodation through the university disability student center. Overall, the statements that related explicitly to note-taking (Use of a Laptop Computer for Taking Notes, 90.76%, and Use of a Student Note-Taker, 89.18%) had highest help options, followed by Syllabus Provided Early (79.73%) and Tape-Record Class Sessions (78.76%). Only about 20% of instructors were willing to offer Extra Credit (when this option was not available to other students). This accommodation received the lowest support by instructors. Importantly, two statements, Use of Alternative Assignments (61.05%) and Extended Assignment Deadlines (68.20%), received greater positive remarks. It is particularly interesting to see that instructors in this survey showed positive attitudes toward providing students with disabilities with their instructional notes (62.95%) (see Table 2).

Is there a statistical difference among academic ranks of instructors? All of the eight instructional accommodations showed statistical differences among academic ranks of instructors. For example, about the extending of assignment deadlines, there was a significant association between the academic ranks and the choices: willing; neutral; and unwilling, χ^2 (28) = 74.108, $p < .0001$. Associate professors (8%) were more willing than full professors (7%), while less willing than assistant professors (9%), in allowing students with disabilities to take extra time in completing class assignments.

Is there a statistical difference among different colleges? All of the eight instructional accommodations showed statistical differences among different colleges. For example, regarding the instructional accommodation providing a copy of instructor's notes to students with disabilities, there was a significant

association between types of colleges and their choices: willing, neutral, and unwilling, χ^2 (24) = 44.037, $p < .01$. About extending assignment deadlines for students with disabilities, there was a significant association between types of colleges and their choices (χ^2 (24) = 47.819, $p < .01$). For the use of alternative assignments for students with disabilities, there was a significant relationship between types of colleges and their choices (χ^2 (24) = 48.105, $p < .01$). These indicated that different colleges had different levels of willingness to provide an instructor's notes, extend assignment deadlines, and use alternative assessments for the students with disabilities. In all of the eight accommodations, College of Arts and Sciences (39%) were *by far* more willing than any other Colleges (3%~7%). Instructors of the College of Education (5%) were relatively unwilling to make instructional accommodations in compared to other Colleges such as Health Sciences (7%), Engineering (6%), and Agriculture (7%).

Research Question 3, How Willing are Instructors of a Rural University to Provide Assessment Accommodations?

As for the level of willingness to provide exam accommodations, the majority of instructors positively considered giving exam accommodations for students with disabilities who requested the accommodation through a university disability student center. Specifically, five out of the nine most common assessment accommodations (seen in Table 3) are as follows: Use of a Calculator (willing, 63.8%); Different Exam Time (willing, 81.7%); Alternative Test Format (willing, 56%); Alternative Test Location (willing, 90.8%); and Extended Time on Tests (willing, 91.2%). As such, the instructors demonstrated a willingness to provide students with disabilities various accommodations to support their testing needs, even taking Alternative Test Format into consideration. Overall, the faculty/instructors at this rural university expressed a favorable opinion of providing testing accommodations as requested by a university disability student center.

Is there a statistical difference among academic ranks of instructors in relation to their willingness to provide assessment accommodations? All of the aforementioned assessment accommodations showed statistical differences among academic statuses of instructors. Following is one of the important and commonly implemented assessment accommodations, *Extended Time on Tests* (willing; neutral; and unwilling, χ^2 (28) = 48.827, $p < .01$). Assistant professors (12.42%) were more willing to accommodate Extended Time on Tests than associate (10.46%) and full (9.48%) professors, with full professors being least willing. Interestingly, graduate teaching assistants (26.14%) were by far more willing to accommodate Extended Time on Tests than any other category of instructors.

Is there a statistical difference among different colleges in relation to instructor willingness to provide assessment accommodations? Statistical differences among different colleges were also found in all of the assessment accommodations alluded to above. Creating an Alternate Test Location (χ^2 (24) = 38.209, $p < .05$) and Allowing Different Exam Time (χ^2 (24) = 38.916, $p < .05$) are noteworthy in terms of how faculty across colleges differently perceived the needs of students with disabilities. The college of Arts and Sciences (44%) took the lead regarding its willingness to provide these two assessment accommodations, followed by instructors in college of Health Science (9%) and college of Agriculture (8%). Instructors in the college of Education (5%), the second from the bottom, were relatively strict regarding the implementation of these accommodations in their classrooms.

