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A National Mixed Methods Research Study: Defining Reasonable Accommodations in Higher Education for Adult Students with Disabilities

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Walden University

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Walden University

2016

Abstract

A National Mixed Methods Research Study: Defining Reasonable Accommodations in

Higher Education for Adult Students with Disabilities

by

Anita Schwartz

MSW, Fordham University, 2005

BS, Mercy College, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Organizational Psychology

Walden University

October 2016

Abstract

The purpose of this study was to examine the perceptions that differ among university personnel and students with disabilities regarding the vagueness in the legal definition of the term *reasonable accommodations*. The theoretical framework that guided this study was the social model of disability. Using a sequential mixed-method design, the first strand surveyed 98 students and 93 personnel; then 10% of each group participated in an interview or focus group. The main research questions explored the different accommodations offered by university personnel versus those that were used by students and the different perceptions of the term *reasonable accommodations* in accordance with ADA law. A chi-square test was used to analyze yes/no survey data and a *t* test was used for the Likert scale question. In the first strand there were statistically significant findings in distribution and perception of 35 specific accommodations, including advocacy and counseling. Both focus group and interview data were analyzed and themes emerged, such as specific accommodations. An important finding from the qualitative strand was that more than half the students thought they were not receiving reasonable accommodations while the majority of university personnel thought they provided reasonable accommodations. The key result was the lack of a clear consensus between students with disabilities and university personnel in definitions of reasonable accommodations. Disseminating the results of this research study can create positive social change in the legislative and academic arenas by creating a better understanding of the impact of the current standard of *reasonable accommodations*. One recommendation is the creation of federal and state level commissions to administer, manage, and maintain policies for colleges.

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Chapter 1: Introduction to the Study

Higher education personnel and students in higher education differ distinctly in perceptions of the term *reasonable accommodations* for students in accordance with the Americans with Disabilities Act of 1990 (ADA). The difference in interpretation can create barriers to (e.g., in entrance examinations), and hinder (e.g., midterm examinations) academic success (Bruder & Mogro-Wilson, 2010; Frieden, 2003) and influence the attitudes of university personnel (Burgstahler & Moore, 2009; Rush, 2011). Additionally, the contrast in viewpoints can disrupt facilitation of learning by personnel (e.g., teaching methods) and the learning process for students. In this study, I examined the similarities and differences among viewpoints to gain a better understanding of the topic for those involved in the accommodation process.

Laws are created to protect society; social justice does not occur in a vacuum. This study has the potential to create positive social change through

- creating awareness of the ambiguity in ADA law pertaining to reasonable accommodations in higher education.
- examining the variation in interpretation to gain a mutual understanding.
- disseminating findings to universities, policymakers, and law-review journals.

From this study, emerging specific definitions of reasonable accommodations can help universities adjust policies, students gain knowledge, and further the law to assist the needs of those involved in the accommodation process. This chapter addresses the problematic issues of definition, how reasonable accommodations have been examined in the literature, and the gap in the literature, which does not provide clarification of the gap

between ADA goals and ADA interpretation. This chapter also focuses on the theoretical foundation, scope, and limitations of the study.

Background

Today, an inadequate amount of research exists regarding the ADA law's definition of reasonable accommodations. Yet, similar topics in recent research include support services (Christ, 2007); faculty willingness to provide accommodations (Cook, Rumrill, & Tankersley, 2009); and students' methods to acquire accommodations (Barnard-Brak, Lechtenberger, & Lan, 2010). Recent commentaries include Simonton's (2006) discussion of accommodations for the Medical College Admission Test and Ranseen and Parks' (2005) analysis of test accommodations and several court cases. Moreover, recent law journal articles focused on ADA law (Anderson, 2008; Bissonnette, 2009; Cox, 2010; Hill & Blanck, 2009). Likewise, a sufficient supply of court cases addressed ADA law, described in the literature; however, no Supreme Court case has presented regarding accommodation issues in higher education. In the area of social science, research is limited on the issue of differing interpretations of accommodations.

Students with disabilities experience inequality when entering, being retained, and completing higher education in comparison to students without disabilities (National Center for Education Statistics [NCES], 2009; U.S. Census Bureau, 2006). Additionally, authors agree that the difference in interpretation of accommodation policies can hinder academic success, in particular in access to technology (Fichten, Asuncion, Barile, Ferraro, & Wolforth, 2009; Stodden, Roberts, Picklesimer, Jackson, & Chang, 2006). Moreover, architectural barriers and physical inaccessibility (U.S. Department of Justice [DOJ], 2006b, 2006c, 2008c) can block the path to higher education for this population.

Other hindrances include perceptions and attitudes of faculty and peers, little or too much social interaction, and the lack of time given to complete assignments (Kurth & Mellard, 2006). One major concern for students with disabilities is financial assistance, which can also relieve many of the barriers to higher education for individuals with disabilities (Frieden, 2003). Some recommended suggestions for how to reduce barriers involve training for faculty, staff, or students regarding *assistive technology*, accommodation process, and financial assistance (Fichten et al., 2009; Hong & Himmel, 2009; Murray, Lombardi, Wren, & Keys, 2009; Stodden et al., 2006; U.S. Census Bureau, 2006).

One barrier that remains unmentioned in the literature is foreseen or unplanned hospitalization. Some students with disabilities are commonly hospitalized during a semester (personal communication with a student and faculty member, September 16, 2010). However, the time away from coursework is sometimes not given back to the student to complete classwork and papers. This can affect students' grades, and influence their ability to fulfill academic requirements for graduation. The additional time to complete a degree can also be a financial burden, as pointed out by Frieden (2003).

Students with disabilities in elementary and secondary education have protected rights under the law. "The protection of federal law for qualified students with disabilities was first provided by Section 504 of the Rehabilitation Act of 1973, applicable to institutions that receive federal funds" (Cope, 2005a, p. 37). The ADA was created to enable all Americans to have equality in all social arenas including worship, sports, employment, and educational settings. "The ADA was enacted to prohibit discrimination against individuals on the basis of their disabilities" (Tuch, 1999, para 1). Even though

the ADA of 1990 helps to protect those involved in the accommodation process, for students with disabilities in higher education, the law is too vague to determine what constitutes a reasonable accommodation in higher education. Additionally, researchers have not explicitly explored the issue. This study explored the phenomenon to create social change by identifying specific definitions.

Problem Statement

Almost 20% of the population has a disability (U.S. Census Bureau, 2012). Students with disabilities are up to 20% less likely to graduate from college in comparison to students without disabilities (NCES, 2009; U.S. Census Bureau, 2006). It is well known that higher education promotes better career opportunities; however, the gap between employment rates for people with disabilities and people without disabilities is more than 40% (Cornell University, 2008). Due to the ambiguity of the term reasonable accommodations as the term has been used in ADA law, institutions and students have conflicting perceptions (U.S. Department of Education [DOE], Office of Civil Rights, 2005b). Explicit accommodations for students in higher education were not specified in the law.

Purpose of the Study

The purpose of this study was to explore the similarities and differences in perceptions among university personnel and students as they define the term reasonable accommodations in higher education. The dependent variable was the perception of participants; the independent variables were the role of participants in an academic setting (university personnel or students with disabilities) and which accommodations were being offered by university personnel or used by the students with disabilities.

Collected demographic information of age, race, gender, ethnicity, and economic status described the sample. A mixed method was useful in answering research questions by using an exploratory design (Teddlie & Tashakkori, 2003). Additionally, this study used a sequential transformative (Creswell, Plano Clark, Gutmann, & Hunson, 2003) design because the steps conducted moved in sequence, not concurrently, and the transformative framework (Sweetman, Badiee, & Creswell, 2010) gave equal weight toward the views of all participants.

Research Questions and Hypotheses

Table 1 shows a list of accommodations (independent variable) that appear throughout the literature. This list was the construct for the survey in the quantitative strand of the study. The quantitative data used a Likert-type scale on a survey instrument (Raue, Lewis, & National Center of Educational Statistics, 2011).

Table 1

Independent Variables List of Accommodations as the Construct for the Survey in the Quantitative Stand

Items from Question 7 of Students With Disabilities at Postsecondary Education Institutions Survey	Construct found in the literature
Sign language interpreters/transliterators	Yes
Real-time captioning	Yes
Oral interpreters/transliterators	Yes
Readers	Yes
Classroom note takers or scribes	Yes
Faculty-provided written course notes or assignments	Yes
Adaptive equipment and technology (e.g., assistive listening devices, talking computers)	Yes

Table continues

Items from Question 7 of Students With Disabilities at Postsecondary Education Institutions Survey	Construct found in the literature
Physical adaptations to classrooms	Yes
Paratransit for on-campus mobility	Yes
Personal attendants	Yes
Independent living skills training	Yes
Audio textbooks/digitally recorded texts	Yes
Large print or Braille materials	Yes
Help with learning strategies or study skills	Yes
Tutors to assist with ongoing coursework	Yes
Alternative exam formats (e.g., large print, Braille, audio formats)	Yes
Additional exam time	Yes
Course substitution or waiver	Yes
Priority class registration	Yes
Disability resource handbook	Yes
Career or placement services targeted for students with disabilities	Yes
Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)	No
Counseling about vocational rehabilitation services	Yes
Moving classes to a more accessible location	Yes
Other (please specify): _____	—
Other items not listed in Question 7 of survey	—
Time back to complete course work following hospitalization	Yes
Alternative text format course readings or textbooks (e.g., doc, html or text documents for purposes of using text to speech computer software programs, e.g. ReadPlease)	Yes
Speech to write programs (e.g. Dragon NaturallySpeaking)	Yes
Accessible transportation from home to campus or campus to home	Yes
Proctor exam and/or exam reader	Yes
Dictionary used for exams	Yes
Calculators used for exams	Yes
Other testing accommodations	Yes
Advocacy	Yes
Access to all facilities and services on campus (e.g., libraries, housing, computer labs)	Yes
Flexible attendance requirements and Assignment deadlines	Yes

The following research questions and hypotheses apply to the quantitative strand of this study.

What is the difference of the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students?

H_01 : There is no difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

H_a1 : There is a significant difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

2. What is the difference in perception of the term reasonable accommodations according to university personnel and students with disabilities in higher education?

H_02 : There is no difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

H_a2 : There is a significant difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

3. What are the similarities between these groups' perceptions of the term reasonable accommodations?

H_03 : There are no similarities between these groups' perceptions of the term reasonable accommodations.

H_{a3} : There are similarities between these groups' perceptions of the term reasonable accommodations.

The following research questions apply to the qualitative strand of this study.

4. What are notable definitions for the term reasonable accommodations as referenced in ADA law according to institutions and students?
5. What are students' beliefs and feelings about the accommodation process?
6. How do accommodations affect students personally, academically, and professionally?
7. What are the university personnel's beliefs and feelings about the accommodation process?
8. How do accommodations affect university personnel?

Theoretical Foundation

Studies that explored accommodation issues (Hadley, 2007; McKenzie, 2009; Wolf, 2010) used an inductive approach to generate theoretical perspectives (Creswell, 2009) as themes or categories emerged from analyzing collected data. Early theorists Dewey (1997) and Rogers (1948) brought attention to how one learns and by what means one's environment influences learning. One major theory that guides research on disability issues, including accommodations, is the social model of disability (Chen, 2007), whereby the environment may aid or hinder achievement through social interaction, attitudes, and structure.

Despite several theories that drive the inquiry in this area of research, the major theories that are central to this mixed-methods study are grounded theory (Barnard-Brak et al., 2010; Christ, 2007; Rudestam & Newton, 2007), systems theory (Foster & Kalil,

2005), and collective case studies that illustrate an issue (Creswell, 2007). This study grounds the quantitative data, developing specific qualitative questions. I provide a systematic approach to the relevant literature and court cases reviewed to aid readers in understanding the topic.

Nature of Study

I used a sequential and exploratory mixed-method design because the research questions derived from the problem statement needed serially developed quantitative and qualitative data. Additionally, I used an exploratory design needing qualitative data because the research literature on defining reasonable accommodations is limited, as discussed in Chapter 2. The dependent variable was the perceptions of participants; the independent variables were the role of participants in an academic setting (university personnel or students with disabilities), and which accommodations were being offered by the university personnel or used by the students with disabilities. Demographic items included age, race, gender, ethnicity, and economic status. The data accrued from participants online. The quantitative and qualitative data were analyzed using SPSS and ATLAS.ti software, respectively.

Operational Definitions

For this study, *disability* was operationally defined as “[T]he social model of disability is explicitly recognized; disability is not an attribute of an individual, but rather a complex collection of conditions, many of which are created by the social environment” (The World Health Organization, as cited in Ranseen & Parks, 2005, p. 87). However, according to Garner (2009), a disability is an “inability to perform some function; esp[ecially], the inability of one person to alter a given relation with another person”

(p. 528). An *accommodation* is operationally defined as something that would modify the environment so an individual's disability would not hinder or prevent the person's ability to complete a task at the same level as an individual without a disability. Sternberg (2009) defined *perception* as the "set of processes by which we recognize, organize, and make sense of the sensations we receive from environmental stimuli" (p. 581).

Reasonable is an abstract concept to define, depending on its usage. For example, in courts of law, the jury would find a defendant guilty or not guilty beyond a reasonable doubt. The reasonableness comes from one's own perception of what is rational.

Therefore, a *reasonable accommodation* would be "a modification or adjustment to a workplace process or environment that makes it possible for a qualified person with a disability to perform essential job functions" (Waterstone, Siegal, Hill, & Blanck, 2005, para 13). The following alphabetized terms were used throughout this dissertation.

Affirmed: "To confirm (a judgment) on appeal" (Garner, 2009, p. 67).

Appeal: "To seek review (of a lower court's decision) by a higher court" (Garner, 2009, p. 113).

Assistive technology: "Any item, piece of equipment or product system used to increase, maintain or improve the functional capacities of individuals with disabilities. They include a wheelchair, hand splints or computer-based equipment" (p. Bowen, 2015, p. 89).

Auxiliary aids: "Services or devices that enable persons with impaired sensory, manual, or speaking skills to have an equal opportunity to participate in, and enjoy the benefits of, programs or activities conducted by the agency" (Cornell University Law School, n.d., para 3).

Compensatory damages: “Damages sufficient in amount to indemnify the injured person for the loss suffered” (Garner, 2009, p. 445).

Consent Decree: “A court decree that all parties agree to. Also termed consent order” (Garner, 2009, p. 471).

Differential boost: One type of evidence that a testing accommodation helps provide a valid representation of the intended construct is a larger increase in the scores of [students with disabilities] SWDs than in those of [students without disabilities] SWODs, in moving from nonaccommodated to accommodated conditions. (Kettler, Niebling, Mroch, Feldman, & Newell, 2003, p. 4)

Eleventh amendment: “The constitutional amendment, ratified in 1795, prohibiting a federal court from hearing an action against a state by a person who is not a citizen of that state” (Garner, 2009, p. 597).

Exploratory design: “conducted about a research problem when there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation or undertaken when problems are in a preliminary stage of investigation” (University of Southern California, 2012, para 8).

Grounded theory: “A qualitative strategy in which the researcher derives a general, abstract theory of a process, action, or interaction grounded in the views of the participants in the study” (Creswell, 2009, p. 229).

Inductive approach: Observations, facts, or evidence collected to form generalizations, abstractions, and theories about a phenomenon under study (Teddlie & Tashakkori, 2009, p. 27).

Impairment: “The fact or state of being damaged, weakened, or diminished” (Garner, 2009, p. 819).

Landmark case/landmark decision: “A judicial decision that significantly changes existing law” (Garner, 2009, p. 957)

Major life activity: A basic activity that an average person in the general population can perform with little or no difficulty, such as seeing, hearing, sleeping, eating, walking, traveling, or working. A person who is substantially limited in a major life activity is protected from discrimination under a variety of disability laws. (Garner, 2009, p. 1041)

Medical model: “Addressed disability as either a medical issue to be cured or a justification for welfare and benefits” (Waterstone et al., 2005, para 1).

Mitigating measures/circumstances: “A fact or situation that does not justify or excuse a wrongful act or offense but that reduces the degree of culpability and thus may reduce the damages” (Garner, 2009, p. 277).

Petitioner: “A party who presents a petition to a court or other official body, esp. when seeking relief on appeal” (Garner, 2009, p. 1262).

Plaintiff: “The party who brings a civil suit in a court of law” (Garner, 2009, p. 1267).

Punitive damages: “Damages awarded in addition to actual damages when the defendant acted with recklessness, malice, or deceit” (Garner, 2009, p. 448).

Qualified reader: “A person who is able to read effectively, accurately, and impartially using any necessary specialized vocabulary” (Niagara University, 2012, para 26).

Regarded-as prong: “‘Expansive in scope,’ in that [it] appl[ies] to people ... who are regarded as having an impairment, whether or not they actually would be considered disabled under the first prong” (Mayerson, 1997 footnote, as cited in Anderson, 2008, p. 996).

Remand/remanded: “To send (a case or claim) back to the court or tribunal from which it came for some further action” (Garner, 2009, p. 1407).

Respondent: “The party against whom a motion or petition is filed” (Garner, 2009, p. 1426).

Sequential mixed method: A data-collection strategy in which a researcher collects one type of data first (i.e., quantitative data) followed by a second phase of data collection with another type of data (i.e., qualitative data; Creswell, 2009).

Severe impairment: “In social-security or disability law, a physical or mental impairment that greatly restricts a person’s ability to perform ordinary, necessary tasks of daily life” (Garner, 2009, p. 819).

Social model of disability: “This model attempts to direct rehabilitation efforts toward society to increase access to services and to include disabled people into societal activities” (Chen, 2007, p. 124).

Structurally ambiguous/structural semantic ambiguity: Anderson (2008) used these terms to describe ADA law’s vagueness.

Substantially limits: “Requires, at a minimum, that plaintiffs allege they are unable to work in a broad class of jobs” (*Sutton v. United Air Lines*, 1999, as cited in Cox, 2010, p. 212).

Support services: May include “an individualized academic plan, developmental education, tutoring, personal counseling, specific instructional learning strategies, training in the use of adaptive technologies” (Brown, 2007, p. 33).

Transformative-emancipatory perspective: Has central importance on the lives and experiences of marginalized groups ... within this paradigm [a researcher] consciously analyzes asymmetric power relationships, seeks ways to link the results of social inquiry to action and links the results of the inquiry to wider questions of social inequity and social justice. (Mertens, 2003, pp. 139–140)

University personnel: Individuals who are involved in the accommodation process (i.e., faculty, administrators, etc.).

Vacate: “To nullify or cancel; make void; invalidate” (Garner, 2009, p. 1688).

Assumptions and Limitations

For the study, the best possible methodology was a mixed method, which answered the research questions posed. Additionally, because I used a reliable survey instrument from the NCES, I believe the study measures have good reliability and validity. The NCES completed a pilot study and a published research study with this instrument (J. Coopersmith, personal communication, December 1, 2011). Moreover, in the qualitative strand, I believe the participants were honest and open in their responses.

Scope and Delimitations

Congress created the ADA to protect all students with disabilities in higher education, regardless of other variables such as age or gender. Therefore, I chose not to emphasize some variables (i.e., being a veteran or the elderly) because then the study’s sample rationale is moot from an ADA law standpoint. Therefore, this study’s inclusion

criteria were students with disabilities or university personnel in higher education. Because the law does offer protection to a very wide diverse population in the disability community, the hope for this study was to retain that diversity in this study's sample. Therefore, it was important for this study to include students from different geographical and college levels to be able to generalize and transfer back to the population from which this study's sample was drawn. Additionally, this study examined the phenomenon of the difference in perception between university personnel and students with disabilities and gained a baseline of research that can be continued later and eventually serve as a resource to decrease vagueness in the ADA law guidelines regarding reasonable accommodations in higher education.

Limitations

In research studies, some factors are not controllable. This study had three distinct limitations. The first limitation was acquiring participants who did not withdraw from the study. A reasonable measure to address the probability of limited participants was to continuously recruit participants from different sources (i.e., word of mouth, media, etc.). The second limitation was verification of participants as students with disabilities and university personnel. To lessen the probability that participants did not meet these criteria, I required a school e-mail address. Last, because surveys were the source of data, a chance existed that participants might not be fully honest when answering the questions. To validate responses in the qualitative strand, member checking aided in confirming responses.

Significance of the Study

Differences in interpretation of the term reasonable accommodations can create barriers to and hinder academic success (Bruder & Mogro-Wilson, 2010; Frieden, 2003; Raue et al., 2011). Few researchers of national studies involving multiple states or multiple institutions investigated to what degree these perceptions differ, for which accommodations, and the humanistic effect of these differences. Ange (2011) affirmed that accommodations vary “from state to state, [and] campus to campus” (p. 60). Thus, examining the differences in viewpoints from different groups of individuals from different geographical locations may help ground and generate a mutual understanding in a community of people impacted by ADA laws. Hence, institutional policy and practice from different campuses and states can evolve into one set of national-practice guidelines, reducing barriers for educators to educate and students to learn, thereby creating positive social change.

Summary

It is well known that for adults to compete in today’s competitive workforce, an individual must show academic competence by acquiring higher educational degrees. However, for some populations such as individuals with disabilities, the attainment of higher education is not as successful as for individuals without disabilities. The disparity in enrollment (NCES, 2009) between students with and without disabilities is almost 90%, and the difference in completing college-level programs for people with disabilities compared to people without disabilities is substantial at a rate of almost 20% (U.S. Census Bureau, 2012). The enrollment and completion gap of higher education can affect other life experiences of students with disabilities.

Individuals with disabilities face many more obstacles and barriers in daily living to attain the same level of comfort and quality of life as people without disabilities. To be productive members of society, and to enjoy a better quality of life, this population needs to achieve in higher education. However, barriers obstruct the obtainment of higher education for individuals with disabilities.

In conclusion, an executive summary (Frieden, 2003) suggested the need for a special commission appointed to oversee policies created to help reduce barriers for students with disabilities and to reduce the discrepancies in and among agencies and policies. Research is needed on a wide range of areas to help students with disabilities enter, remain, and complete higher educational programs. This research study served as a first step in lessening the vagueness of the law by examining the differences and similarities in interpretation of the law. The following chapters comprise a review of the literature, the methodology, and results. The study will conclude with a discussion of findings for this study and implementation for social change.

Chapter 2: Literature Review

Content and Organization of the Literature Review

Civil rights laws such as ADA (U.S. DOJ, 2009a) are deeply rooted in over 40 years of development focused on allocating equal opportunity in the job market and higher education. “The ADA stands on the legal foundation of the ‘twin pillars:’ the Civil Rights Act of 1964 and the Rehabilitation Act of 1973” (Young, 2010, p. 150). The Civil Rights Act of 1964 was one of the first pieces of educational legislation, protecting students against discrimination (California Attorney General’s Office, 2001).

Another is Section 504 of the Rehabilitation Act of 1973, which focuses on protecting the rights of students with disabilities in learning institutions (DOE, Office of Civil Rights, 2005a; Waterstone et al., 2005). Although students with disabilities in higher education have protection against discrimination under these statutes, the law is, at times, not specific enough to prevent discrimination (Reeser, 1992). One area discussed in the literature is ADA reasonable accommodations in higher education for students with disabilities (Blanck, 1998; Reeser, 1992). In accordance with the law, Raue et al. (2011) conducted a study regarding services, accommodations, and accessibility for students with disabilities in higher education; the survey instrument for their study was used in the present study. Table 1 illustrates the items by category and additional items found in the literature. The literature review examines the statutes, court cases, and research studies regarding reasonable accommodations from the perceptions of university personnel (faculty and staff), students, and the law.

I have reviewed current law, court cases, peer-reviewed journal articles, and governmental websites for known accommodations that are not specifically noted in the

ADA (1990) law. Chapter 2 has four sections: (a) content and organization of the literature review, (b) review of the literature, (c) theoretical framework, and (d) method of study: Why it is important to incorporate quantitative (QUAN) and qualitative (QUAL) data.

I searched the following key terms in the literature: disability, college, higher education, accommodations, reasonable, adult, faculty, and quantitative, qualitative, mixed method and amendments. Databases used in EBSCOhost were Academic Search Complete, Education Research Complete, ERIC, PsycARTICLES, PsycEXTRA, and SocINDEX with Full Text to search for journal articles and research studies. To search for court cases pertaining to accommodations, the databases were FindLaw, Lexis/Nexis, and Cornell University law.

Critically examined were court cases significantly relevant to ADA law. It is important to note that works in the social science literature did not cite the actual court cases or mention them extensively. Only in the law review journals were cases comprehensively studied. Furthermore, the court cases are part of the body of literature; therefore, I included an exhaustive search and reviewed the cases of ADA mandates.

In addition, I searched for research studies that investigated faculty-granted accommodations, which accommodations students needed, and the interrelationship among these variables. Another aspect of the search focused on perceptions of the term reasonable accommodations according to university personnel, students, and the law to discern if these perceptions were similar, and if these perceptions affected participants professionally, academically, or personally. Last, I examined the different methodologies used in studies. The materials used included peer-reviewed journal articles, a court case

found in West's Federal Supplement (1993/1997), dissertations, articles, and books. Additionally, to gain knowledge about how the legal system interprets ADA law, I reviewed court cases.

The justification for using source material other than peer-reviewed and academic journals was to examine ADA law, other laws pertaining to ADA, and the history and development of these laws. Also reviewed were court cases that were substantially relevant to the status of ADA law and how the law applied to the topic of the present study. Furthermore, some literature related to this study was in the form of textbooks and other books on the topic, written by publishers of the software used for this study, and by authors who are highly regarded and knowledgeable in the field of disabilities and mixed-method studies.

Issues Related to Higher Education and ADA Law

Even though students with disabilities in recent decades have increased their numbers in higher education (Cook et al., 2009) and the work force, as noted in the problem statement in Chapter 1, students without disabilities are significantly more likely to acquire higher educational degrees and be more employable in the workforce than students with disabilities (Cook et al., 2009). The starting point for joining the workforce at a higher professional level of title, responsibility, rank, and pay grade is achievement in the higher educational system. Services for students with disabilities vary markedly by institution (Kurth & Mellard, 2006). Vague interpretations of the term reasonable accommodations by students and institutions and the process of acquiring reasonable accommodations for students with disabilities can hinder their success rate. The literature review demonstrates that researchers have conducted few national studies involving

multiple states or multiple institutions to investigate to what degree these perceptions differ, for which accommodations, and the humanistic effect of these differences.

Review of the Literature

In the United States, perceptions of how people with disabilities can contribute to the workforce and in mainstream education have changed over time. This change is slow but evident in how society and government render equal opportunity, participation, and community integration for individuals with disabilities in the areas of transportation, housing, telecommunications, voting, education, health care, and employment (National Council on Disability, 2007). Changing perceptions are clear in current laws such as Section 504 of the Rehabilitation Act of 1973 and ADA (Bruder & Mogro-Wilson, 2010), which enable this population to become a crucial and integrated part of society in employment (Bissonnette, 2009) and education (Cook et al., 2009). Positive changes in viewpoints, the law, and inclusion in public activities heighten the opportunity level in social arenas. Nevertheless, the ADA law at times is ambiguous and can diminish opportunities for individuals with disabilities.

The ADA was created to protect people with disabilities and to ensure society includes them with full benefits (U.S. DOJ, 2009a); however, the law is too vague at times to be useful in maintaining equal opportunity and inclusion in social endeavors such as education (Reeser, 1992). For example, Title III of the act states that “reasonable ... accommodations [shall be granted] to individuals with disabilities, unless the entity can demonstrate that making such modifications would fundamentally alter the nature of such goods, services, facilities, privileges, advantages, or accommodations” (U.S. DOJ, 2009a, para 33). This legal definition is not specific enough to be fully effective in

workforce and educational settings. Because the law has not been fully effective, the lower courts must interpret federal court rulings. The court cases presented in this section are important because they illustrate the vagueness in the law and the method in which the judicial system manages the vagueness. Because of the vagueness, the law needs revising, becoming more specific for those the law affects, for positive social change to occur. As per the problem statement of my study, reducing the vagueness of the law could decrease the gap (20%) of entering, being retained, and completing higher education (National Center for Education Statistics [NCES], 2009) between students with disabilities and students. Additionally, lessening conflicting perceptions of what is considered reasonable accommodations could aid in lowering the number of cases that enter into the Office of Civil Rights and the judicial system.

Court Cases Pertaining to ADA

In addition to the workforce, ADA law also applies to higher education (Anderson, 2008; Cope, 2005a, 2005b; Ranseen & Parks, 2005). While conducting the literature review, I found several journal articles (Anderson, 2008; Blanck, 1998; Charmatz, 2011; Cope, 2005a, 2005b; Cox, 2010; Hill & Blanck, 2009; Nester, 1993; Ranseen & Parks, 2005; Thomas, 2000; Tuch, 1999; Waterstone et al., 2005; White, 2000) that discussed ADA court cases in the Supreme Court and different district courts pertaining to the law. The court systems' classification of disability is a one-dimensional model of medical, welfare, or civil rights (Waterstone et al., 2005, para 1). "Courts that view the ADA through the lens of welfare reform may feel conflicting impulses about the appropriate scope of the ADA's reasonable accommodation mandate" (Cox, 2010, p. 223). The views of the judicial system regarding ADA pertains to my study because

when the courts have a narrow view, then the institutions of higher education must interrupt that narrow view when creating accommodations policy for their students with disabilities and how university personnel could implement those policies and practices. Due to the court's perception of ADA law as a welfare law, a conflict in responsibility of the court occurs when the court's concentration is on the classification of the plaintiff's disability and not the plaintiff's legal discrimination case presented before the court. Similarly, universities' concentration of students' disabilities rather than the accommodation to remove the barriers could reflect in the schools' policies.

Anderson (2008) discussed the ambiguity of ADA law and the courts' interpretation of the law in court cases. First, the author introduced the reader to the term disability and explained how the term uses statutory language that is vague and does not conform to what Congress intended when they first enacted the law (Anderson, 2008). Additionally, Anderson cited the law (U.S.C. § 12101) defining the term disability as “(A) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (B) a record of such an impairment; or (C) being regarded as having such an impairment” (p. 995). Further noted was the adopted vague language from the Rehabilitation Act of 1973 to ADA law (Anderson, 2008). Moreover, court cases have been affected by the language of the law.

Two Supreme Court cases, *Sutton v. United Air Lines* (1999) and *Toyota Motor Mfg., KY., Inc. v. Williams* (2002), affected the judicial system because of the meaning of the words: disability, substantially limits, major life activities, and the term impairment (Anderson, 2008). Even though the meaning of these terms is vague in the law, they interrelate with the law and the author uses the terms structurally ambiguous and

structural semantic ambiguity to help the reader understand a “gap between ADA goals and ADA interpretation” (Anderson, p. 1000) including in the meaning of the regarded-as prong and the actual-disability prong. “The failure to apprehend ambiguity in the regarded-as prong pervades other legal arenas, such as advocacy and ADA compliance” (Anderson, 2008, p. 1033) and “the language of the statute should be redrafted” (Anderson, 2008, p. 1034). How the court system views the law, can be a determining factor for how the educational institutions will uphold and comply with the law, which could lead to issues that are problematic.

Problematic Issues

Cope (2005a) explained that *case laws* are “judicial rulings that interpret existing statutes” (p. 37) and that Sutton and Toyota were landmark Supreme Court cases regarding ADA law. The Sutton and Toyota cases referred to the plaintiffs’ substantial limitations and the rulings in both cases were that the court denied the plaintiffs’ protection of ADA law. The result of these cases trickled down to the attitudes and interpretation of the law to the lower courts regarding ADA law and higher education because students were denied the safeguard of ADA law. Cope (2005a) stated that “The consequences of these judicial decisions impact the academic freedom of every university faculty member when asked to provide modifications relating to academic procedures or to methods of evaluation for students based upon a claim of disability” (p. 37). Hence, when university personnel are asked to change or modify their teaching style or their required employment tasks to accommodate students with disabilities, the change can influence job performance. These rulings also influence the administration and staff of universities that must set guidelines in accordance with case law. Additionally, these

decisions influence the outcome of which accommodations students receive in higher education.

U.S. “society has tended to isolate and segregate individuals with disabilities, and, despite some improvements, such forms of discrimination against individuals with disabilities continue to be a serious and pervasive social problem” (42 U.S.C. § 12101(a)(2), (7) (2006) as cited in Cox, 2010, p. 195). Consequently, the courts can be discriminating; the lower court in *Wong v. Regents of the University of California* (2004) case followed suit as in the Toyota case and declared Wong did not have impairments that severely restricted daily-living abilities (Cope, 2005a, p. 39). This ruling placed the burden of proof of disability in accordance with ADA law on students with disabilities in higher education “because the learning activities of a university student are not those performed by the average person” (Cope, 2005a, p. 40). Cope (2005a) advocated that this could be a barrier because accommodations needed by students pursuing higher education are not the same as those needed by the general population to complete daily-life activities. For example, the average person will need a high school level reading ability to complete their employment tasks, and might read the daily newspaper, a novel on weekends, and try to complete Sunday’s crossword puzzle. However, the average person does not need to read four to six textbooks, hundreds of journal articles, and study for midterm and final examinations within certain time constraints. Yet, students with and without disabilities must do these activities to complete higher education. Nevertheless, the barrier is that the court compares the functioning level of a student with disabilities to the average person’s activities and not with students without disabilities.

Several authors discussed *Bartlett v. New York State Board of Law Examiners* (1997, 1998, 2001) (Blanck, 1998; Cope, 2005a; Ranseen & Parks, 2005; Thomas, 2000). The case concerned what substantially limits individuals from certain life activities. Furthermore, as noted in *Bartlett v. New York State Board of Law Examiners* (2001), *Calef v. the Gillette Company* (2003), and the Baer court cases, the disability must restrict ability in daily-life functions, not just in the classroom. Anderson (2008) pointed out the disagreement among the courts; similarly, Cope (2005b) presented a rational argument that directors of disability services may have “no background in law or medicine, to make decisions about what constitutes a disability and what accommodations are required” (para 3). This brings conflict between university administrators and university personnel when interpretations differ (Cope, 2005a).

Judges are not medical doctors: “the Supreme Court has recently required more analysis than a doctor’s conclusory opinion in order to validate a claim of disability” (Cope, 2005a, p. 42) for students with disabilities to seek and acquire reasonable accommodations. The author concluded that faculty members who are part of the accommodation process should “ensure a level playing field for all students in a class” (Cope, 2005a, p. 47). Positive social change could occur by leveling the playing field students would have a higher rate of academic success.

Aspects of Social Change

Blanck (1998) reviewed BU’s court case and affirmed that more consideration needs to be devoted to those involved in the process of accommodations and their personnel experiences and feelings toward the process. However, more recently, Cook et al. (2009) explored several issues regarding accommodations in higher education,

including faculty willingness to provide certain accommodations at the university level of instruction. Cook et al. found that the majority of study participants were unwilling to provide alternate or extra-credit assignments or allow course substitutions or waivers for students with disabilities. Kurth and Mellard (2006) conducted a study and found note takers and extended time were the most effective accommodation from the perception of students. In an earlier study, researchers examined what types of accommodations universities offered to medical students, and their findings were similar (Sack et al., 2008). In the Sack et al. study, the staff of medical schools completed surveys and results showed that the accommodations students requested and had been offered by the colleges most were extra time and a separate room for examinations.

Studies such as these add breadth and depth to the body of literature regarding accommodations for students in higher education; however, a need persists for a more wide-ranging study that explores a multitude of accommodations to develop a comprehensive listing, which ADA law is missing. This research study focused on the most prominent accommodations the literature presented (Table 1 illustrates the accommodations discussed in the articles) and how ADA law, university personnel, and students view accommodations. The outcome of the literature review was the construction of a viable comprehensive list of accommodations from the perceptions of participants in other research studies and the court cases reviewed. Additionally, a gap emerged in the literature concerning an examination of the personal, academic, and professional effects of the accommodations themselves, as well as the effects of the process. This study explored these issues.

Current Changes in the Law

Cox (2010) addressed the issue of *regarded-as* disabled in ADA law and stated that the intent of the ADA Amendments Act of 2008 was “to broaden the ADA’s protected class ... [and a] person’s right to sue for ADA accommodations” (p. 187). The amendments also help broaden the scope of the definition of what is a disability in accordance with the law. “ADA is not a traditional civil rights statute but is instead a welfare benefits statute that confers special benefits to compensate for endogenous biological limitations” (Cox, 2010, p. 189). Cox compared ADA law to Title VII of the Civil Rights Act of 1964 whereby the current amendments help the courts change their views of ADA from a welfare law to a civil rights law, enabling a broader class of people with disabilities to be protected under the law. How the judicial system views and interprets ADA law and its vague components is an important factor because it determines how higher educational institutions will interpret and follow the law.

However, “the amendments do not attempt to resolve the hotly contested debate about the ADA’s theoretical foundation” (Cox, 2010, p. 188); the issue of reasonable accommodations is one of the Act’s fundamental purposes. ADA’s theoretical foundation rests in the debate between the law being a civil rights law or a welfare law. From a civil standpoint, the resolution of the debate will determine where the environment needs to change to aid the individual. From a welfare standpoint, the law determines where the individual is provided for to function in the already constructed environment. For example, a school building only has two floors and only steps. This building is not accessible for people with disabilities impeding their ability to climb steps because it has only steps to go to the second floor. Civil rights views, in this case would indicate the

need to modify the building and add either a ramp or elevator. A welfare view would be to hold classes only on the first floor for those students with disabilities.