No Penalty for Writing Mechanics for students with disabilities showed the same result compared to the above accommodations of Different Test Locations and Exam Times in terms of the order of how willing instructors were to provide the accommodation (χ^2 (24) = 38.709, $p < .05$). Specifically, regarding this accommodation—No Penalty for Writing Mechanics—the order of willingness to implement it was as follows: the colleges of Art and Science (31%), Health (8%), Agriculture (6%), Engineering (5%), Education (3%) and Business (3%).

Research Question 4, How Willing Are Instructors of a Rural University to be Interested in Training for Working with Students with Disabilities?

Instructors were "very familiar" (43%) and "somewhat familiar" (43.65%) with a university disability support center, which amounted to 86.65% of instructors being familiar with this center. Related to this information on the disability support center, 74.1% of our survey instructors reported to not receive any formal training or professional development for working with students with disabilities. About a quarter of instructors (27.18%) expressed that they would be interested in training for working with students with disabilities. However, the results also indicated that there was uncertainty, with 55.66%, stating they might be interested, but it depended on the type of training undertaken.

Statistically speaking, there was a significant difference between the types of colleges and the choices

of instructors who were willing to engage in training to better support students with disabilities within their classrooms—yes and no, χ^2 (6) = 22.998, p < .001. For instance, instructors in the college of Arts and Sciences (10%) showed more willingness to take this type of training, followed by those in College of Education (4%).

The same statistical difference was identified in terms of academic ranks (χ^2 (7) = 16.532, p < .05). Assistant professors (4%) were more interested in taking formal training or professional development specific to students with disabilities than associate (2%) and full (1%) professors, with full professors being the least interested. Non-tenure track, full time instructors (APL: Academic Professional Lecturer) (5%) showed more interest in this regard than assistant professors. Surprisingly, full time instructors (assistant, associate, full professors, and APL) (12%) were proportionally more interested than part-time instructors (graduate teaching assistant, part-time instructor, and adjunct professor) (8%) in participating in training. Overall, there is a very positive sign in this survey to learn that about 1 out of 2 instructors showed their interest in taking training sessions if the type or content of training are regarded as appropriate.

Discussion

Most of the findings of this research conducted in a rural, four-year, university are in line with Edna's (2016) literature review study and many others (Abu-Hamour, 2013; Barazandeh, 2005; Bruder & Mogro-Wilson, 2010; Denhart, 2008; Greenberger & Leyser, 2010; Heiman & Precel, 2003; Kraska, 2003; Leyser et al., 1998; Lombardi et al., 2013; Skinner, 2007; Yssel et al., 2016) that indicated that the majority of college professors think positively about integrating students with disabilities into higher education settings. For example, 68.3% of instructors in this study believed students with disabilities would *not* have a lower GPA on average and were not much different than typical students regarding academic achievement. Furthermore, 6% of survey participants felt that the students with disabilities tried harder than their fellow classmates. This result is heartening in that at least three out of four instructors in this research context are likely to positively perceive students with disabilities and believe them to be as capable of successful academic performances as students without disabilities. The overarching culture of academia itself continues to be open, supportive, and positive of this group of college students, which signals positive strides in addressing the concern of the 2015 U.S. Senate report about the 2007 Access and Success Initiative.

Specifically speaking, according to the existing literature, the degree to which faculty are willing to accommodate their instruction in meeting the unique needs of students with disabilities is largely negative in areas of Extra Credit, Alternative Assignments, Extended Time, and Copy of Instructors' Notes (Skinner, 2007). However, the new findings of this present research demonstrated that even if being unwilling to accommodate Extra Credit, instructors are positively willing to do so in Alternative Assignment (61.1%) and Extended Time (68%). Offering students with disabilities different assignment options while keeping the same course expectations is an important type of support instructors can provide. Perhaps, instructors in this rural university, unlike urban and suburban universities (Lombardi et al., 2013; Murray et al., 2008) are more culturally encouraged to be willing to implement even "relatively intrusive accommodations that require extra instructor time and effort" (Skinner, 2007, p. 40). This may be an indication that instructors have been changing their attitudes toward the success of students with disabilities in higher education settings. The good news is that instructors in the present research are willing to put in effort for the benefit of students with disabilities.

In addition, granting students with disabilities *Extended Time on Exams* is another finding that would lead students with disabilities to be more successful in the spirit of test equity. The student support center in the present study played a key role in determining the necessity of *Extended Time* for students with disabilities, yet previous studies report that a majority of instructors are relatively unfamiliar with how to work with students with disabilities (Abu-Hamour, 2013; Debram & Salzberg, 2005; Gallego & Busch, 2017; Lombardi et al., 2013). This finding of this present research might have resulted from an ongoing effort made by the student service center in this university to communicate better with students and faculty. More research is needed to identify factors specific to the institutional level that directly attributes to changing perceptions and behaviors of faculty regarding students with disabilities.