The Amendments

The terms substantially limits, impairment, major life activity, and mitigating measures, have undergone meaningful changes in the amendments to “enable a much larger number of persons to use the ADA to sue for reasonable accommodations” (Cox, 2010, p. 202). The Supreme Court heard no cases regarding higher education and ADA law because these persons did not fit the definition of the protected class of individuals with disabilities. Now, with the amendments in place, the courts must decipher the ambiguous meaning of reasonable accommodations for students in higher education. As noted prior, the courts’ continuous concentration on classification (Anderson, 2008) was apparent. The merit of court cases pertaining to higher education is the acquiring of reasonable accommodations. Despite some criticism surrounding the courts’ attitude toward individuals claiming to be disabled and in need of reasonable accommodations, the ADA has yet to provide a concrete definition for the term reasonable accommodation, thereby leaving the courts without guidelines to handle cases in an unbiased manner (Cox, 2010).

Current Status of ADA and Recommendations

Hill and Blanck (2009) stated that “many courts remain committed to the old charity and medical models of disability” (p. 2) and that the ADA Amendments Act of 2008 was “enacted in response to judicial narrowing of disability rights protections” (Hill & Blanck, 2009, p. 13). The authors discussed whether the courts would continue to concentrate on who is disabled enough or would “shift focus to the question of whether

unfair discrimination occurred and whether needed accommodations are reasonable?” (Hill & Blanck, 2009, p. 26). Less than 10% of court cases ruled in favor of the plaintiff in the first years of the enactment of the ADA (Colker, 1999, as cited in Hill & Blanck, 2009).

Nester (1993) discussed testing for employment, and suggested that unless deemed necessary for an employment position, people with disabilities should not be screened out for the employment process (p. 76). This framework also holds true for college entrance examinations and other testing situations (i.e., midterm or final examinations) in higher education. Testing should measure the ability of the person, not their disability (Equal Employment Opportunity Commission, 1991 as cited in Nester, 1993, p. 76). Additionally, “pre-admission inquiry about disability is specifically prohibited by federal regulations” (Nester, 1993, p. 78). To ensure nondiscriminatory practices, Nester discussed Educational Testing Service research studies regarding maintaining the reliability and validity of the test while administering testing accommodations on examinations such as the SAT and the Graduate Record Examination. One specific finding was that the unlimited amount of time allotted to the SAT for students with disabilities failed to provide an accurate review of their freshman grades. Furthermore, for testing to comply with ADA law, test content changed. However, from the perspective of industrial or organizational psychology, the validity of the test should not be compromised (Aamodt, 2007; Nester, 1993).

Ranseen and Parks (2005) also discussed the Toyota and Sutton cases in relation to testing accommodations in higher education. These two cases impacted and trickled down to other lower court cases (*Argen v. New York State Board of Law Examiners*,

1994; *Bartlett v. New York State Board of Law Examiners*, 1998; *D'Amico v. New York State Board of Law Examiners*, 1993; *Gonzales v. National Board of Medical Examiners*, 2000; *Pazer v. New York State Board of Law Examiners*, 1994; *Price, Singleton, & Morris v. National Board of Medical Examiners*, 1997). Ranseen and Parks described the problematic issue of defining disability in ADA law because of the courts' narrow view of it from the medical paradigm.

The ADA is a civil-rights statute enacted "to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities" (ADA, 1994, 42 U.S.C. § 12101(b)(1) as cited in Ranseen & Parks, 2005, p. 87). The authors noted, "the disabled have been routinely subjected to unequal treatment based on misinformation, stereotyping, or prejudice" (p. 87). In agreement with Anderson (2008), the adopted language of the meaning of the word disability comes from the Rehabilitation Act of 1973; the term disability has a narrowly scoped definition, leading to problematic issues for the plaintiff in court cases. "Thus, the more problematic issue [is] of determining what constitutes reasonable accommodations for various medical and mental conditions in different situations is avoided" (Ranseen & Parks, 2005, p. 89). Ranseen and Parks (2005) also suggested that the term substantially limits be removed from ADA law for the concentration to be on accommodations for individuals with disabilities.

Thomas (2000) affirmed that "once the ADA was passed and amended and regulations were promulgated, institutions that had made little or no progress in making their buildings and programs accessible increased their efforts" (p. 248). The author provided a detailed description of Title II and Title III of the ADA. These sections

prohibit discriminatory acts against individuals with disabilities in public entities including higher education, and the entities must provide programs and services to individuals with disabilities in a manner that is equally beneficial to those given to individuals without disabilities. Thomas cited the court in *Doe v. New York University* (1981): “courts are particularly ill-equipped to evaluate academic performance” (Thomas, 2000, p. 252). However, the court’s stance was that the duty of the court was to determine if an individual has a disability in accordance with ADA. It was the institutions’ responsibility to provide individuals with disabilities equal education regardless of the disability.

Thomas (2000) spoke about the accommodations process, suggesting that universities’ responsibilities include investigating what the students’ needs are and not base decisions on “stereotypical views” (p. 253). If the investigation’s outcome is that accommodations are warranted, those accommodations “must be provided in a timely fashion” (Thomas, 2000, p. 254). Tuch (1999) affirmed that the ADA “created considerable controversy” (p. 275) due to the definition of disability in the law. Tuch discussed three landmark cases Sutton, *Albertson’s, Inc. v. Kirkingburg* (1999), and *Murphy v. United Parcel Service* (1999). The courts denied the plaintiffs’ protection of ADA in all three cases. The reasoning of the courts was the defined terms of substantially limiting, regarded as “any measures that mitigate the individual’s impairment” (p. 278). Ultimately, the courts can concentrate on an entity’s guidelines rather than individual proof of disability for the court to adhere to ADA’s original nondiscrimination regulation (Cox, 2010). Several authors’ interpretation of the law considered that problematic issues

exist; however, a review of specific court cases reveals that the law can be a challenge to interpret.

Outcomes of Court Cases Pertaining to ADA

Several Supreme Court cases regarded ADA were retrieved while searching Cornell law library. As reported by the American Bar Association (2008, as cited in Hill and Blanck 2009) the majority of court cases in the Court of Appeals (84%) ruled against the plaintiff. These rulings pose the question, Are the court systems' rulings in favor of defendants discriminatory? The landmark employment case of *Board of Trustees of University of Alabama v. Garrett* (2001) in the lower courts, showed that the states can avoid protecting individuals with disabilities by not paying damages to the plaintiff in accordance with ADA law, Title I), through the Eleventh Amendment and Section 5 of the Fourteenth Amendment. However, the Supreme Court reversed the cases.

In the case of *Littleton v. Wal-Mart Stores* (2007), the plaintiff was unable to communicate effectively in employment due to the symptoms of the disability. However, not every situation that occurred for Littleton was regarding as employment opportunities. The District Court for the Northern District of Alabama ruled in favor of the respondent (defendant) because Littleton did not show any evidence of being disabled under ADA law, and the court of appeals affirmed. An earlier case presented in the Supreme Court, *Murphy v. United Parcel Service, Inc.* (1999) had a similar verdict, whereby the court ruled against the plaintiff because Murphy was not considered to have a disability under ADA law. These cases show leniency toward the respondents (especially the state rulings) and ambivalence in the ADA law for individuals with

disabilities in natural environments of everyday occurrences such as employment and access to courthouses.

Moreover, “Title II [of ADA] does not require States to employ any and all means to make judicial services accessible or to compromise essential eligibility criteria for public programs” (*Tennessee v. Lane*, 2004, para 5). Similarly, in the landmark case of *Sutton*, the limitation of vision ability was in question and, again, the court ruled against the plaintiff. Moreover, in another case regarding vision and employment, the Supreme Court ruled against the plaintiff (*Albertsons, Inc. v. Kirkingburg*, 1999). Kirkingburg was a truck driver but did not meet Department of Transportation vision standards, and the company fired him. The Department of Transportation had a waiver program and gave Kirkingburg a waiver, but Albertson’s (the plaintiff’s former employer) would not allow for accommodations and did not hire him back. The Supreme Court ruled that the defendant did not have to take the waiver. Therefore, the ruling was against Kirkingburg.

In another landmark case, the Court of Appeals ruled in favor of respondent Williams against the petitioner Toyota. The respondent had sued the employer on the grounds of disability discrimination; however, the Supreme Court reversed the lower court’s ruling and remanded it back to the lower court in favor of Toyota. It would have been in the best interest of the respondent to continue the court case, but today no further court decision in the literature pertains to this case. In a later case (*Barnes v. Gorman*, 2002), a man who was disabled sued officials after being hurt while under arrest. The lower court awarded compensatory and punitive damages. The Supreme Court reversed the decision whereby governmental agencies are not liable for punitive damages under ADA law.

ADA law also requires access to public accommodations, such as access to public places including governmental agencies, places of worship, and educational institutions. The *Tennessee v. Lane* (2004) case represented this mandate whereby in the District Court the plaintiff Lane and others claimed the state had denied them the civil right of access to government program courthouses due to their disabilities under ADA law. The court ruled against the plaintiff. Afterwards, the Supreme Court opinion was that “ordinary considerations of cost and convenience alone cannot justify a State’s failure to provide individuals with a meaningful right of access to the courts” (*Tennessee v. Lane*, 2004, para 30). However, not all Supreme Court judges favored the residing judge’s decision, producing a split-decision ruling.

An earlier case, *Olmstead v. L.C.* (1999) resulted in a split decision in the Supreme Court regarding ADA law. ADA also speaks about accommodating for least restricted environments. L.C. and E. W., the respondents, disabled individuals, had been in a state hospital where medical professionals gave the clients the recommendation of a community-based treatment program. Transfers from the state hospital to the treatment programs did not occur because the state claimed insufficient funds. The lower court gave summary judgment to the respondents. Yet, the Supreme Court ruled the case affirmed in part, vacated in part, because the respondents must show cause of differential treatment, and remanded for the state to consider alternative placement.

US Airways, Inc. v. Barnett (2002) showed that employment discrimination cases are in the highest of courts. The plaintiff, Barnett, a disabled worker, had sued U.S. Airways, the defendant, for the loss of employment. The employer argued to make an exception to the seniority system due to Barnett’s disability is not a reasonable

accommodation when the company and other employees would experience an undue hardship in granting such an accommodation. The district court ruled in favor of the employer, but the U.S. Court of Appeals reversed that decision because the district court did not consider a case-by-case basis. However, the Supreme Court vacated and remanded the U.S. Court of Appeals decision because the Supreme Court judges' decision was a split decision. In contrast, a recent Supreme Court case found in favor of the plaintiff (*PGA Tour, Inc. v. Martin*, 2001). In the Martin case, PGA Tour thought Martin's difficulty walking due to his disability should not grant him the right to a cart to assist him during the tournament.

No Supreme Court cases emerged while searching the law libraries that regarded higher education and ADA law; however, present was *Schaffer v. Weast* (2005) regarding elementary education and the Individuals with Disabilities Education Act. In this case, the parents of a minor child with disabilities, Schaffer, sued the public school district (respondent) seeking funding for private school. Overall, the burden of persuasion was the responsibility of the party seeking relief (in this case the parents), so ruled the U.S. Court of Appeals, and the Supreme Court affirmed against the plaintiff. The ADA is open to many different interpretations. In addition, even though the law is not perfectly straightforward regarding employment and social endeavors, the law is also not fully understood regarding areas of education. As previously indicated, authors and researchers indicated the written law has flaws. Several described court cases in the literature related to accommodation issues (Ranseen & Parks, 2005).

Court Cases Pertaining to ADA Regarding Higher Education

I used the Lexis/Nexis database and found court cases by inputting the key terms reasonable accommodations and higher education. In a recent case, *Doe v. Oklahoma City University* (2010), the plaintiff, Doe, brought the case of discrimination against the university after being dismissed, stating the dismissal was due to the plaintiff's disability. The district court ruled against Doe but on appeal agreed to seal the case, protecting the plaintiff's identity. In another recent case, *Toledo v. Sanchez* (2007), the plaintiff, Toledo, brought a complaint against the university for discrimination but the district court had dismissed the complaint on the grounds of the Eleventh Amendment. Then, in the court of appeals, the plaintiff sought action, again due to the university's failure to accommodate, and the respondent in turn sought action. The court of appeals had affirmed the district court's action. Finally, the district court ordered the plaintiff's claims dismissed without prejudice (whereby Toledo, the plaintiff, can file again) but the respondent's claims dismissed with prejudice (whereby Sanchez cannot file again). The Supreme Court refused the invitation to hear this case.

Two similar cases presented in the district courts concerned discrimination and retaliation. The first was the *Mershon v. St. Louis University* (2006) case whereby the plaintiff sued Louis University for failure to accommodate, and retaliation. The district court ruled in favor of the defendant and the case went to the appeals court. The appeals court affirmed the lower court's decision. The second was an earlier case, *Constantine v. Rectors & Visitors of George Mason University* (2005), whereby the district court dismissed the case and refused to rule on the Eleventh Amendment defense from the university. On appeal, the court reversed the district court's decision because the

university could not use the Eleventh Amendment as a defense, and the plaintiff had shown evidence of violation of rights under ADA law. Additionally, the court of appeals had remanded the case back to the district, but no resolution appears in the literature.

Again, in similar cases, in the district and court of appeals, plaintiffs claimed schools had discriminated and failed to accommodate. Both courts ruled against the plaintiffs (*Emerson v. Thiel College*, 2002; *Kaltenberger v. Ohio College of Podiatric Medicine*, 1998). Last, in an earlier case, the district court ruled in favor of the defendant in the case of *Zukle v. Regents of the University of California* (1999) because the plaintiff could not meet academic standards of the school with accommodations. The university dismissed Zukle, and Zukle had filed the suit afterward. The court of appeals affirmed that the school did not violate ADA law.

The majority of court cases discussed here showed rulings in favor of the defendant. Perhaps this is because almost all court cases (up to 98%) regarding ADA rule against the plaintiff (Bailey, 2006; Colker, 2010; Hill & Blanck, 2009); however, in cases where no court ruling exists, parties might enter into agreements or settlements. The ADA website presented the following agreements regarding ADA law and higher education.

The NCAA in a Consent Decree, had an action brought against them by several individuals with disabilities (U.S. DOJ, 2001a). “The National Collegiate Athletic Association (NCAA) is an unincorporated association whose members are over one thousand colleges and universities throughout the United States” (U.S. DOJ, 1998, para 6). The complaints regarded schools’ policies, which discriminated against student athletes with disabilities by not allowing special courses that accommodated students, and

the school's waiver process. The parties entered into a Consent Decree and part of the agreement was that the school would take the courses that have special labels (i.e., remedial) for students with disabilities as core courses. Additionally, the school agreed to have a formal policy for students seeking a waiver of eligibility requirements and training provided for staff in the process of granting waivers; the association agreed to have an ADA-compliance coordinator to help with relations between students and the association. Moreover, the NCAA agreed to make payment to four students in the sum of \$35,000.

The settlement agreement between American Association of State Social Work Boards, Assessment Systems, Inc. and Douglas Elliott came into effect when Elliott put forth a complaint (U.S. DOJ, 2001b). The complaint was that American Association of State Social Work Boards did not provide a qualified reader for the social work licensure examination and did not score the examination in a manner that would evaluate Elliott's aptitude in the area studied, but rather scored the examination based on disability. The agreement was that a written policy regarding qualified readers would be put in place, and similar to the NCAA Consent Decree, an ADA Compliance Coordinator would be appointed; all staff would be trained to adhere to the new policies and ADA law, and a payment in the amount of \$1,500 would be made payable to Elliott.

In a later agreement, Portable Practical Educational Preparation, Inc. (with individuals unnamed) failed to provide a *qualified sign-language interpreter* in a classroom (U.S. DOJ, 2005). Community Outreach Program for the Deaf had provided such services instead of the institute providing the services. The agreement included that Portable Practical Educational Preparation will provide qualified sign-language interpreters unless it is an undue burden, provide staff with training, have a written policy

in this regard, and pay Community Outreach Program for the Deaf \$700 for rendered services.

In similar circumstances, TestMaster agreed to fulfill a consent order (with party unnamed) to provide students with disabilities appropriate auxiliary aids and services (i.e., qualified sign-language interpreters) for Law School Admissions Test preparation courses (U.S. DOJ, 2006a). Additionally, the defendant must have a written policy of nondiscrimination in place, an ADA coordinator, training provided for employees, payment of damages in the sum of \$20,000 to parties unnamed in the consent order, and civil penalties of \$10,000. In a comparable case to that of TestMaster, Utah College of Massage Therapy entered into a settlement agreement whereby the court mandated discrimination policies, practices, auxiliary aids and services, an ADA coordinator, and training (U.S. DOJ, 2007).

Today, different types of technical equipment are available such as the Kindle DX, which is a hand-held screen reader of books, Internet web pages, and articles that can help students succeed in academia. However, the Kindle DX is not accessible to students with visual impairments. Arizona State University, Pace University, Princeton University, and Reed College failed to provide an accessible screen reader for students with disabilities, compared to students without disabilities (U.S. DOJ, 2010a, 2010b, 2010c, 2010d). In letters of resolution (Pace University, Princeton University, and Reed College) and a settlement agreement (Arizona State University), the schools agreed not to violate ADA law. They agreed by not recommending, providing, or requiring a Kindle DX or any other electronic book reader unless the devices are accessible by students with

disabilities or provide reasonable accommodations for students with disabilities to acquire the same information as students without disabilities.

Noncompliance with ADA law goes beyond the walls of the classroom; in a recent Consent Decree regarding the University of Michigan's football stadium having accessible seating and parking for people with disabilities, the university failed to comply with ADA law; therefore, the university and the Michigan Paralyzed Veterans Association entered into a settlement agreement (U.S. DOJ, 2008a). In another settlement agreement with the University of Chicago, periodic checks ensured physical accessibility to the university's facilities. In the agreement, the university's construction of buildings shall be "designed and constructed in compliance with the new construction provisions of the ADA and its implementing regulation" (U.S. DOJ, 2006c, para 9), the university would have an ADA compliance officer, two employees to assist the compliance officer, training for these employees, and development of a matrix and physical-access plan. In similar settlement agreements, Colorado College and Swarthmore College must also comply with ADA law, have an ADA coordinator, and have a physical-access plan (U.S. DOJ, 2006b, 2008c).

In other settlement agreements with Educational Management Corporation's Brown Mackie campuses, Chatham University, IntelliTec Colleges, McNeese State University, and the Board of Supervisors, complaints were lodged against their physical accessibility in compliance with ADA law (U.S. DOJ, 2008b, 2009b, 2009c, 2010a). Parallel to physical accessibility for students with disabilities, reasonable accommodations come in the form of "modifications to the examination and appropriate auxiliary aids and services" (U.S. DOJ, 2011c, para 6), additional time, and separate

testing areas, such as in the settlement case between National Board of Medical Examiners and Frederick Romberg (U.S. DOJ, 2011c). Moreover, reasonable accommodations start at the beginning of the application entrance process to higher education. In such cases as the Atlanta's John Marshall Law School and Law School Admission Council, the schools did not adhere to the ADA law by not having applications for entrance to school accessible through a web for students with visual impairments (U.S. DOJ, 2011a, 2011b).

The universities that entered into agreements realized that reasonable accommodations are mandates by federal law; however, as discovered in the previous section, no Supreme Court cases regarded higher education and ADA law. Additionally, the Supreme Court rejected its opportunity to preside over one court case (*Toledo v. Sanchez*, 2007). This can be evidence of the judicial system being discriminatory about the types of cases present in the higher courts.

Research Studies Regarding ADA Accommodations

Several studies used higher education accommodations as a variable; however, they did not bridge the gap of the social sciences and ADA law pertaining to accommodations (Ange, 2011; Brown, 2007; Hernandez, 2011; McWaine, 2011; Rush, 2011; Thompson, 2011). Here, I discuss the methodology of the research. The results of these studies is illustrated in comparison with the present research study in Chapter 4.

Ange (2011) explored what factors might contribute to successful graduation rates of students with learning disabilities, including the factor of accommodations and if a relationship exists between the variables of accommodations, demographics, and graduation rates of students with disabilities. In comparison, the present research study

specifically explored the issue of accommodations in accordance with ADA law and the perceptions of participants. One of Ange's hypotheses explored the "statistical relationship between the types of accommodations and disability related services offered to students with learning disabilities attending a community college and their graduation rates" (p. 51). This study used the work of Stodden and Conway (2003) to examine different factors in relation to academic accommodations; they suggested accommodations are not similar in different geographical areas. Ange (2011) cited Pingry's (2007) study on the connections between variables such as accommodations and graduation. Ange asserted that the Pingry study found connections among the variables of accommodations and graduation. Ange asserted that ADA law in higher education has no formal process of services, such as with Individuals with Disabilities Education Act, a law that protects students with disabilities in high school against discrimination and averred a need for research on accommodations at universities.

Ange (2011) found no statistical significance between accommodations and graduation. The author used ex post facto research to gather data from four different colleges with students with learning disabilities. Ange examined data from students' school records from 2006 to 2009. To compare mean scores of graduation rates, the author used independent-sample *t* tests. Results showed an 11% difference in graduation rates between students with learning disabilities (60%) and students without disabilities (71%). Ange expresses concern with the limited sample size ($N = 534$ records) of students with learning disabilities. The study's other limitations were only including 2-year colleges, small school sizes, conducting the study in only one state, North Carolina, and not including students with other disabilities. The strengths of this research were the

use of combined variables of accommodations and demographics and the impact of these variables on the outcome variable of graduation. Additionally, the study showed the state collected limited data for students with disabilities. Ange recommended future research in the field with students with other types of disabilities and in 4-year colleges.

Brown (2007), in a sequential mixed-method study at one California college with students with learning disabilities, explored their views regarding accommodations and barriers to acquire academic achievement in higher education. The author used grounded theory and for the quantitative strand with a survey instrument, then interviews for the qualitative strand. Of the 50 students who took the survey, 12 took part in interviews. Study results indicated that students had high rates of satisfaction with services received; however, they had low rates of use of available services. The study was limited by the use of a single college in one state, California, and a small sample size ($N = 50$). These factors reduced generalizability. Additionally, the limited timeframe for participants to respond to the survey was an issue. Brown believed knowing the degree of the learning disability of participants would have been beneficial. Also, even though the survey had a pilot study, the questions might have been misconstrued by the participants. The research was strengthened by interview responses. The author concluded with a recommendation to conduct studies including students with other disabilities.

In another dissertation, Hernandez (2011) remarked, “a gap exists in the accessibility of postsecondary education among learning disabled students” (p. 2). Hernandez’s main research question was, “what problems or barriers do postsecondary students with learning disabilities encounter in accessing transition or support services?” (p. 4). The author studied the barriers to access that created such a gap in accessibility of

services. In this study, 10 students with learning disabilities took part in a qualitative study that used semistructured interviews to explore which barriers they experienced to college success. Hernandez used triangulation and a case-study approach.

The Hernandez study (2011) found that students' lacked inquires about services and their awareness of services was low. The majority of the students with learning disabilities were quite satisfied with services from the college; however, some experienced accessibility issues that included use of computers, required books, and laboratory time. The major limitation of the study was that it included only 10 participants at Cabrillo College in California. Additionally, the write up of the research cited limited numbers of references. The research was strengthened by archival data of the students, which suggests that some students did not attend college immediately after high school. The author recommended continued research that included demographic data (Hernandez, 2011).

Based on the social model of disability, in a quantitative dissertation study, McWaine (2011) examined the correlation between community college faculty attitudes toward students with disabilities, faculty knowledge of legal mandates, and the provisions of accommodations. Results showed half (50%) of faculty were not knowledgeable about disability law; faculty had a high mean score of 3.7608 with a maximum of 5.0 in the area of comfort level when accommodating students. Strengths of the study included an anonymous survey, confidentially, low risk for participants, and a reliable instrument. Some limitations were using only one college campus in the southwestern region with 93 participants and some incomplete self-reported surveys. Therefore, generalizability was limited to the college itself.

Rush (2011) used descriptive and multivariate statistics to examine the attitudes and willingness of faculty to provide needed accommodations, the type of accommodations provided to students with ADHD, and faculty members' knowledge about disability law. The author conducted a survey through the Internet from three different colleges. The author used web-based surveys on the SurveyMonkey website and conducted descriptive statistical analysis on the gathered data, modifying the survey instrument developed by Murray, Wren, and Wren (2008). Three elite colleges took part in the study with 143 responses from faculty.

Rush (2011) found that most faculty disagreed with grading on a curve, but agreed to provide extra time for assignments. Additionally, about half (52%) of faculty responses acknowledged they were unfamiliar with disability law. The limitations of the study included that the three colleges were small, affiliated with the Quaker religion, and the study had a low response rate (143 completed surveys). Additionally, participants may not have answered the survey questions accurately because the questions were on a self-reported survey. The numerous tables showing data analysis strengthened the research report. The author recommended training for faculty, and continued study with different demographics for results to be generalized to other schools.

Thompson (2011) conducted a mixed-method study using inferential statistics and inductive coding. Survey data comprised "disability service officers, and offer[ed] a first glimpse of their views about students and accommodations" (p. 4). Thompson conducted interviews with officers and students, exploring the social class of students with learning disabilities as a factor for compliance of federal legislation by colleges in New York City. Only 21 schools of the 44 in New York City responded to the survey.

Results showed that survey data came directly from the schools and not the Integrated Postsecondary Education Data System; therefore, the survey appears to be more valid than the system (Thompson, 2011). For example, the number of students with disabilities in the schools was reported as more than half of what the Integrated Postsecondary Education Data System reported. Accommodations such as extra time and note taking were most requested by students. Reported barriers included “funding, staff shortages, unpreparedness from the K–12 system, and inaccessibility of buildings” (Thompson, 2011, p. 61). Additionally, one of the wealthier low Pells schools reported accommodating students above what the law requires. Yet, the interview data told a different story; the resources available to students with disabilities in different socioeconomic statuses (high-socioeconomic status [SES], low-Pell; medium-SES, medium-Pell; low-SES, high-Pell) ranged significantly.

The limitations of the study were that none of the school administrators had recommended students for participation; however, the researcher obtained students from high-Pell and low-Pell schools (Thompson, 2011). Additionally, schools selected students who did partake in the study; therefore, the study could aim for only an exploration of the topic rather than generalizability to the population. The research was strengthened by archival data regarding students and the 44 colleges in New York City. Additionally, Thompson (2011) used tables throughout to represent a snapshot view of the data. The author recommended early intervention such as high school counselors, parents, and college offices to help bring about the awareness of disability services and resources. Furthermore, Thompson recommended the colleges provide no-cost or low-cost disability evaluations and university personnel to be educated about accommodations and services.

ADA law helps students with disabilities acquire the tools and support they need to acquire advanced education; without the needed tools, a lack of support, and limited advanced education, the likelihood of lower economic class status for students with disabilities is apparent (Foley, 2006; Garrison-Wade & Lehmann, 2009). Garrison-Wade and Lehmann (2009) reviewed other research studies to generate a conceptual framework to help policy workers, educators, and counselors better understand what students with disabilities need to successfully transition to and acquire higher education. Additionally, the authors remarked on the lack of training of teaching professionals. Problematic issues of services for students with disabilities “can set off a series of difficulties that bring federal law requirements about reasonable accommodations into question” (Garrison-Wade & Lehmann, 2009, p. 422). In higher education, one accommodation called into question was foreign-language substitutions. Sparks (2008) reviewed studies of learning-disabled students compared to non-learning-disabled students and found no significant differences in skills needed for foreign-language coursework. In another study, Hadley (2007) concluded that students’ “accommodations might have a direct bearing on their successful integration” (p. 12) and future academic experiences.

Many research studies regarding accommodations for adult students in higher education revolve around ADA law (Blair & Salzberg, 2007; Christ & Stodden, 2005; Cook et al., 2009; Kurth & Mellard, 2006; Reeser, 1992; Sack et al., 2008). In accordance with Section 101.9 of ADA, accommodations are:

making existing facilities used by employees readily accessible to and usable by individuals with disabilities; ... acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training

materials or policies, the provision of qualified readers or interpreters, and other similar accommodations for individuals with disabilities. (Blair & Salzberg, 2007, p. 15)

From a review of the literature, Blair and Salzberg (2007) discussed cases and examined what were appropriate examination accommodations for licensure and certification of examinees with disabilities. The authors found one of the most granted accommodations is more time to complete tests. The authors clearly found gaps in the literature regarding accommodations for licensure and certification examinations. Last, in a review of the law, Ranseen and Parks (2005) did not specifically state a paradigm for their theoretical review. Despite theories on the topic and methodology from the literature review, including grounded theory and the social model of disability, no specific single theory embraced the topic of accommodations in higher education.

Why Study Accommodations?

Blair and Salzberg (2007) discussed a differential boost regarding accommodations and testing situations, which can result in threats to the validity of testing instruments. However, the authors made clear that institutes of higher education should not compromise testing integrity by not accommodating students with disabilities. Additionally, colleges must comply with ADA “while maintaining the academic rigors of their program” (Bailey, 2006, p. 60). Moreover, gaps in the literature persist regarding reasonable accommodations and continued research is required to fill those gaps (Blair & Salzberg, 2007, p. 18). Therefore, a great need exists to study issues of accommodations; the present study can help bridge the gap between the literature of law reviews and the

social science research. The present study is a first step for this type of social change to occur. National guidelines of unambiguous accommodations are warranted.

Theoretical Framework

During the course of the literature review, no major theoretical propositions or supporting research emerged for the application of any specific theory regarding the topic of this study; however, a few theories were relevant to this research study. Two distinct types of theoretical frameworks address the topic and the methodology of my study. Several theoretical constructs align with this study's methodology. The transformative framework (Mertens, 2007), inductive approach (Creswell, 2009, p. 4), grounded theory (Brown, 2007, p. 42), and social model of disability (Chen, 2007) are central to this research study.

Theories Related to Topic

Research studies in the literature did not have an explicit theoretical approach regarding higher education and accommodations for students with disabilities. The study's theoretical approaches of the medical and moral models of disabilities were inappropriate for this research study (Schwartz, 2010, p. 4). The medical model infers that problems stem from an individual's disability (Goldberg, Killeen, & O'Day, 2005). Traditionally, disability has been viewed poorly through the moral model which "regarded disability as a result of sin and shame and led to the concealment and exclusion of individuals with disabilities" (Cocks, 2008, para 5). Aligned with the social model of disability, which encourages society to remove barriers to include people with disabilities (Chen, 2007), this study used this paradigm in opposition to the medical and moral models. For example, Congress created the law to govern and protect the rights of

communities, groups, and people. Through the medical model, the law governs by way of individual characteristics (such as disability) of individuals, which puts blame and fault on the individual for having individual characteristics. The social model emphasizes the social—the society—in which the law governs.

This study reflected the transformative-emancipatory perspective (Mertens, 2003). “Cultures continually change” (Moghaddam, Walkers, & Harre, 2003, p. 114); therefore, in line with the “social or minority group model, disability is a dimension of human difference (and not a defect)” (Gill, 1999, para 10). From surveying different viewpoints, this study explored the meaning of reasonable accommodations in higher education (Schwartz, 2010).

Student-centered teaching developed from the therapeutic approach Rogers (1965) developed: *client-centered therapy*. From this approach, Rogers postulated, “we cannot teach another person directly; we can only facilitate his [or her] learning” (p. 389). However, learning is the responsibility of the student (Rogers, 1948); when a student has a disability and needs accommodations, the accommodation process is there as part of the facilitation of learning. Advocating the freedom to learn, Rogers (1969) stressed that a facilitator of learning “concentrates on providing all kinds of resources which will give his students experiential learning relevant to their needs” (p. 131); however, this is not always the case and students are not always given the resources to succeed academically.

In one study, students with learning disabilities in their first year of college (Hadley, 2007) were not satisfied with accommodations. Hadley (2007) recommended accommodations should be available for students. In another study, Dutta, Kundu, and Schiro-Geist (2009) discovered that, at times, faculties do not provide accommodations.

Additionally, Burgstahler and Moore (2009) found this lack was attributable to negative attitudes toward students with disabilities. Glasser (1969) spoke about trying to encourage teachers to change their teaching practices; however, a “reluctance to change extends not only to the practices with which the faculty agree, but even to those with which they disagree” (Glasser, 1969, p. 114). Disagreements between different groups do not make one side or another right or wrong. The disagreement only makes a difficult situation worse. Thereafter, if teachers are reluctant to change, a student still needs to learn. Hence, the need persists to self-preserve and self-accommodate (Dewey, 1997, pp. 49–50). Then the issue can become a case in which the student is not learning to learn but rather is set on autopilot or *drills* (Dewey, 1938, p. 27, 1997, pp. 51–52). Therefore, reasonable accommodations move the college student with disabilities away from automatic drills and into a higher learning process of thinking.

Rogers (1948) spoke about college personnel work, acknowledging and favoring moving away from “thinking about the student and for the student [toward] thinking with the student” (p. 542). This theory-based approach regarding how one thinks is similar to how the courts interpret ADA law. “As the Supreme Court’s interpretations are the only conclusive, non-appealable judicial determinations” (Bailey, 2006, p. 28) the lower courts must follow, maintain the same interpretation, and comply by the higher court decisions. Hence, institutions of higher education must also comply in the same regard.

Reflecting back on theory, similar to Dewey’s (1997) *How We Think* perspective, R. M. Smith and Haverkamp (1977) advocated learning to learn. They affirmed that “skills in discussion or problem solving are needed [by the student, and] the instructor

may either attempt to provide them or utilize outside help” (p. 10). Help may be in the form of reasonable accommodations.

Theories Related to Methodology

Studies that explored accommodation issues (Hadley, 2007; McKenzie, 2009) used an inductive approach to generate theoretical perspectives (Creswell, 2009). A theory central to the present study’s methodology is grounded theory. Grounded theory is typically found in qualitative studies and is the essence of the thoughts, feelings, and experiences of participants regarding the topic under study. Participants express these experiences and the researcher reports them, thereby developing theory grounded in participants’ views (Creswell, 2009, p. 229). Recent researchers have used this approach (Barnard-Brak et al., 2010; Christ, 2007; Rudestam & Newton, 2007). Christ (2007) researched accommodation concerns of support services using a recursive, exploratory, and grounded-theory approach in a mixed-methods study. The transformative framework (Mertens, 2003, 2007, 2010; Sweetman et al., 2010) is an approach to explore the human experience. This approach has a presence in the literature regarding disability issues (Boland, Daly, & Staines, 2008; Myers, 2008; Rembis, 2010). The transformative framework (Sweetman et al., 2010) helps researchers understand phenomena from the viewpoints of different groups of participants.

I used the transformative approach to explore the generalness of ADA law regarding reasonable accommodations, and develop a more specific understanding of what are reasonable accommodations in higher education for adult students. Therefore, in this research study, university personnel’s and student participants’ viewpoints had equal importance for a mutual understanding to emerge. Kurth and Mellard (2006) examined

perceptions of the accommodation process and its effects on students with disabilities in higher education. The authors cited Dunn et al. (1994) “ecology or the interaction between person and the environment, affects human behavior and performance, and that performance cannot be understood outside the context” (p. 72). The apparent theory for this study was the ecology of human performance.

The inductive approach starts with general observations that can lead to specific theories on life experiences. For example, a researcher would gather many interview transcripts (raw data). The researcher would then code and categorize the raw data. From the many different categories, the researcher would generate fewer categories that are more specific. Using artifacts, focus groups, and interview transcripts, the qualitative research study by Hadley (2007) had an inductive-analysis process. Based on Chickering’s (1969) vectors (similar to the steps in the course of human development), Hadley drew the conclusion that accommodations can help first-year students with the start of their college experience.

In one more recent research study, McKenzie (2009) mentioned no specific theory; however, clearly McKenzie used an inductive approach because the author’s observations came first to theorize about retention in Florida higher education for students with disabilities. In another recent study, Garrison-Wade and Lehmann (2009) conducted a theoretical examination of the literature to develop a conceptual framework for students with disabilities. The researchers used Bronfenbrenner’s (1986) *ecological systems theory* as the lens through which they examined the literature.

The Need for a Concrete Theory

In my review of the literature, I discovered that, at times, students with disabilities do not acquire the accommodations they need and thus seek assistance from the Office of Civil Rights (U.S. DOE, Office of Civil Rights, 2005a). Additionally, the court system, university personnel, and students had disagreements when trying to interpret and understand the meaning of the term reasonable accommodations. As noted prior, this study did not specify or use any explicit theory, similar to other published research studies. A theoretical framework regarding student-disability issues in higher education is missing from the literature (Quick, Lehmann, & Deniston, 2003).

Design Protocol

Similar to Christ's (2007) mixed-method study, I conducted an exploratory sequential mixed-method study, with the first stage having a quantitative survey, and the second stage using a qualitative approach with focus groups and interviews. Similar to Thompson's (2011) mixed-method study; I compared results from both strands. This study did not have unequal groups, which violates an assumption of parametric data (i.e. many more students than university personnel or vice versa); therefore, the counterpart, the chi-square test in comparison to the independent t test was not needed to be conducted (Field, 2005).

Comparable to the Christ and Stodden (2005) study, the quantitative portion of this study's survey instrument had Likert-type scale questions. A more thorough description of the scale and the survey appears in Chapter 3. For this study I used descriptive statistics, reporting univariate analyses of the mean and standard deviation. I coded interview and focus-group data for themes to emerge.

No research studies in the literature on the topic of this inquiry specifically used a phenomenological approach. Individual perceptions and interpretations about the human experience are subjective by nature. The law is open to many different interpretations when it is not written with specifications. By using a phenomenological approach (Lester, 1999) for the qualitative strand, thorough unbiased narratives gave the final manuscript a more accurate account of how participants perceived the law. Additionally, Lester recommended three final sections (summary, discussion, and implications) commonly found in reports, and indicated implications would indicate best practices rather than conclusions, because a conclusion stipulates “finality and surety” (1999, p. 4). Furthermore, Lester (1999) suggested to identify key themes and to use a database to compare themes for this method to be reliable and effective when analyzing the data.