There was a significant statistical relationship between the academic ranks of instructors and their choices, as well as between types of colleges and instructor choices. This held true in all questions involving these variables throughout the study. Findings indicated that instructors in different colleges had different attitudes than one another and that different academic ranks impacted instructors perception of instructional and assessment accommodations. Interestingly, graduate teaching assistants were more willing to accommodate instructional and assessment

practices than any other full and part-time academic ranks, which is a new finding not seen in other previous studies. Overall, a variable of academic ranks showed a difference among full, associate, and assistant professors, which disconfirms both Skinner's (2007) but confirms Murray et al.' (2008) and Kraska's (2003) research findings. That is, unlike Skinner (2007), seniority is at play elsewhere and here too in this rural university. The longer professors teach, the less willing they are to accommodate students with disabilities across the board. Full professors were consistently less willing to accommodate their instructional and assessment practices than associate and assistant professors.

And lastly, instructors who belong to College of Arts and Sciences were more likely to help students with disabilities than other Colleges, which is inconsistent with Murray et al. (2008) and Skinner's (2007) research findings. This may be because many students with disabilities belong to the college of Arts and Sciences and instructors have much of their experiences with students with disabilities. To some extent, there appears a different attitude toward students with disabilities among instructors, depending on instructors' previous experiences including training experiences and the culture of colleges or universities being studied. On the other hand, Kraska's (2003) research in a rural institute confirms our finding to the extent educational faculty were in less support of students with disabilities than most of the other Colleges. In other words, instructors in the College of Education in the present study are relatively not in favor of students with disabilities located at the bottom second or third out of seven Colleges. Our best interpretation on this observation is that it may have to do with the nature of rural culture that is conservative in some sense. Having said that though, the fact that educational faculty in this study demonstrated a high level of desire to receive training or workshop is a hopeful message.

Conclusion and Implications

This survey attempted to give an accurate explanation of faculty perceptions as they relate to students with disabilities. Study findings were based on a review of a diverse group of instructors at a rural, four-year university. Findings included descriptive information on perceptions and issues of academic concerns. It also demonstrated that instructors consider Student Support Centers like DSS (Disability Student Services) and SSS (Student Success Services) in a favorable light. This study gives a chance to look into practical suggestions on how to improve campus climates and cultures for the students with disabilities. These results could be used to help administrators understand how to best help faculty to appropriately assist students with disabilities. For example, making syllabi available prior to the beginning of the semester can be of great assistance for supporting staff as well as students with disabilities.

One of the major critical findings of this present research is a need that faculty and instructors wish to have proper and relevant training or professional development experiences for better serving students with disabilities. It is suggested that giving faculty a variety of training options is key to participation and positive outcomes. For example, a basic training might include key aspects of disability law and applicable faculty responsibilities. A collaborative or interactive training among college specific faculty offers a different option. In this setting, peers may share experiences and challenges with one another and design consistent, content-specific instructional and assessment strategies, as well as accommodations and modifications. Still, faculty across colleges may come together. Here, popular instruction models or universal design for learning strategies may be shared, providing faculty across multiple disciplines with instruction in inclusive practices and the provision of accommodations and modifications for all students. Additionally, faculty may benefit from more individualized training such as self-paced online modules, websites, articles, books, or disability specific micro-credentials.

Since the willingness of administrators is crucial, it is desirable for administrators to have trainings on this issue. If administrators are not enthusiastic, we cannot see faculty being well-supported on the basis of their attitudes alone. The role of training to support part-time faculty is also important, as these faculty provide an increasingly large amount of the instructional load at many higher education institutions, but are often the least connected to campus culture (Baron-Nixon, 2007).

Changing institutional policy to give university disability student centers a more active mission and role to support faculty and instructors is key to the success of students with disabilities (Gibson, 2012; Liasidou, 2014; Roth et al., 2018). Additionally, it is believed that a quick fix-based research project aimed at changing the said perception problems on university campuses may not work as planned. In order to change campus climate, the researchers of this study suggest a change model, called *Positive Deviance*, which is "an innovative behavior change approach that is used to solve difficult problems by discovering and amplifying solutions that already exist with a community" (Swartz, 2013, p. 30). One of the meth-

odologies used in the positive deviance initiative is to "discover uncommon but successful behaviors and strategies through inquiry and observation" (p. 30). Real change will take place when the culture of academia changes to redefine teaching to include all students regardless of disabilities, which is an aim of universal design for learning (Thousand et al., 2007). The negative attitude or perceptions that faculty in higher education carry in working with students with disabilities are not going to get better on their own. It is worth putting time and energy into helping faculty better meet the needs of these students.