The population size for the number of students with disabilities in higher education in the United States is approximately 707,000 (Raue et al., 2011); however, it will be an impossible task for one researcher to have found and request all students to partake in this research study. I drew participants for this study from colleges listed in Kravets and Wax’s (2005, 2012) guidebook of national colleges. Additionally, I wrote a letter to the editor of different state newspapers to create public awareness of the study and requested participation. I drew a convenience sample (Creswell, 2007, pp. 126–127) with a sample size estimated to be 341 (Teddlie & Tashakkori, 2009, p. 183). In comparison, conducting a *g*-power analysis with a medium effect size *d*, for a *t* test with the difference between two independent means each of the two groups (university personnel and students) required 88 participants for each group, or 176 participants in total (Buchner, Erdfelder, & Faul, 1997). Additionally, I calculated the effect size Table 2

and the *g*-power program. According to Table 2, the average number of participants in the table's studies was 90. Hence, I needed an effect size $d = .492$, $df = 178$, and critical $t = 1.65$.

Table 2

Literature Reference, Number of Participants/Cities, Design Method, and Geographical Area

Reference	# of Participants/Cities	Method	Region area
GlenMaye and Bolin (2007)	71/n/a	QUAN	Wichita, KS
Murray, Flannery, and Wren (2008)	70/1	QUAN	Midwestern US
Rush (2011)	143/3	QUAN	Northeastern US
McWaine (2011)	93/1	QUAL	South Western US
Sack et al. (2008)	107/n/a	QUAL	Directory of American Medical Schools
Burgstahler and Moore (2009)	125/11	QUAL	National
Hernandez (2011)	10/1	QUAL	Santa Cruz, CA
Brown (2007)	50/1	Mixed	SC
Kurth and Mellard (2006)	108/15	Mixed	CA, KS, and MN
Putney (2005)	125/4	Mixed	Eastern US

However, other studies had a much lower sample size. Burgstahler and Moore (2009) had 122 responses in a qualitative study. GlenMaye and Bolin (2007) had 71 responses in a quantitative study using Pearson's r correlation coefficients and t tests. Kurth and Mellard (2006) had 108 responses in a mixed-method study using descriptive statistics for the quantitative strand. Murray et al. (2008) had 70 responses in a quantitative study using descriptive statistics. Sack et al. (2008) had 107 responses in a qualitative study.

GlenMaye and Bolin (2007) conducted a recent quantitative exploratory study using a convenience sample with an online survey. The survey included yes–no and Likert-scaled questions. Participants included members of the Baccalaureate Program Director’s Association and social work educators. One focus of the study was to determine if “the total number of accommodations and the rating of effectiveness of accommodations were positively correlated, and they were with $r(66) = .35, p < .003$ ” (GlenMaye & Bolin, 2007, p. 124). The authors convincingly averred that inadequate “policies and procedures can create a context where operating on a case-by-case basis becomes an occasion for inconsistent and confusing decisions about accommodations and continuation in the program” (GlenMaye & Bolin, 2007, p. 127). One aim of the present research study was to create less confusion about accommodations; therefore, the development of public and instructional policy decision making and implementation of practice will benefit those involved in the accommodation process.

Summary

In summary, first, ADA law affects every individual in the higher educational arena. Problematic issues exist in the judicial system. For example, almost all court cases (up to 98%) regarding ADA ruled against the plaintiff (Bailey, 2006; Colker, 2010; Hill & Blanck, 2009) and the Supreme Court decided not to preside over *Toledo v. Sanchez* (2007). Additionally, research in the area of accommodations is limited by single-state and participants’ perception of what are reasonable accommodations.

Second, recent changes to the ADA law have constructed a more specific definition of the term disability. Therefore, a mixed-method research study conducted within multiple states and a diverse population of participants can aid in developing

clearer guidelines for institutions and legislation. The research questions in this mixed-method study helped in exploring definitions of the term unambiguously.

In the following chapter, I describe the methodology of this study. Chapter 3 will include the study's research design, ethical considerations, data collection, procedures, and analysis. Additionally, I discuss the method of participant selection, instrument use, and dissemination.

Chapter 3: Research Method

Introduction

Differences in understanding of the meaning of the term reasonable accommodations according to ADA law by university personnel and students has created problematic issues for all involved in the accommodation process. A sequential, transformative (Creswell et al., 2003), mixed-method research design aided in answering this study's research questions. This was a national study in which participants were university personnel (faculty and administrators) and students with disabilities from different states in the United States. The purpose of this study was to explore similarities and differences in perceptions among university personnel and students, defining the term reasonable accommodations in higher education. This chapter contains the study's research design, ethical considerations, setting and sample, data-collection and analysis techniques, instrumentation, and dissemination of findings.

This study used an Internet survey for the quantitative strand (Rush, 2011) and interviews and focus groups for the qualitative strand. The survey instrument, Students with Disabilities at Degree-Granting Postsecondary Institutions (Raue et al., 2011) was modified slightly to include items not presented in the instrument but presented in the literature. To analyze the data from the survey, I used SPSS and ATLAS.ti (Scientific Software, 2009) for the data from the interviews and focus groups.

Methodology of the Study: Quantitative and Qualitative Data

Quantitative studies in the area of higher education for students with disabilities and accommodation issues have been more plentiful since the enactment of ADA law (GlenMaye & Bolin, 2007; McWaine, 2011; Reinschmiedt, Sprong, Dallas, Buono, &

Upton, 2013). Fewer qualitative studies exist (Barnard-Brak et al., 2010; Blair & Salzberg, 2007; Garrison-Wade & Lehmann, 2009; Marshak, Van Wieren, Ferrell, Swiss, & Dugan, 2010). Garrison-Wade and Lehmann (2009) examined other published research studies regarding transitional students and what accommodations they needed to progress to and complete higher education. In their qualitative study, students were in focus groups and disability service coordinators participated in interviews (Garrison-Wade & Lehmann, 2009). The authors created the Garrison-Wade/Lehmann framework illustrating differences in the needs of students while in high school and in college (Garrison-Wade & Lehmann, 2009). In college, the figure illustrated students' needs as access, accommodations, and instructors' awareness, sensitivity, and financial aid opportunities (Garrison-Wade & Lehmann, 2009). The model also showed that continuous communication between all participating in the higher educational process was a factor in postsecondary educational success (Garrison-Wade & Lehmann, 2009). A mixed-methodology for the present research study helped enhance current knowledge about the perspectives of reasonable accommodations in higher education.

Methodological Rationale

Johnson, Onwuegbuzie, and Turner (2007) examined many leaders' definitions of mixed methodology and concluded from their findings that it "combines elements of qualitative and quantitative research approaches ... for the broad purposes of breadth and depth of understanding" (p. 123). However, as the authors pointed out, the actual mixing can occur in any stage of the research process (Johnson, Onwuegbuzie, & Turner, 2007). The combining of qualitative and quantitative research should be part of the methodology and incorporated throughout the research process (Teddlie & Tashakkori, 2003). My

study utilized the mixing process within each strand. For example, in the first strand, the survey additionally asked for comments, which is a part of a qualitative approach.

In different mixed-method designs (Creswell et al., 2003), the mixing starts at the very beginning of the study with the research questions (Tashakkori & Creswell, 2007) following through to the stage of inferences (Erzberger & Kelle, 2003; Miller, 2003). Depending on the types of research questions asked (Tashakkori & Creswell, 2007); a study can use qualitative and quantitative approaches to draw sound and reliable conclusions. In this research study, I explored various perspectives of different groups (university personnel and students with disabilities); a transformative framework (Sweetman et al., 2010) which advocates for students with disabilities as well as university personnel viewpoints was warranted. ADA law protects students with disabilities from discrimination; the law (Blanck, 1998; Reeser, 1992; Tuch, 1999, para 1) also holds university personnel responsible not to discriminate against this population. For university personnel not to discriminate, they must acknowledge and understand the law. It is from this study's investigation that the law can transform meaningfully, helping those involved in the accommodation process to comprehend the law. From this approach, views were held with equal regard about the construct under study. Also, joining knowledge emerged. In a sequential (Creswell, 2009) and exploratory design (University of Southern California, 2012, para 8) the interpretation process followed the data analysis. The interpretation process then built principles, ideas, and themes.

The rationale is that this study needed the quantitative results to gain knowledge about which accommodations are considered reasonable to be applied to the qualitative part of the study. The findings of the survey from this study, which needed to be further

explored with a qualitative approach to attain more of the voice of participants who took part in the study. Creswell et al. (2003) pointed out that numerical data could be merged with qualitative software (p. 232). Therefore, I coded the results of the focus groups and interviews to be able to compare and contrast responses with the quantitative survey results.

Each of these processes gave this study a deeper and richer understanding of how to define reasonable accommodations. Other designs are not as flexible as the sequential transformative design (Creswell et al., 2003). A sequential method is more time consuming than a simultaneous design. A concurrent design (Creswell et al., 2003), is more appropriate for a team approach. It is possible that data cannot be collected as accurately and effectively for both parts of the study at the same time, thereby leaving room for errors in collecting, analyzing, and interpreting the data as each process occurs. Additionally, Collins, Onwuegbuzie, and Sutton (2006) advocated purposes for conducting mixed-methods research: instrument fidelity and significance enhancement are two rationales for conducting this mixed-method study.

Moreover, Mertens (2007) suggested to aid in exploring society's needs, researchers can utilize a mixed method approach. The author acknowledged that this type of "design provide[s] strategies [from data collection to interpretation] for accurately portraying the experiences of people with low-incidence disabilities" (Mertens, 2007, p. 222). To meet the needs of diverse populations, social change needs to occur. Walden University (n.d.) defined social change as a deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals and communities (para 1). Thus, social change can occur, in part, through the

credibility of the study by yielding valid results from the different strands of methodology. Furthermore, social change can occur in diverse social arenas by employing mixed method research (Mertens, 2007).

Therefore, for this study, it was necessary to examine, compare, and contrast the perspectives of university personnel (Murray et al., 2009) with students' viewpoints (Kurth & Mellard, 2006). Additionally, this study investigated what reasonable accommodations were offered to students (Kravets & Wax, 2005; Stodden et al., 2006) and used by students. The typology of purposes of Newman, Ridenour, Newman, and DeMarco (2003) starts with prediction with the subcategory of building general law. Laws need to change with the times and needs of the people the laws were created to protect. Building on ADA law is the very essence of this study. In the third typology of purpose, this study had a personal, social, institutional, or organizational impact. Social represents the people, institutions represent the universities, and organizational represents the government that builds and creates the laws. Of the dozen subcategories of the Newman et al. (2003) typology, promoting change was the driving purpose for this study.

Research Design and Approach

The design of the study is a mixed method because the research questions derived from the problematic issues regarding accommodations in higher education required quantitative and qualitative data collection. I developed the first set of questions to help answer the question: What constitutes a reasonable accommodation? Thus, the following are quantitative research questions and hypotheses were for this study:

1. What is the difference of the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students?

H_01 : There is no difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

H_a1 : There is a significant difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

2. What is the difference in perception of the term reasonable accommodations according to university personnel and students with disabilities in higher education?

H_02 : There is no difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

H_a2 : There is a significant difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

3. What are the similarities between these groups' perceptions of the term reasonable accommodations?

H_03 : There are no similarities between these groups' perceptions of the term reasonable accommodations.

H_a3 : There are similarities between these groups' perceptions of the term reasonable accommodations.

The following research questions were for the qualitative strand of this study.

4. What are notable definitions for the term reasonable accommodations as referenced in ADA law according to institutions and students?
5. What are students' beliefs and feelings about the accommodation process?
6. How do accommodations affect students personally, academically, and professionally?
7. What are university personnel's beliefs and feelings about the accommodation process?
8. How do accommodations affect university personnel?

Accommodations are tangible items, such as calculators or dictionaries for examinations; alternative formats for textbook, adaptive equipment, and technology (Raue et al., 2011). Participants rated the items from a list (see Appendix A). This study had a sequential transformative (Creswell et al., 2003) design because the steps conducted moved in sequence, not concurrently, and the transformative framework (Sweetman et al., 2010) gave equal weight to the views of all participants.

The sequence in which the data were collected (quantitative first, then qualitative data) is important because the results that were statistically significant in the quantitative strand were explored in greater depth in the qualitative strand. The quantitative results helped in developing specific interview and focus-group questions. I used a survey design for the quantitative strand that included closed and one open-ended question (Creswell, 2009) delineated as "other," so participants could include other items not found on the survey. Other researchers used a survey method successfully in querying accommodation issues in higher education (McWaine, 2011).

From the results of quantitative strand, I formulated specific interview and focus group questions for the qualitative strand. To validate and acquire specific responses, results from the focus groups helped me generate semistructured interview questions (Barnard-Brak et al., 2010). The process of triangulation (Cook et al., 2009), by checking the survey responses through interviews and focus groups, asked participants to clarify responses; through this process, participants appropriately addressed the research questions, ensuring the data collected were validated (Brown, 2007). Additionally, mixing quantitative and qualitative data for the research allowed me to gain a deeper understanding of this area of interest (Putney, 2005).

Role of the Researcher

For this study, I obtained participants, administered surveys, and conducted interviews and focus groups. After collecting the data, I coded and analyzed the data using SPSS for the quantitative strand and ATLAS.ti for the qualitative strand. Additionally, I communicated with participants for the process of member checking, to provide them with research results, and debriefing.

Context of the Study

I obtained participants from various colleges in various geographical locations in the United States. I conducted this process through letters to the editors of national newspapers (see Appendix B), and letters to disability service centers listed in K&W Guide to Colleges for Students with Learning Disabilities or Attention Deficit Disorder (see Appendix C). I also used the Walden University Participation Pool to obtain participants. Additionally, the Hanover College Psychology Department (Krantz, n.d.), which sponsors Psychological Research on the Net was supposed to be contacted, but

was not due to an oversight by the researcher. Additionally, SurveyMonkey has the option to target the desired audience, and I created a Facebook page (see Appendix D) and a YouTube message to inform viewers about this research study. I verified potential participants by asking for their school e-mail address. The reason for obtaining participants from different college locations and universities and different source material is that ADA of 1990 pertains to all individuals with disabilities. Obtaining data from throughout the United States allowed triangulation (LeCompte & Schensul, 1999a, 1999b).

Participants represented all four census areas of the country. Table 3 presents the information about the participants' geographical location for their residence and university location. The largest number of participants ($n = 32$) lived in NY with GA following ($n = 27$). The variable university location had the most participants from MN ($n = 34$) and NY ($n = 30$). However, only 37 states were represented in the study; the 13 omitted were Alaska, Delaware, Hawaii, Idaho, Indiana, New Mexico, North Dakota, Oregon, South Dakota, Tennessee, Utah, Vermont, and Virginia.

Table 3

Participants' Geographical Location of Residency and University by Census Area (N = 188)

Area	Frequency	Percentage
Northeast region	55	29.2
Midwest region	32	17.0
South region	67	35.6
West region	34	18.0

Note. The frequency and percentages were exactly the same for residence and university location. Additionally, not all participants answered the geographical-location questions.

Furthermore, participants completed surveys, and participated in interviews and focus groups through the Internet. The survey method of research has an online presence (Bruder & Mogro-Wilson, 2010; Cook et al., 2009; GlenMaye & Bolin, 2007) for the topic of this study. However, research using online interviews is not as plentiful (Carr, 2010). Additionally, online focus groups are not present in previous research. In contrast, Creswell (2007) suggested the use of Internet focus groups (p. 129). Using the Internet as a research tool helped reach a wider range of students with disabilities and university personnel, filling one of the gaps in the literature. Moreover, the Internet makes a considerable contribution to synchronous focus groups. Collecting qualitative data online can be more accessible and convenient for participants (Stewart & Williams, 2005) as it allows for participation by individuals who might not be able to participate in the research study by any other method.

Ethical Considerations and Procedures

One issue which I needed to consider for participants was data integrity and confidentiality (Walden University, 2010, p. 4). To ensure data integrity and maintain the confidentiality of participants, I numerically coded the data that was collected through e-mails and chat logs from interviews and focus groups, then stored them on a laptop computer with password and fingerprint protection. Any data transfer (i.e., from one computer to another) was through password-protected e-mail. Additionally, the data will be kept for a period of at least 5 years, as required by the university, and then destroy them.

Protection of Human Participants

Two major ethical goals for this study were to adhere to the American Psychological Association's (2010) ethical standards 3.10 informed consent and 3.04 avoiding harm. The dilemma that informed consent brings to researchers is that no specific standards exist for when to limit information, how to decide what to include or not to include, and how best to present the information in the informed-consent process (Barnett, 2008, p. 333). However, Creswell (2009) suggested that the identification of the researcher, sponsoring institution, purpose of the research, level and type of participant involvement, risks and benefits to participants, guarantee of confidentiality, and the ability to withdraw at any time from the study should be included in the informed consent.

Legal issues are greatly intertwined with ethical issues. For example, the role of Institutional Review Boards (IRBs) is to oversee that the rights and welfare of research participants are protected (Teddlie & Tashakkori, 2009). Additionally, the IRB is legally required to ensure certain standards are met such as justification of risks, willingness of participants, and protection of participants' privacy (Walden University, 2009, p. 120). This research was approved by Walden's IRB (# 03-27-13-0015116) before collecting any data. See Appendix E for a certification of completion from the National Institutes of Health Office of Extramural Research on "Protecting Human Research Participants."

Setting and Sample

I collected the quantitative data through SurveyMonkey. SurveyMonkey has over 10 years' experience in collecting survey data. I collected the qualitative data through e-FocusGroups, who has over 25 years of experience in market research and over 10

years online. Participants were university personnel who are involved in the accommodation process and students with disabilities in higher education in the United States.

Participant Sample

Most researchers require participants to meet certain criteria. For the present study, the criteria for participation and units of analysis (Teddlie & Tashakkori, 2009, p. 169) were college and university students with disabilities who were at least 18 years old, and university personnel in higher education throughout the United States. I targeted no other demographics for participants, because a diverse and heterogeneous sample was the best fit for this study. For example, in the Hernandez (2011) research study, participants had to be at least 20 years of age and have a learning disability with no cognitive delays but with a processing disorder. I collected the demographics of race, gender, ethnicity, and economic status to describe the sample. At the start of the study, participants completed the first portion, a survey (see Appendix F) that collected additional demographic information including educational level and the state in which the participant lived. I asked, Are you a student with a disability or university personnel? This question determined if participants met the requirements of the research study and if these characteristics were factors that contributed to the effects of the outcome variable. For this study, participants were students with a disability or a faculty member or administrator in higher education. The setting in which the study took place was the Internet. A total of 93 completed surveys accrued from university personnel and a total of 98 completed surveys for students with disabilities for a total of 191 completed surveys. However, 102 surveys were missing an abundance of item-level data. Therefore, I used

the likewise-deletion method rather than pairwise deletion (as suggested by Rogelberg, 2004, pp. 312–313). Previous researchers have conducted Internet studies on higher education and disabilities (Bruder & Mogro-Wilson, 2010; Cook et al., 2009; GlenMaye & Bolin, 2007).