Limitation of the Study and Further Research Areas

This study was conducted at a university in the Rocky Mountain region which has an office of disability services. Due to location, size, participants, and university specific characteristics, caution is needed to generalize the findings of this study. Of particular interest, about 30% of the survey respondents were graduate teaching assistants. It is likely that our offer of a $20 gift card with a chance to win of 1 in 6 was a strong motivating factor in their willingness to participate. Given the fact that graduate teaching assistants as well as part-time instructors provide an increasingly large amount of the instructional load at many higher education institutions, further research is needed to investigate what challenges they face in relation to students with disabilities (Gallego & Busch, 2017). Research is also needed to assess the perceptions and experiences of upper administrators, deans, and unit heads in regard to faculty's interactions with students with disabilities. Finally, there is a need to survey university or college students to determine if their perceptions of their professors' willingness to provide accommodations and supports align with the professors stated willingness to provide them.

References

Abu-Hamour, B. (2013). Faculty attitudes toward students with disabilities in a public university in Jordan. *International Education Studies, 6*(12), 74-81.

Anthony, P., & Shore, S. (Eds.). (2015). *College for students with disabilities: We do belong.* London, England: Jessica Kingsley Publishers.

Austin, K., & Peña, E. V. (2017). Exceptional faculty members who responsively teach students with autism spectrum disorders. *Journal of Postsecondary Education and Disability, 30*, 17-32.

Barazandeh, G. (2005). Attitudes toward disabilities and reasonable accommodations at the university. *The UCI Undergraduate Research Journal, 8*, 1-12.

Baron-Nixon, L. (2007). *Connecting non-full-time faculty to institutional mission: a guidebook for college administrators and faculty developers*. Sterling, VA: Stylus Publishers.

Becker, S., & Palladino, J. (2016). Assessing faculty perspectives about teaching and working with students with disabilities. *Journal of Postsecondary Education and Disability, 29*, 65-82.

Bruder, M., & Mogro-Wilson, C. W. (2010). Student and faculty awareness and attitudes about students with disabilities. *Review of Disability Studies: An International Journal, 6*(2), 3-13.

College Factual. (2019). *Student life/diversity*. Retrieved from https://www.collegefactual.com/colleges/UniversityofWyoming/student-life/diversity/#secOverall

Crotty, G., & Doody, O. (2016). Transcultural care and individuals with an intellectual disability. *Journal of Intellectual Disabilities, 20*, 386-396.

Debram, C., & Salzberg, C. (2005). A validated curriculum to provide training to faculty regarding students with disabilities in higher education. *Journal of Postsecondary Education and Disability, 18*, 49–62.

Denhart, H. (2008). Deconstructing barriers: Perceptions of students labeled with learning disabilities in higher education. *Journal of Learning Disabilities, 41*, 483-497.

Disability Rights California. (2013). *Rights of students with disabilities in higher education: A guide for college and university students.* CA: California's Protection & Advocacy System.

Edna, Z. (2016). Attitudes toward students with disabilities in higher education, is there any change? *The European Proceedings of Social & Behavioural Sciences, 18*, 640-647.

Fleming, A. R., Oertle, K. M., & & Plotner, A. J. (2018). Student voices: Recommendation for improving postsecondary experiences of students with disabilities. *Journal of Postsecondary Education and Disability, 30*, 309-326.

Gallego, M., & Busch, C. (2017). Preparing teaching assistants to work with all learners: The impact of accessibility training. *Foreign Language Annals, 50*, 776-792.

Gibson, S. (2012). Narrative accounts of university education: Socio-cultural perspectives of students with disabilities. *Disability & Society, 27*, 353–369.

Greenberger, L., & Leyser, Y. (2010). Students with learning disabilities and other disabilities in technological institute in higher education: Is faculty assisting these students to succeed? *Issues in Special Education & Inclusion, 25*, 61-80.

Heiman, T., & Precel, K. (2003). Students with learning disabilities in higher education: Academic strategies profile. *Journal of Learning Disabilities, 36*, 248-258.