Data Collection and Analysis

The first strand of quantitative data used the website SurveyMonkey. Because this study had two dependent variables or outcome variables (university personnel perception, and student perception), I conducted *t* tests (Field, 2005, p. 734) and chi-square (Tabachnick & Fidell, 2001, p. 55) on the quantitative data first. In the second strand, I collected the qualitative data through the website e-FocusGroups. I entered the transcripts, and coded and interpreted the data using ATLAS.ti software. Additionally, to protect the privacy and confidentiality of the participants, I de-identified raw data such as e-mail addresses (Thompson, 2011, p. 42) during the data entry phase.

Procedures

Selection of Participants

Quantitative research. For this study, I used a purposive-sampling technique (Teddlie & Yu, 2007) which aided in having a manageable sample size (Kemper, Stringfield, & Teddlie, 2003, p. 279) in order to obtain specific information from a specific population. Additionally, I considered the participants to be a convenience sample (Creswell, 2007, pp. 126–127; Kemper et al., 2003) because participants were those who were most accessible to participate in the study. The following were the sampling procedures for the quantitative strand: obtain access to Walden University's participant pool, send letters to disability-support service centers acquiring contact

information from *Guide to Colleges for Students with Learning Disabilities or Attention Deficit Disorder*. I requested individuals to voluntarily post a flyer in service centers to inform students and university personnel of this study. It was not a request for the school to be the primary focus for obtaining participants, such as in the studies of Brown (2007), Hernandez (2011), and McWaine (2011).

Additionally, I sent letters to the editors of the top 100 national newspapers, and student newspapers to inform them of my research study, and requested participation from readers. I used other media to gain access to participants through YouTube, Facebook, and SurveyMonkey. I believed that by having several ways of obtaining participants for this study, enough participants would come forth to satisfy the sample size needed.

The population of students with disabilities in higher education in the United States is approximately 707,000 (Raue et al., 2011). Teddlie and Tashakkori (2009) stated for a population of 3,000 (or more), the sample should be 341 (p. 183). The rationale for the sample size was to have a medium effect size (.80), an alpha (.05), and power (.80). A *g*-power analysis, with a medium effect size *d*, for a *t* test with a difference between two independent means of each of the two groups (university personnel and students) required 88 participants for each group, for 176 participants in total (Buchner et al., 1997). In contrast, recent studies conducted on the topic of the study had much greater sample sizes. Therefore, the average number of participants used in previous research helped determine the number of participants required for my study (see Table 4). Additionally, the effect size was calculated using Table 4 and the *g*-power program. According to

Table 4, the average number of participants in studies was 90. Hence, an effect size d of .492, and $df = 178$, and critical $t = 1.65$.

Table 4

Research Questions, Participants, Data Collection Method, Sample Size

Research question	Participants	Data collection	Sample size
1. What is the difference of the distribution of specific accommodations offered by university personnel and the utilization of specific accommodations by students?	University personnel and students	Survey	88 per group = 176 total participants
2. What is the difference in perception of the term reasonable accommodations according to university personnel and students with disabilities in higher education?	University personnel and students	Survey	88 per group = 176 total participants
3. What are the similarities between these groups' perception of the term reasonable accommodations?	University personnel and students	Survey	88 per group = 176 total participants
4. What are notable definitions for the term reasonable accommodations as referred to in ADA law according to institutions and students?	University personnel and students	Focus groups	9 per group = 18 participants
5. What are the students' beliefs and feelings about the accommodation process?	Students	Interviews	9 per group
6. How do accommodations affect the students personally, academically, and professionally?	Students	Interviews	9 per group
7. What are the university personnel's beliefs and feelings about the accommodation process?	University Personnel	Interviews	9 per group
8. How do accommodations affect the university personnel	University Personnel	Interviews	9 per group

In this study participants were over the age of 18. Additionally, students with disabilities were either enrolled part-time or full-time in higher education classes and university personnel were from higher educational institutes. For all participants there were requirements of specific disability, gender, race, ethnicity, or economic status for the study. I contacted potential participants through their school e-mail to ensure their

involvement in higher education. I assigned participants a number to protect their privacy and sent them back the link to the online survey.

Qualitative research. In this mixed-method study, the quantitative strand had 88 participants per group for a total of 176. Comparing my study's sample estimate to prior studies for the number of participants in mixed method and qualitative studies, I found the following: Bailey (2006) conducted a qualitative study with five participants; Brown (2007) conducted a mixed-method study with 50 participants and 13 in the qualitative strand. Harbour (2008) used mixed methods with 31 participants; the qualitative strand had eight participants. Last, Hernandez's (2011) qualitative study had 10 participants. Therefore, the expected qualitative sample size of nine per group was applicable. For each group (university personnel and students) I employed purposive sampling (Silverman, 2010, pp. 141-143). Additionally, I used the sampling approach to aid in determining the sample size, keeping in mind that through qualitative data gathering, I aimed to acquire a richer investigation of participants when compared to quantitative data gathering to enhance generalizability (as suggested by Creswell, 2007, pp. 125–129). I hoped to acquire 176 participants in total for the quantitative strand to fulfill this intent. After participants completed the survey, I requested they take part in a focus groups or interviews. I included this request in the consent form for participants' knowledge.

I chose the nine participants in each focus group on a first-come basis. I needed 18 participants for focus groups, nine participants who were university personnel and nine students. Additionally, I needed 18 participants for interviews, nine participants who were university personnel and nine who were students. If they chose to participate in a focus group or in the interview portion of the study, I requested they click on a

permission button at the end of the survey that acknowledged their interest in the remaining part of the research study. I provided no compensation for participating in the survey portion of my research study; however, participants who took part in the focus groups/interviews received a \$20 Starbucks or Amazon.com gift card (participant's choice). To address potential issues of attrition, the \$20 gift card was an incentive (Warner, Glasgow, et. al., 2013) to help prevent participants dropping out. Additionally, some participants choose not to answer certain questions on the questionnaire. In this instance, I coded the missing data as missing values in SPSS (as recommended by Field, 2005, p. 53). Each sample stage was important to this study, providing more information about participants.

Instrumentation and Materials

The survey data collection tool I used to collect quantitative data for this study was called *Students With Disabilities at Degree-Granting Postsecondary Institutions* (Raue et al., 2011). The survey was two questions with thirty-five items for each question. Hence, there were 70 survey questions in all. The survey's response scale was Likert-type scale and yes-no questions. The data collection tool was used to collect data for the academic school year 2009–2010 with 1,417 responding institutions and included questions about institutional practices and accessibility. I modified this survey slightly to include other items not presented in the original survey questions but presented in the literature. The concept measured by this instrument was perceptions of what is considered reasonable accommodations in higher education.

Regarding the questionnaire's validity, the instrument was appropriate for this study because it measured the construct that was supposed to be measured. Project

Officer Coopersmith of NCES stated the survey was “developed through interviews and pretesting. ... We further revised the questions based on the pretest. Input from content experts and the federal Office of Management and Budget is also incorporated into the questionnaires” (personal communication, November 1, 2011). A multi-item measure would have been unsuitable because no other relevant questions needed to be addressed in the survey. Additionally, this multimeasure was not adequate for “constructs that are unstable and that tend to be influenced by changing environmental conditions (e.g., attitudes or mood states) are not well suited for test–retest assessments of reliability” (Jordan & Turner, 2008, p. 244) because perception, the construct in my study being measured, changes over time. The single item instrument had good internal consistency because the construct that was studied is narrow in scope with the items being questioned differently twice (Likert-type scale and yes–no questions) and tested with two different methods (*t* test and chi-square). The single item survey increased face validity by reducing repetition of questions, and had sound methodology (aligned with Jordan & Turner, 2008). Furthermore, this method took less time to complete than a multimeasure instrument, thereby yielding higher response rates for surveys and lowering costs of research projects. Last, the developer, NCES, gave permission to use the survey, which is in the public domain (see Appendix G).

The results of Raue et al. (2011) that relate to the topic of this paper were that most colleges provided extra time for examinations (93%), note takers (77%), study-skills help (72), and faculty-provided course notes (72%). The least provided accommodations were independent-living-skills training (4%), personal attendants (7%), and disability benefits counseling (11%).

The process needed to complete the survey by participants to answer questions on a Likert scale takes less than 20 minutes for the 13 questions. I inputted the scores, *t* tests, and chi-square into SPSS to compare the scores between groups. Additionally, I presented descriptive statistics such as the mean and standard deviation in a table (see Appendix H).

The survey instrument was from NCES Question 7 (Raue et al., 2011, p. C-5). The item had a list of 25 services or accommodations (see Table 1) with yes and no responses possible; thus, the data gathered from the survey were ordinal (Gravetter & Wallnau, 2007, p. 23). I modified the question from the published instrument slightly for the proposed research to aid in answering the research questions and to gain a deeper understanding of participants' viewpoints regarding the construct.

Modification of the question included having students answer the survey, adding an additional 11 items, totaling 36 items, and rephrasing the question to require a response with a 5-point Likert-type rating-scale answer. The scale attributes for university personnel follow: 1 = not offered; 2 = offered less than 25% of the time; 3 = offered 26–50% of the time; 4 = offered 51–75% of the time; 5 = offered more than 75% of the time. The scale attributes for students with disabilities are, 1 = not used; 2 = used less than 25% of the time; 3 = used 26–50% of the time; 4 = used 51–75% of the time; 5 = used more than 75% of the time.” This last modification was to get a richer understanding of participants' views in order to answer the research questions when examining and interpreting the data. The 35 accommodation items included interpreters, readers, note takers, transportation, and advocacy.

Data-Collection Techniques

I asked participants to take part in the survey on the SurveyMonkey website. An online research Gmail or Yahoo e-mail account was proposed for possible participants to inquire and ask questions about the research study; however, I used my Walden e-mail address instead because the research study is a requirement of my Ph.D. program at Walden University and I thought it would be more appropriate and secure for participants. I asked participants who took part in and completed the survey to participate in focus groups or interviews. I conducted focus groups and interviews through the Internet in an online chat room, e-FocusGroups, which permits interactions between the researcher and participants. In comparison to traditional methods, this Internet approach helped me transcribe data effectively. It was unnecessary to audio record the focus groups and interviews; the process of data collection itself created the transcript.

Johnson and Turner (2003) discussed several strategies for collecting data using mixed-methods research. The authors expressed and discussed the various weaknesses and strengths of these strategies. The strategies employed for this study were the survey, interviews, and focus groups. The survey included closed and one open-ended questions (see Table 5 for example questions). The results from these data helped form focus-group questions. There were two focus groups, one for university personnel, and one for students. Results from these groups helped generate interview questions (see Table 5 for example questions). The semi structured interviews (Barnard-Brak et al., 2010, p. 415; S. L. Schensul, Schensul, & LeCompte, 1999, p. 149) allowed me flexibility compared to a structured interview, in order to effectively answer the research questions. Because

individual participants can elaborate on an explanation, I was able to gain greater understanding.

Table 5

Semi Structured Survey/Focus Group/Interview Questions, Data Collection and Analysis

Questions

	Participants	Data collection	Data analysis
As a university employee, how often did you offer the following accommodations to students? AND As a student, how often did you use the following accommodations?	University personnel and students	Survey	Computer Software Excel/SPSS
Do you consider the following accommodations to be reasonable accommodations?	University personnel and students	Survey	Computer Software Excel/SPSS
What experience do you have with accommodations?	University personnel and students will be given this same interview/focus group question. Two separate focus groups will be conducted for university personnel and students.	Focus group/ Interviews	Computer software ATLAS.ti
What do you consider as reasonable accommodations?	Faculty and students will be given this same interview /focus group question. Two separate focus groups will be conducted for university personnel and students.	Interviews/ focus group	Computer software ATLAS.ti
Do you think you are receiving reasonable accommodations? Why or why not?	Students	Interviews	Computer software ATLAS.ti
Do you think you are providing reasonable accommodations? Why or why not?	University personnel	Interviews	Computer software ATLAS.ti

Data-Analysis Techniques

The type of sequential mixed analysis for the collected data was a sequential quantitative–qualitative analysis (as suggested by Onwuegbuzie & Teddlie, 2003, p. 367). Specifically, this type of analysis is the qualitative follow-up interaction analysis. The authors suggested that this is how “condition-seeking methods would generate a progression of research questions ... [which] would provide increasingly accurate and generalizable conclusions” (p. 369). As illustrated in the Teddlie and Tashakkori (2009) study, this design was similar to the inclusion of data sets from the compared and contrasted quantitative analysis of the responses of the two groups.

Prior to statistical data analysis of the survey data, I screened the data for outliers and missing data and created dummy variables (Tabachnick & Fidell, 2001, p. 65). I handled missing data by coding the data values that had missing responses. I coded questions that were unanswered in the survey and that were not completed with a missing value of 999 for numeric values (SPSS Inc., 2007, p. 46) and “NR” for missing categorical data (SPSS Inc., 2007, p. 48). However, when participants did not indicate whether they are students or university personnel, I did not include their surveys in the results of the study. Additionally, I discuss the justification for any changes to data in Chapter 4 (Tabachnick & Fidell, 2001, p. 71).

Subsequently, I conducted descriptive statistics. Moreover, I coded noncontinuous value responses, such as categorical values. For example, yes = 1 and no = 2; if there was no response, the missing value was 999. As expressed in Chapter 2, for this study, I performed phenomenological analysis (aligned with Birkbeck University of London, 2011) for the qualitative data (Teddlie & Tashakkori, 2009, pp. 254–255).

Descriptive Statistics, Parametric, and Nonparametric Testing

Demographic data such as level of education can be ranked (Field, 2013, p. 9); education level is ordinal data. In contrast, data such as the state in which a participant resides or in which their college is located is categorical data but cannot be ranked. Survey responses from the Likert-type scale measuring the amount of accommodations offered or used by participants are numeric and can be ranked as interval data; however, responses on the survey that required a yes–no answer are categorical and cannot be ranked; this is nominal data (Kendrick, 2005). Hence, I needed to employ different statistical tests.

Parametric tests need to meet four basic assumptions. They are normally distributed data, homogeneous, interval data at minimum, and independent (Field, 2005, p. 64). The Likert-type scale data met these assumptions. Therefore, I conducted the independent t test and reported statistically significant results. I used Cohen's d to measure effect size; because this study had no more than two samples, I did not choose an ANOVA test (Gravetter & Wallnau, 2007).

The responses of yes–no violate the third assumption of chi-square; hence, I conducted nonparametric testing such as chi-square for independence; yet the responses did not violate the assumptions of chi-square, such as having a repeated-measure design (Field, 2005, p. 686). This study's research questions and hypotheses aligned with Gravetter and Wallnau's (2007) examples of chi-square for independence, as they stated no preference and no difference from a known population exists for goodness of fit in the null hypothesis. Chi-square for independence states that the null has no relationship whereas the alternative does have a relationship; the three quantitative research questions

reflect this relationship. In addition, the authors showed that if researchers use two samples (university personnel and students with disabilities), they should conduct the chi-square for independence, whereas researchers use goodness of fit for one sample (Gravetter & Wallnau, 2007, p. 746).

Data Mixing

Onwuegbuzie and Teddlie (2003) discussed using a model for a mixed-methods data-analysis process, with seven stages of mixed-methods data analysis: reduction, display, transformation, correlation, consolidation, comparison, and integration (pp. 373–378). In the reduction stage, researchers modify data using measures of central tendency, writing summaries, coding, and making clusters of themes. To display the data in a simplistic form, researchers use tables for the final report. After analyzing the sets of data, it was appropriate to consolidate the data. The researchers compare and contrast data, thereby completing Stage 6, data comparison. Last, researchers integrate data by using computerized data-analysis software. Researchers first analyze quantitative data, then code qualitative data.

Coding qualitative data has no exact science; data are coded using subjective judgment (Sipe & Ghiso, 2004, pp. 482–483, as cited in Saldana, 2009, p. 7). Coding can include linking, theming, categorizing, and asserting. Precoding data can be helpful, using analytical memoranda because, while reviewing the data, themes can emerge. Prior to utilizing *Computer Assisted Qualitative Data Analysis Software* [CAQDAS] the data was to be printed out and doubled spaced in *stanzas* (Saldana, 2009, p. 16). While manually precoding transcripts, rationality is important in the use of *phenomenological interpretations* (aligned with Saldana, 2009, p. 47). I highlighted and boldfaced

quotations and passages that seemed important. I used *jotting* (Saldana, 2009, p. 17) as a precoding technique. I first *lumped* the data to get a general idea and to categorize the data, then *split* the data to acquire more precise concepts (Saldana, 2009, p. 20).

Auerbach and Silverstein (2003, as cited in Saldana, 2009, p. 15) suggested coding relevant text, but as a novice, recommended coding everything, specifying what is not relevant or is trivial as not applicable.

In agreement with Saldana (2009), to acquire a higher level of understanding from coding the data, researchers need manual coding prior to computerized coding. First, while precoding, the researcher develops a hard copy codebook. After each interview and focus group, I coded data manually, then compiled the data and entered them into Atlas.ti. I did not use the autocoding feature in Atlas.ti because the program itself does not have judgment capabilities (Saldana, 2009, p. 26); however, I used the search function to group and link concepts where a naked eye might miss important concepts. I maintained member checking and a reflective journal throughout the transcription process to ensure trustworthiness (Saldana, 2009, p. 28) and reflection. Additionally, I kept analytic memoranda to recall the how, what, and why data had been transcribed, coded, and analyzed. I wrote any thoughts pertaining to the process itself, such as frustrations, and the future direction of the study in the journal (Saldana, 2009, pp. 33–38).

Saldana (2009) offered 29 first-cycle methods to code qualitative data. I conducted provisional coding (Saldana, 2009, p. 120) using information from the literature review (see Table 1). I created a list of 36 accommodations (codes); however, these were not permanent; I used them as a baseline or preliminary codebook. For all the qualitative research questions, I employed the first cycle of coding—initial coding and

descriptive coding—as recommended for new researchers. Descriptive coding (Saldana, 2009, p. 70) helps researchers organize and categorize data. Initial coding is a line-by-line analysis to compare similarities and differences in the transcripts. In addition, evaluation coding (Saldana, 2009, p. 97) helps narrow what the groups and individuals considered reasonable accommodations.

For Research Questions 6 to 8, I coded the beliefs, feelings, and what affects participants using emotion coding (Saldana, 2009, p. 86). I am a licensed social worker in New York State and trained in individual case reviews, assessments, and group dynamics. My training aided in the development of subsequent interview, focus-group, and member-checking questions. Lastly, the training helped provide the clinical experience necessary to form categories and themes with emotion coding.

If themes and categories were not made clear, and if required, I would have conducted a second cycle of coding. Pattern coding or focused coding can be effective methods in this final stage of coding. In contrast, if themes emerged from the first cycle that are worthy to be in the final manuscript, representing participants' views, then a second cycle of coding is unnecessary.

The rationale for having individual interviews and focus groups is if someone is part of a group they might answer the same question differently from how they would answer in an individual interview. This phenomenon itself also must be explored.

I used the following plan and steps to analyze the quantitative data:

1. I entered the survey data into Microsoft Excel to create a code in spreadsheets to de-identify participants, and to create charts and tables.
2. I then transported the spreadsheets into SPSS.

3. I conducted statistical analyses using SPSS software for the collected quantitative data.

The plan and steps to analyze the qualitative data follow:

1. I entered the transcripts from the interviews and focus groups into Microsoft Word to review as a single document.
2. I reviewed the Word document, edited it, and pre-coded.
3. I then entered all Word documents into Atlas.ti computer software (Scientific Software, 2009).
4. In Atlas.ti, I coded the qualitative data.
5. Finally, I exported data from ATLAS.ti to SPSS among other programs (Creswell, 2007) to compare and contrast the qualitative and quantitative data.

Verification of data quality–authenticity. Internal validity means discerning the degree of trustworthiness of the conclusions and recognizing how close those conclusions are to participants' actual experiences (Anfara, Brown, & Mangione, 2002). Teddlie and Tashakkori (2009), and Shadish, Cook, and Campbell (2002) outlined threats to internal validity which include ambiguous temporal precedence, selection, history, regression, maturation, testing, instrumentation, implementation, and attrition–mortality. Teddlie and Tashakkori (2009) suggested guidelines when collecting and analyzing data to help ensure quality:

- Keep the research purposes and questions in the foreground of all analyses and interpretations.

- State each research question separately and examine all the results that relate to the question.
- Make tentative interpretations.
- Examine the interpretations, compare, contrast, and combine them to find differences (pp. 291–292).

For this study, I used triangulation techniques, an audit trail (i.e., a recorded log of procedures used during research study), and member checking (Anfara et al., 2002, Nastasi & Schensul, 2005). These procedures aided in assuring data quality.

I needed to draw valid conclusions from the analyzed data to make inferences about the population under study (Anfara et al., 2002, p. 33). Miller (2003) suggested that, at times, researchers use the term inferences loosely. Teddlie and Tashakkori (2003) compared inference quality “to a process that encompasses both internal validity and credibility” (p. 38). Potential threats to inference quality are

- (a) confusion between the quality of data/observations and the quality of inferences that are made on the basis of the analysis of such data,
 - (b) controversies regarding standards for evaluating design quality and interpretive vigor, and (c) standards for evaluating the quality of inferences.
- (Teddlie & Tashakkori, 2003, pp. 38–39)

Creswell (2009) and Anfara et al. (2002) suggested several ways to check the accuracy of findings including participants’ perspectives. Some strategies employed in this study were triangulation, member checking, thick description, and clarification of researcher bias to gain reliable information from participants.

Dissemination of Findings

Dissemination is not exclusive for the conclusions of a study. Additionally, dissemination should begin at the start of the study, informing communities, stakeholders, and those who can be affected by conducting the study. For example, this study was focused on federal ADA law. Consequently, policymakers are one potential audience. Because I sat on a committee that advocates for people with disabilities, I informed committee members of my dissertation progress. Additionally, this study's aim was to gather perceptions from students and university personnel regarding what the term reasonable accommodations means to them. Thus, those two groups were also a targeted audience and I informed them of the results upon the completion of the study.

Participants needed to be fully aware of accommodations issues, as these issues pertain to the current law. This study pertained to the law and the participants' role as they reflected back on the law and how the law affects them personally. Schensul et al. (1999) stated that "policy-relevant research is an interaction between ... problem definition, hook, sources of support, and target audience" (p. 64). I put the results of this study into a report that is in a meaningful language that participants can understand.

I hope the findings will be published in a peer-reviewed journal on educational law. A synopsis of the findings from this study can be written and published in reputable magazines with broader audiences. Moreover, a summarized version, defining the problematic issue of reasonable accommodations and including tables with percentages and "tableaux and/or graphic accounts of experiences" (Sandelowski, 2003, p. 337) could be published in popular newspapers such as the *Chicago Sun Times* or in the education section of the Sunday *New York Times*. However, regardless of where and how I present

the article, it will offer information that will be presented in a format that is easily understood by various stakeholders (as suggested by Sandelowski, 2003, p. 345). For example, the study's findings can be rewritten in a manner appropriate for conferences in social work, education, and law reviews.

Disseminating the findings to high schools can help provide information needed for transitioning students, their parents, and guidance counselors. Providing needed information to high schools in a meaningful presentation can help block some gaps in services and the unknown aspects of the law. Last, the methodological and theoretical framework that helped develop the idea of this study is imperative for stakeholders to comprehend for participants' experiences (Shulha & Wilson, 2003, p. 666) and accommodation issues to be meaningfully understood. In agreement with Rocco et al. (2003) the focus of research reports should not be about the methods and procedures as much as it should be about the "larger philosophical and political-level decisions" (p. 612) with which society needs to concern itself.

Summary

In conclusion, the design of this mixed-methods study was derived from the problem statement and the research questions. The setting and participants were solely gathered through the technology of the Internet. The data collection and analytical materials were valid instruments and tools. Dissemination can reach a wider population than participants and those involved in this dissertation process to help understand an issue that directly or indirectly affects those in academia. The results will be illustrated in Chapter 4 and the discussion in Chapter 5 will include policy in action.

Chapter 4: Results

Introduction

The purpose of this mixed-method research study was to explore similar and contrasting thoughts about what reasonable accommodations in higher education mean to university personnel and students with disabilities. Various people perceive ADA law in different and challenging ways that have been presented in courts of law (*Doe v. Oklahoma City University* (2010); *Toledo v. Sanchez* (2007)). More research is warranted for a deeper mutual understanding of ADA law. Hence, I investigated the following research questions and hypotheses for the quantitative strand of this study.

1. What is the difference of the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students?

H_01 : There is no difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

H_a1 : There is a significant difference between the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students.

2. What is the difference in perception of the term reasonable accommodations according to university personnel and students with disabilities in higher education?

H_02 : There is no difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

H_{a2} : There is a significant difference between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education.

3. What are the similarities between these groups' perceptions of the term reasonable accommodations?

H_{03} : There are no similarities between these groups' perceptions of the term reasonable accommodations.

H_{a3} : There are similarities between these groups' perceptions of the term reasonable accommodations.

The following research questions constitute the qualitative strand of this study.

4. What are notable definitions for the term reasonable accommodations as referenced in ADA law according to institutions and students?
5. What are students' beliefs and feelings about the accommodation process?
6. How do accommodations affect students personally, academically, and professionally?
7. What are university personnel's beliefs and feelings about the accommodation process?
8. How do accommodations affect university personnel?

This chapter has several sections. First, I present the setting and demographics of the population studied. The next sections are the procedures for data collection and analysis. Last is the results section. For each section, the quantitative strand will be discussed prior to the qualitative strand.

Setting

The quantitative data collection occurred online. Using the SurveyMonkey.com website, university personnel, and students with disabilities from various states throughout the United States participated in the online survey. Focus groups for the qualitative strand used the online e-FocusGroups.com website. Online interviews were conducted through Google chat and e-mail.

Demographics

Participants for this research study were 18 to 95 years old and were either university personnel or students with disabilities in higher education. University personnel and students' educational level ranged from first year of college to the doctoral level. The two groups for the qualitative strand consisted of university personnel and students with disabilities.

Data Collection

I used YouTube and Facebook to gain participants that varied from the original plan presented in Chapter 3. The Hanover College Psychology Department (Krantz, n.d.) which sponsors Psychological Research on the Internet was supposed to be contacted; I was overwhelmed at the start of my study with the responses from universities. I had read Kravets and Wax's (2005) guidebook of national colleges, and forgot to contact Krantz to gain participants. Some of the colleges I contacted requested my study go through their school's IRB process. After going through the long and lengthy process of filling out forms from one university and not receiving any notification from that university, I chose not to involve other universities' IRBs. Additionally, I used my Walden e-mail address because the research study is a requirement of my PhD program at Walden University. I

thought the university e-mail address would be more appropriate and secure for participants to inquire and provide feedback regarding my study than an online e-mail address such as yahoo Last, prior to utilizing *Computer Assisted Qualitative Data Analysis Software* [CAQDAS] the data were supposed to be printed out and doubled spaced in *stanzas* (Saldana, 2009, p. 16). However, I used ATLAS.ti qualitative data-analysis software for this research study because this software was affordable, effective, and simple to learn, and fit the needs of the study. Additionally, there was no need to print out the data because I conducted a line-by-line analysis on screen.

Data Analysis

I collected quantitative data through the SurveyMonkey.com website for the survey part of this study. A total of 93 completed surveys accrued from university personnel and a total of 98 completed surveys for students with disabilities for a total of 191 completed surveys. However, 102 surveys were missing an abundance of item-level data. Therefore, I used the likewise-deletion method rather than pairwise deletion as suggested by Rogelberg (2004, pp. 312–313). I exported the data from SurveyMonkey to an Excel spreadsheet and then to SPSS.

I used several common coding methods to prepare the data for statistical analysis. In the variable view, the SPSS default setting for the measure column is nominal; however, for Likert-scale data to run a *t* test analysis, the measure column must be ordinal, and the column type in the variable view must be numeric. I conducted syntax coding to fix this issue.

Another issue that arose in exporting the data to SPSS involved the categorical data responses of either yes or no. To run chi-square testing, the data in the data view

must be in one column. However, when exporting, SPSS creates two columns for the data: one column for yes responses and one column for no responses. In a syntax sheet, I merged the two columns. Additionally, I coded the label and values columns appropriately. For example, with yes or no responses, the value code would be 1 = Yes and 2 = No. Last, to handle minimal missing data fields on the item level for the Likert-scale question, 999 replaced the empty cells (aligned with SPSS Inc., 2007, pp. 45–47). Additionally, for the minimal missing data fields on the item level for the Yes or No question, “NR” was inputted for missing categorical data (SPSS Inc., 2007, p. 48).

Results

Quantitative Components

Participants provided demographic data to allow me to characterize and describe the sample. Variables included the state in which the participants’ universities were located, the state in which participants lived, the presence or absence of university online courses, participants’ level of education, age, gender and race. Additionally, I asked participants if they were staff ($n = 32$) or faculty ($n = 61$) to create the group of university personnel, or if they were a student with a disability. Tables 6 and 7 provide descriptive statistics to describe this study’s sample.

Table 6

Demographic Characteristics of University Personnel (N = 93)

Characteristic		<i>f</i>	%	Cum %
Age	18–25	3	3.2	4.3
	26–35	13	14.0	18.3
	36–45	23	24.7	43.0
	46–55	20	21.5	64.5
	56–65	28	30.1	94.6
	66–75	4	4.3	98.9
	86–95	1	1.1	100.0
	Total	92	100.0	
Gender	Female	68	73.1	77.4
	Male	21	22.6	100.0
	Total	89	100.0	
Race	Asian	1	1.1	10.8
	Black	10	10.8	21.5
	Hispanic	7	7.5	29.0
	White	66	71.0	29.0
	Total	84	100.0	
University online	No	6	6.5	9.7
	Yes	84	90.3	100.0
	Total	90	100.0	
Level of education	1st year of college	1	1.1	3.2
	3rd year of college	5	5.4	9.7
	4th year of college	5	5.4	9.7
	Master's	47	50.5	60.2
	PhD	37	39.8	100.0
	Total	91	100.0	
Faculty or staff	Faculty	61	65.6	65.6
	Staff	32	34.4	100.0
	Total	93	100.0	

Note. One case was missing for the variable of age, 4 cases were missing for the variable gender, 9 cases were missing for the variable race, and no responses were marked for “other”; 3 cases were missing for the variable online university, 2 cases were missing for the variable level of education, and no cases were missing for the variable faculty or staff.

Table 7

Demographic Characteristics of Students with Disabilities (N = 98)

Characteristic		<i>f</i>	%	Cum %
Age	18–25	28	28.6	29.6
	26–35	20	20.4	50.0
	36–45	29	29.6	79.6
	46–55	11	11.2	90.8
	56–65	9	9.2	100.0
	Total	97	100.0	
Gender	Female	76	77.6	78.6
	Male	21	21.4	100.0
	Total	97	100.0	
Race	Asian	4	4.1	9.2
	Black	11	11.2	20.4
	Hispanic	4	4.1	24.5
	White	74	75.5	100.0
	Total	93	100.0	
University online	No	10	10.2	13.3
	Yes	85	86.7	100.0
	Total	95	100.0	
Level of education	1st year of college	5	5.1	7.1
	2nd year of college	8	8.2	15.3
	3rd year of college	9	9.2	24.5
	4th year of college	16	16.3	40.8
	Master's	34	34.7	75.5
	PhD	24	24.5	100.0
Total	96	100.0		

Note. One case was missing for the variable of age, one case was missing for the variable of gender, 5 cases were missing for the variable race, and no responses were marked for “other”; 3 cases were missing for the variable online university, and 2 cases were missing for the variable level of education.

I divided the United States according to the U.S. Census Bureau (2015) sections into the following areas:

Area 1: Northeast Region: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania.

Area 2: Midwest Region: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

Area 3: South Region: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, and Texas.

Area 4: West Region: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, and Washington.

Statistical Analysis—Categorical Data

To answer the first and second research questions, 191 surveyed participants responded to the question, “Do you consider the following accommodations to be reasonable accommodations?” Participants responded with either a Yes or No answer to the 35 items. I conducted chi-square analysis using SPSS. Table 8 presents the items that reached statistical significance. As seen in Table 8, I rejected the null hypothesis for the first research question of this study for seven (personal attendants, tutors, career or placement services, disability benefits counseling, counseling for VR services, accessible transportation, and advocacy) of the 35 accommodations. I rejected the null hypothesis for the second research question because a significant difference emerged between

perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education regarding accommodations.

Table 8

Statistical Significance for Categorical Data (N = 191)

Accommodation	X^2	<i>df</i>	<i>p</i>	Odds ratio
Personal attendants	7.998	1	.005	2.27
Tutors	4.363	1	.037	2.35
Career or placement services	4.893	1	.027	2.38
Disability benefits counseling	5.365	1	.021	2.05
Counseling for VR services	4.780	1	.029	2.05
Accessible transportation	5.691	1	.017	2.10
Advocacy	5.022	1	.025	2.60

Note. VR = vocational rehabilitation; The odds ratio was calculated for effect size, as suggested in *Discovering Statistics Using SPSS*, by A. Field, 4th ed., London, England: Sage, p. 744.

The accommodation variable of personal attendants had an odds ratio of 2.27; similarly, tutors as an accommodation had an odds ratio of 2.35 and counseling for career or placement services had an odds ratio of 2.38. Disability-benefits counseling, counseling for vocational-rehabilitation services, and accessible transportation accommodation had the lowest odds ratio of 2.05. Advocacy had the highest odds ratio of 2.60. Hence, it is more likely that advocacy would be offered or utilized than counseling services. Table 9 presents the frequencies and percentages of variables with statistical significance.

Table 9

Descriptive Statistics for Categorical Data (N = 191)

Accommodation	University personnel				Students with disabilities			
	<i>f</i> No	<i>f</i> %	<i>f</i> Yes	<i>f</i> %	<i>f</i> No	<i>f</i> %	<i>f</i> Yes	<i>f</i> %
Personal attendants	44	47.3	49	52.7	26	27.4	69	72.6
Tutors	20	21.7	72	78.3	10	10.5	85	89.5
Career or placement services	22	23.9	70	76.1	11	11.6	84	88.4
Disability benefits counseling	39	42.4	53	57.6	25	26.3	70	73.7
Counseling for VR services	32	35.2	59	64.8	20	20.8	76	79.2
Accessible transportation	38	41.8	53	58.2	24	25.3	71	74.7
Advocacy	19	21.3	70	78.7	9	9.5	86	90.5

Note. VR = vocational rehabilitation.

Statistical Analysis—Numeric Data

To answer the third research question, 93 university personnel replied to the survey, which asked, “As an employee of a college or university, how often did you offer the following accommodations to students?” The Likert-rating scale attributed to the 35 items for this question were 1 = not offered; 2 = offered less than 25% of the time; 3 = offered 26–50% of the time; 4 = offered 51–75% of the time; 5 = offered more than 75% of the time.

Similarly, 98 surveyed students with disabilities answered, “As a student with a disability, how often since attending college or university classes have you used the following accommodations?” The attributes were: 1 = not used; 2 = used less than 25%

of the time; 3 = used 26–50% of the time; 4 = used 51–75% of the time; 5 = used more than 75% of the time.

Independent *t* tests conducted on this data revealed that nearly all 35 items reached statistical significance ($p < .05$) except the variables of faculty-provided written course notes or assignments, personal attendants, additional examination time, access to all facilities and services on campus, and flexible attendance requirements–assignment deadlines. Table 10 illustrates the statistical analysis for the variables that reached significance for the third research question. Table 11 presents the mean differences of variables that reached over 1.00 and had statistical significance.