Ingersoll, I. (2016). *College success for students with disabilities: A guide to finding and using resources, with real-world stories.* Mcfarland & Company, Inc.

Ketterlin-Geller, L., & Johnstone, C. (2006). Accommodations and universal design: Supporting access to assessments in higher education. *Journal of Postsecondary Education and Disability, 19,* 163-172.

Kulkarni, M., Gopakumar, K. V., & Patel, S. (2018). How effective are disability sensitization workshops? *Employee Relations, 40*(1), 58-74.

Kraska, M. (2003). Postsecondary students with disabilities and perceptions of faculty members. The *Journal of vocational Special Needs Education, 25*(2), 11-19.

Leyser, Y., Vogel, S., Brulle, A., & Wyland, S. (1998). Faculty attitudes and practices regarding students with disabilities: Two decades after implementation of Section 504. *Journal of Postsecondary Education and Disability, 13*, 5-19.

Liasidou, A. (2014). Critical Disability Studies and Socially Just Change in Higher Education. *British Journal of Special Education, 41*, 120–135.

Lombardi, A., Murray, C., & Dallas, B. (2013). University faculty attitudes toward disability and inclusive instruction: Comparing two institutions. *Journal of Postsecondary Education and Disability, 26,* 221-232.

Moriña, A., Cortés-Vega, M. D., & Molina, V. (2015). Faculty training: an unavoidable requirement for approaching more inclusive university classrooms. *Teaching in Higher Education, 20*, 795-806.

Moriña, A., & Carballo, R. (2017). The impact of a faculty training program on inclusive education and disability. *Evaluation and Program Planning, 65*, 77-83.

Murray, C., Wren, C., & Keys, C. (2008). University faculty perceptions of students with learning disabilities: Correlates and group differences. *Learning Disability Quarterly, 31*(3), 95-113.

Rao, S. (2004). Faculty attitudes and students with disabilities in higher education: A literature review. *College Student Journal, 38*, 191-198.

Raue, K., & Lewis, L., (2011). *Students with disabilities at degree-granting postsecondary institutions*. National Center for Education Statistics, U.S. Department of Education, Statistical Analysis Report No. 2011-018. Washington, DC: U.S. Government Printing Office.

Rieck, W., & Dugger-Wadsworth, D. (2005). Assessment accommodations: Helping students with exceptional learning needs. *Intervention in School and Clinic, 41*, 105-109.

Roth, D., Pure, T., Rabinowitz, S., & Kaufman-Scarborough, C. (2018). Disability awareness, training, and empowerment: A new paradigm for raising disability awareness on a university campus for faculty, staff, and students. *Social Inclusion, 6*(4), 116-124.

Salzberg, C. L., Peterson, L., Debrand, C. C., Blair, R. J., Carsey, A. C., & Johnson, A. S. (2002). Opinions of disability service directors on faculty training: The need, content, issues, formats, media, and activities. *Journal of Postsecondary Education and Disability, 15*, 101–114.

Skinner, M. (2007). Faculty willingness to provide accommodations and course alternatives to postsecondary students with learning disabilities. *International Journal of Special Education, 22*(2), 32-45.

Swartz, R. (2013). *The positive deviance approach to behavioral and social change.* Proceedings of the Whole Grains Summit 2012. AACC International, Inc.

The Education Trust. (2012). *The 2012 midterm report of public higher education systems in the access to success initiative.* Retrieved from https://edtrust.org/wpcontent/uploads/2013/10/Replenishing_Opportunity_2.pdf.

Thousand, J., Villa, R., & Nevin, A. (2007). *Differentiating instruction: Collaborative planning and teaching for universally designed learning.* Thousand Oaks, CA: Corwin Press.

U.S. Senate, Committee on Health, Education, Labor, and Pensions. (2015). *Promoting college access and success for students with disabilities.* Washington, DC: US. Government Publishing Office.

U.S. Census Bureau. (2019). *Geography: Urban and rural.* Retrieved from https://www.census.gov/geo/reference/urban-rural.html

Wolanin, T., & Steele, P. (2004). *New report: Higher education opportunities for students with disabilities: A primer for policymakers.* Institute for Higher Education Policy. Retrieved from http://www.ihep.org/press-room/news_relea Nixon, 2007se-detail.cfm?id=100

Yssel, N., Pak, N., & Beilke, J. (2016). A door must be opened: Perceptions of students with disabilities in higher education. *International Journal of Disability, Development and Education, 63*, 384-394.

About the Authors

Jeasik Cho is an Associate Professor in the Department of Curriculum and Instruction at Texas Tech University. He received his doctorate degree from The Ohio State University in curriculum theory, qualitative research/evaluation, and teacher education/multicultural education. He is the recipient of the 2016-2018 Everett D. and Elizabeth M. Lantz Distinguished Professorship. He has a new book, *Evaluating Qualitative Research* (Oxford University Press, 2018). His current research interests include compassion as social change, blended learning and personalized learning, accessibility/UDL (Universal Design for Learning)/success in post-secondary education, and so on. He can be reached by email at: Jeasik.Cho@ttu.edu.

Scott Crawford received his B.A. degree in mathematics from Southern Utah University, a Masters in Statistics from Brigham Young University, and a Ph.D. from Texas A&M University. He currently works as a lecturer at Texas A&M University teaching introductory statistics and data science courses. His interests include regression, design, actuarial studies, and working with students with disabilities. He can be reached by email at: scottcrawford@tamu.edu.

Dorothy Jean (D.J.) Yocom is an Associate Professor of Special Education in the College of Education at the University of Wyoming. Dr. Yocom's research interests are collaboration with general education, appropriate instructional strategies, and creating opportunities for open access and success for all students, PK through Higher Education. Dr. Yocom is the most recent recipient of the University's Faculty Award for Outstanding Teaching. She can be reached by email at: DJYocom@uwyo.edu.

Tiffany Hunt received her B.A. degree in elementary education from the University of Wyoming and her M.A. and Ph.D. from the University of Northern Colorado. Her experiences include working as a general education teacher, as well as a special education teacher primarily serving students with learning and social/emotional disabilities. She was a member of the education faculty at Clarke University in Iowa, where she taught in a professional development school and worked at the Wyoming Department of Education, as the Special Programs Division Director. She is currently a professor in the Department of Counseling, Leadership Advocacy, & Design in the College of Education at the University of Wyoming. Her research interests include bullying and students with disabilities, alternative educational avenues/tools/settings, special education leadership and school violence. She can be reached by email at: thunt@uwyo.edu.

W. Reed Scull is a faculty member in the School of Counseling, Leadership, Advocacy and Design at the University of Wyoming College of Education. He coordinates the Higher Education Administration graduate program and maintains research interests in the diversity and inclusion area. He can be reached at: wscull@uwyo.edu.

Acknowledgement

The authors would like to express our sincere appreciation for Dr. Anne Alexander, Assistant Vice President of Academic Affairs at the University of Wyoming for her warm encouragement and continuous support for our project.

Table 1

Compare Students with Disabilities to Other Students

Item	Students with Disabilities do More (%)	Students with Disabilities do About the Same (%)	Students with Disabilities do Less (%)
They seem to have clear career goals	18.90	74.57	6.53
They are problem solvers (or critical thinkers)	20.41	71.69	7.82
They come to office hours	35.50	55.97	8.54
They ask for extra help in class	42.37	49.15	8.48
They get along well with other students (e.g., group projects, presentations)	14.14	78.45	7.40
They turn in assignments on time	14.96	72.79	12.24
They actively participate in class discussions	17.57	69.26	13.17
They work hard	42.76	53.54	3.7

Table 2

Level of Willingness to Provide Instructional Accommodations

Item	Willing	Neutral	Unwilling
Syllabus provided early	79.73	13.45	6.83
Extra credit (when option is not available to other students)	19.02	22.95	58.03
Use of alternative assignments (e.g., oral presentation in place of written)	61.05	20.79	18.15
Extended assignment deadline	68.20	20.33	11 .48
Copy of instructor’s notes provided to student	62.95	20.33	16.72
Use of a laptop computer for taking notes	90.76	6.93	2.31
Use of a student note-taker	89.18	9.51	1.31
Tape-recorded class sessions	78.76	13.40	7.84

Table 3

Level of Willingness to Provide Assessment Accommodations

Item	Willing	Neutral	Unwilling
Use of a Laptop Computer for in-class written exams	69.93	17.49	12.87
Use a Scribe (another student dictates responses)	77.38	15.74	6.88
Use of a Reader (another student reads the exam to them)	83.88	11.18	0.63
No Penalty for Writing Mechanics	58.55	29.61	11.84
Use of a Calculator during Exams	63.82	29.93	6.25
Different Exam Time	81.70	10.78	7.51
Alternative Test Format	55.96	23.51	20.13
Alternate Test Location	90.82	6.23	9.60
Extended Time on Tests	91.17	5.88	9.40