Table 10

Descriptive Statistics Associated with Accommodations (N = 191, df = 189)

Accommodation and participant type	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>F</i>	<i>t</i>
Sign language				91.56	7.06
SWD	1.23	.87	.09		
UP	2.57	1.64	.17		
Real-time captioning				47.89	4.84
SWD	1.36	.92	.92		
UP	2.36	1.58	.16		
Oral interpreters/transliterators				98.95	5.63
SWD	1.36	.92	.92		
UP	2.36	1.58	.16		

Table continues

Accommodation and participant type	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>F</i>	<i>t</i>
Readers				40.88	5.76
SWD	1.41	1.01	.10		
UP	2.51	1.57	.16		
Classroom note takers or scribes				14.30	6.29
SWD	1.79	1.29	.13		
UP	3.12	1.62	.17		
Adaptive equipment and technology				5.92	3.16
SWD	2.07	1.52	.15		
UP	2.81	1.70	.18		
Physical adaptations to classrooms				35.93	6.32
SWD	1.60	1.23	.13		
UP	2.94	1.66	.17		
Paratransit for on-campus mobility				36.64	3.40
SWD	1.34	.85	.09		
UP	1.95	1.55	.16		
Independent living skills training				5.28	1.50
SWD	1.28	.91	.09		
UP	1.49	1.11	.12		
Audio textbooks/digitally recorded texts				12.64	4.87
SWD	1.94	1.40	.14		
UP	3.03	1.70	.18		
Large print or Braille materials				34.21	5.11
SWD	1.50	1.19	.12		
UP	2.56	1.65	.17		
Help with learning strategies or study skills				23.18	5.97
SWD	1.95	1.30	.13		
UP	3.24	1.67	.17		
Tutors to assist with ongoing coursework				49.50	5.38
SWD	1.80	1.12	.11		
UP	2.91	1.71	.18		
Alternative examination formats				34.39	4.90
SWD	1.65	1.24	.13		
UP	2.71	1.72	.18		

Table continues

Accommodation and participant type	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>F</i>	<i>t</i>
Course substitution or waiver				43.51	4.52
SWD	1.34	.77	.08		
UP	2.12	1.52	.16		
Priority class registration				4.12	1.23
SWD	1.86	1.41	.14		
UP	2.13	1.64	.17		
Disability resource handbook				28.15	2.41
SWD	1.83	1.26	.13		
UP	2.35	1.74	.18		
Career services targeted to students with disabilities				17.77	2.93
SWD	1.37	.88	.09		
UP	1.86	1.40	.15		
Disability benefits counseling				6.29	1.60
SWD	1.42	1.07	.11		
UP	1.70	1.34	.14		
Counseling about vocational rehabilitation services				10.78	2.18
SWD	1.47	1.09	.11		
UP	1.87	1.45	.15		
Moving classes to a more accessible location				95.43	6.37
SWD	1.36	.92	.09		
UP	2.62	1.73	.18		
Time back to complete course work following hospitalization				40.36	7.96
SWD	1.58	.96	.10		
UP	3.04	1.53	.16		
Alternative text format course readings or textbooks				10.21	4.41
SWD	1.97	1.50	.15		
UP	3.00	1.73	.18		
Speech to write programs				53.63	5.03
SWD	1.59	1.10	.11		
UP	2.63	1.71	.18		

Table continues

Accommodation and participant type	<i>M</i>	<i>SD</i>	<i>SE</i>	<i>F</i>	<i>t</i>
Accessible transportation home to campus or campus to home				15.04	2.04
SWD	1.39	1.00	.10		
UP	1.75	1.44	.15		
Proctor exam and/or exam reader				68.82	7.33
SWD	1.44	1.02	.10		
UP	2.92	1.72	.18		
Dictionary used for exams				54.96	5.11
SWD	1.44	1.02	.10		
UP	2.92	1.72	.18		
Calculators used for exams				28.38	4.21
SWD	1.70	1.24	.12		
UP	2.60	1.69	.18		
Other testing accommodations				5.71	4.37
SWD	1.88	1.47	.15		
UP	2.86	1.64	.17		
Advocacy				22.85	4.16
SWD	2.03	1.37	.14		
UP	2.98	1.77	.18		

Note. UP = university personnel, SWD = students with disabilities.

Table 11

Mean differences that reached over 1.00 (N = 191, df = 189)

Accommodation	Mean difference
Proctor exam and/or exam reader	1.486
Time back to complete course work following hospitalization	1.461
Sign language interpreters/transliterators	1.335
Physical adaptations to classrooms	1.333
Classroom note takers or scribes	1.333
Help with learning strategies or study skills	1.288
Moving classes to a more accessible location	1.267
Tutors to assist with ongoing coursework	1.118
Readers	1.097
Audio textbooks/digitally recorded texts	1.093
Large print or Braille materials	1.059
Alternative exam formats (e.g., large print, Braille, audio formats)	1.057
Speech to write programs (e.g. Dragon NaturallySpeaking)	1.043
Alternative text format course readings or textbooks	1.031
Proctor exam and/or exam reader	1.486
Time back to complete course work following hospitalization	1.461
Sign language interpreters/transliterators	1.335
Physical adaptations to classrooms	1.333
Classroom note takers or scribes	1.333
Help with learning strategies or study skills	1.288
Moving classes to a more accessible location	1.267
Tutors to assist with ongoing coursework	1.118
Readers	1.097
Audio textbooks/digitally recorded texts	1.093
Large print or Braille materials	1.059
Alternative exam formats (e.g., large print, Braille, audio formats)	1.057
Speech to write programs (e.g. Dragon NaturallySpeaking)	1.043
Alternative text format course readings or textbooks	1.031

I conducted independent t tests and calculated effect size (aligned with Field, 2005, p. 302; Gravetter & Wallnau, 2007, p. 314). Among all 35 accommodations, university personnel had higher mean averages than students with disabilities. This can mean that students can be utilizing accommodations less than university personnel offering accommodations. Students with disabilities ($n = 98$) aligned with use of proctored examinations or examination readers $M = 1.44$ ($SD = 1.02$). By comparison, university personnel ($n = 93$) aligned with a numerically larger offering of the accommodation of proctored examinations or examination readers $M = 2.92$ ($SD = 1.72$). The difference was significant $t(189) = 7.33, p < .05$. I calculated Cohen's d for variables and estimated all at .01, which had a small effect size (Gravetter & Wallnau, 2007, p. 258). In contrast, proctored examinations or examination readers effect size was $r = .47$, which represented a large effect size (Field, 2005, p. 32); alternative text format course readings or textbooks effect size of $r = .30$ was a medium effect size. Lastly, priority class registration had the lowest $t(189) = 4.41$ with effect size $r = .08$, which was a small effect size.

Additionally, participants had the option of "other" for both survey questions because the 35-item list was not inclusive. The accommodations suggested by students were extension for weekly assignments, possibility of take-home examinations for homebound/bedbound patients, printing examinations on only one side of a sheet of paper, having a scribe fill in the bubbles for scanned examinations, late withdrawals due to hospitalization or other disability-related causes, additional time to complete assignments, faculty education about accommodations, additional time on due dates and accommodations on group-partner projects, unbiased teaching staff, interaction badges,

trigger warnings, other accommodations devoted to social accessibility, accessible restrooms in every building on every floor, counseling about accommodation services at particular campus, extended time to completion for degree, accessibility to formula sheets and breaks given when testing, additional time for written assignments, exams printed on only one side of the paper, housing accommodations, longer time on assignment due dates, late withdrawal due to hospitalization, additional time to complete assignments, more time is needed for discussions, quiet testing space, and scribe/typist when voice software unavailable for on-campus testing.

In contrast, accommodations suggested by university personnel were classroom-access assistance; test accommodations; testing in a quiet or separate place; no points taken off for spelling, grammar, or punctuation; academic advocacy; no legal or political advocacy; learning-specialist assistance; robust disability curriculum; being able to present information privately to the professor instead of in front of the whole class; special accommodations for nursing students like hands-on skills training for people with musculoskeletal abnormality; vocational training offered by Massachusetts vocational rehabilitation; transit offered by Pioneer Valley Transit Authority; classroom discussions on alternative assignments; private quiet room with accommodations to take examinations; and captioning on videos shown in class.

Last, some participants interpreted the “other” category as being a section for comments. Some students’ remarks were regarding extra time, accessibility, advocacy, and faculty training. University personnel mentioned basing accommodations on the needs of students with disabilities, advocacy, tutoring, and either they accommodated as

their schools' suggested and one personnel had not had the opportunity to make reasonable accommodations.

Qualitative Components

Building on ADA law, and making it more specific regarding accommodations in higher education is the very essence of this study. In the focus groups and interviews conducted, changes to the law were discussed; in response to the question should there be specific federal guidelines for higher education accommodations.

From the SurveyMonkey surveys, I created a list of e-mails for university personnel and students with disabilities in an Excel spreadsheet. I sent e-mails to those survey participants who gave permission to contact them for participation in either a focus group or interview. I conducted focus groups online using the e-FocusGroups.com website. I aimed for nine participants in each focus group; however, 11 participants sent back consent forms for each group. I conducted two focus groups: one group had nine university personnel and the other group had seven students with disabilities. Extenuating circumstances resulted in participants withdrawing from the study the day of the focus groups. Participants forgot about time-zone differences, participants forgot about the groups although I sent reminders, and participants simply did not appear even after acknowledging the e-mail reminder for the groups. Other research studies had similar situations and fewer participants. Bailey (2006) conducted a qualitative study with five participants and Garrison-Wade and Lehmann (2009) conducted focus groups with as few as three participants. Additionally, more recent studies regarding learning in higher education also had limited participants: Tanners (2010) had four participants who completed the study; L. R. Smith (2013) had three focus groups, two groups had only two

participants, and the other group had six; and Burdge (2012) had five participants. Moreover, I conducted 18 interviews in this study: nine participants were university personnel and nine participants were students with disabilities.

I created all qualitative data transcripts in Microsoft Word documents, 20 documents in all, including the original transcripts. Then, I read each document and placed it into other Word documents that were specific to each participant group (university personnel versus students with disabilities) and for each focus group or interview question that corresponded with a specific research question. Afterward, I separately analyzed each document using Atlas.ti software. Then, I created a code book in the software using the Word Crunch function, which created an Excel spreadsheet. The code book started out as including all the words from the transcripts. Using the sort function, I was able to narrow down the number of words and created a list of meaningful code words for each individual document. To narrow down the codes, I bundled them and categories and themes emerged for each document. For example, I chose to bundle the words instruction ($n = 3$), college ($n = 4$), student ($n = 9$), higher education ($n = 6$), university ($n = 2$), and professors ($n = 1$) as the theme of university. However, n here and n in the tables of themes represent the total number of times a theme (all coded words for that theme) was present in the transcripts (see Appendix H). Then, in Atlas.ti, in each document, I identified quotations. Using the code books, I created helped reduce researcher bias, helped organize data analyses, and reduced the number of meaningless quotations. I had analyzed hundreds of page of transcripts for the qualitative data. I utilized thick description to keep the breadth and depth of the meaning of what was said about the participants' own lives. Additionally, to help organize the text for the results

section, the word-search tool in Atlas.ti helped in identifying specific themes in the quotations.

Focus Groups

Qualitative data included two focus groups and 18 interviews. I analyzed the data using Atlas.ti software. For the focus groups, I assigned participants color-coded screen names (i.e., blue, green, red, yellow, etc.) to keep their identity confidential. I asked both groups a main focus-group question: What were your thoughts about taking my survey? I inputted responses to this question into Atlas.ti and Table 12 shows the themes that emerged from both groups. The number (*N*) indicates the number of times a theme appeared in the transcripts.

Table 12

Themes that Emerged About Taking the Survey

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	10	16
Disabilities	4	13
GPA/Graduate	0	13
Help/Support	1	26
Issues	0	15
Levels of education	0	9
Policy	5	0
Reasonable	5	3
Thoughts	9	7
University	7	51

The themes of accommodations, disabilities, policy, reasonable, thoughts, and university emerged from the university-personnel introductory question in their focus group. The themes of accommodations, disabilities, grade-point average–graduate, help–

support, issues, levels of education, supports, taught, thoughts, and university emerged from the students with disabilities introductory question in their focus group. The topics reasonable and disability did not rank high among discussion in either group; however, accommodations did. Students discussed help–support at length; however, university personnel did not mention supports. Issues and students were also a theme in the student’s group; however, personnel did not reference issues. Personnel discussed their thoughts as well as those of the students. Some introductory remarks from participants regarding the survey follow:

I welcome surveys. ... I think they help enhance our policy making and decision planning skills, it helped summarize the most common accommodations, I was also thinking while taking the survey how often the reasonableness of accommodations isn't really under the control of individual instructors; it's about what training and/or institutional support is available, I think the survey was fine, it is a subject that is not talked about enough, it was good to see them listed out, the term reasonable can have different meanings, I liked the survey, but I have not changed my thought on reasonableness of accommodations, and I don't think the survey affected my thoughts all that much.

Comments from students included the following:

I suppose there is always some amount of bias/missing information in survey research, I imagine it will be difficult to adapt survey questions to accommodate all of us, it was a survey, very insightful, there were many accommodations, and your survey was very easy to take.

However, those comments started a discussion on the subject matter of accommodations. I created codes, as previously described, and themes emerged. See Appendix H for the theme list for the entire study.

Some notable comments from the introduction question that led into discussion from university personnel follow:

I was also thinking while taking the survey how often the reasonableness of accommodations isn't really under the control of individual instructors. Instead, often it's about what training and/or institutional support is available.

As an instructor, it made me realize that I should be more explicit and open that I am willing to accommodate students in different ways, beyond the typical syllabus statement.

It is a subject that is not talked about enough. It was good to see them listed out as well. The term reasonable can have different meanings and I liked that I could interpret it in my own way.

I have made accommodations for students, they seem to want more and more, so I tend to go with the recommendations of the Office of Disabilities. I have not changed my thought on reasonableness of accommodations.

Some notable comments from the introductory question that lead to discussion from students follow:

I was going for my bachelors I had so much support and don't have nearly the same amount now that I am going for a master's.

I have found the higher your GPA, the fewer accommodations are offered because you are “doing well.” I find it very frustrating when I ask for help, or extra time and I am ignored because well I am “doing well.”

I agree - High GPA = “doing well” I don’t get supported as much as other students because I appear to be “doing well.” It’s like they don’t take my issues as seriously.

It is about leveling the playing field, but also about giving each student the resources they need to reach their fullest potential despite their disabilities.

Although both groups started to have meaningful dialogs from the introductory question, time was a factor; therefore, I moved the group forward asking questions to answer the fourth research question: What are notable definitions for the term reasonable accommodations as referred to in ADA law according to institutions and students? I asked three main questions of both groups: What experience do you have with accommodations? Additionally, what are reasonable accommodations? Last, Federal law has specific guidelines for health care, property, banking, crime, etc., and even elementary school education. Do you feel there should be specific federal guidelines for higher education? Why or why not?

I inputted data for each question into ATLAS.ti. The themes that emerged from both groups appear in Table 13, 14, and 15. The number (*N*) indicates the number of times a theme was present in the transcripts.

Table 13

Experience with Accommodations

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	7	22
Asked	0	11
Disability	2	19
Experience	3	1
GPA/Graduate	0	11
Help/Support	0	21
Issues	0	12
Needed	0	13
Offered/Utilized	0	11
Reasonable	2	7
Tests	5	0
Thoughts	3	16
Time	4	6
University	6	32

Table 14

What are Reasonable Accommodations?

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	36	21
Disabilities	37	10
Funding	21	21
Help/Support	30	14
Issues	25	6
Policy	8	0
Reasonable	28	12
Tests	19	0
Thoughts	27	5
Time	15	1
University	76	39

Table 15

Specific Federal Guidelines

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	25	18
Disabilities	39	5
Help/Support	6	2
Issues	17	22
Policy	31	64
Reasonable	18	8
Tests	24	1
Thoughts	20	21
Time	12	2
University	113	51

University personnel had a limited discussion on their experiences with accommodations. Perhaps this was because accommodations are not for them to use, but for students to use. Major themes were accommodations, disability, and help–support.

Some of their comments follow:

I was born with Esotropia (eye disorder) and a girl in my class had cerebral palsy and to me, truly disabled people do not desire accommodations all the time because honestly it separates them as feeling normal.

I did not think that you could impact the construct of an assessment (test) I know that if time is a part of what is being tested then a student cannot get extended times ... i.e. nursing programs that are dictated by the state.

Most of my accommodations are extra time on tests. I have had 2 students with hearing issues, and I have purchased electronic stethoscopes that we allow them to use in clinical.

I think sometimes Universities exceed their kindness in accommodating to any and all stipulations.

I am in healthcare that is more task oriented, where as other classes like English, Math, etc. could have accommodations like interpreters, etc.

Students with disabilities had a more in-depth discussion than university personnel regarding their experiences with accommodations. The major themes were university, accommodations, and help–support. Some of the most significant responses from students follow:

I think extra time is extremely important and it is also something that I think NOT everyone needs. In other words, those without disabilities don't need it as much, although no one would turn it away.

I actually have something now that I didn't have in college, which is an academic coach which has helped me greatly. Essentially once I stood up for myself, things got better in my master's program.

Extra time helps but I am not sure I am able to count on professors to respond to my questions in comparison to a student without a disability.

I have definitely felt like I've had dwindling support.

I often just get accused of being “lazy” or not “proof reading enough” when really ... honestly I cannot see problems or mistakes.

The experiences from both groups differ; however, time as a factor for accommodations, seem prevalent to both groups as an accommodation. The discussion continued for both groups with the question, What are reasonable accommodations?

The major themes for university personnel were: university, accommodations, and help–support whereas students’ main discussion centered on university, accommodations, and funding. When I asked university personnel, “What are reasonable accommodations?” they offered many definitions:

Often, it’s easy to think of accommodations in as a narrow checklist.

Even what is appropriate in one setting may be over accommodating in another.

Reasonable Accommodations is up to the us, the experts in our fields. There’s expert, regulations and Deans /VP’s.

Reasonable is a loophole / wiggle space meant for an inability to apply strict definitions to all cases.

What is reasonable for one student may not be for another.

Deciding what is reasonable is based on the disability, the resources, the college policies, the educational program, etc.

It’s an interactive process between the student and disability services.

An accommodation that does not fundamentally change the learning outcomes of a course.

Reasonable accommodations, in my mind, is removing the barrier to a student's education based upon his or her disability without impacting the construct of the learning objectives.

The Convention defines "reasonable accommodation" to be "necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms" at the Article 2 and demands this all aspects of life including inclusive education.

Enabling students to demonstrate their learning without being unduly limited by disability.

Reasonable comes with a price tag, that's the American way isn't it?

The theme of technology, funding and state policy emerged during the discussion.

Responses follow:

We just had an in service with the lawyer from our college regarding ADA and such. Did you know that if a student files a lawsuit and loses, the college has to pay the student's legal expenses, BUT, if the student loses, they don't have to pay the college's expenses? This means the system is set up for people to file lawsuits.

It [budgets] impacts the quality of service, of staff, tools for example software hardware.

Unfortunately the poorly budgeted disability services offices must often make do w/o too much customization; maybe at the Ivy's or high end institutions can you give "tailored" service.

Universities must remember a contract is reciprocal in nature. That to me is key in a law suit.

Budgets is something I'm thinking about too, since often accommodation alternatives might involve technology that's (perhaps prohibitively) expensive.

Illegal use of grant money equates to mandatory reporting to IRS i.e. lots of problems and usually ends with a head rolling to get them off their backs.

Additionally, when defining reasonable accommodations, a discussion on universal accommodations arose:

Shouldn't it be universal?

Universal cannot happen because what is acceptable for one profession may not be reasonable for another.

Universal would be difficult since access to accommodations varies from location to location.

Although university personnel thought that reasonable accommodations were more abstract, students with disabilities thought accommodations were tangible. Some examples follow:

Access to class rooms, living space, etc.

An exam with very large fonts.

I think extra time is reasonable, I think offering note taking services is reasonable.

There are many different things that my school offers that are either really useful for me (like an academic coach) or not as useful.

Note takers.

Interpreter.

Expensive devices.

Accessible living space and accessibility to all classrooms.

However, students did provide a few abstract thoughts about they considered to be reasonable accommodations:

I think it is reasonable when it allows the student to reach their fullest potential. I think the problem in developing reasonable accommodations is we are all so individual, what helps me might not always help someone else.

Something that does not significantly alter the nature of the course but can help the student meets the challenges posed by the class.

Each disability will impact an individual differently based on a number of factors.

Well also sometimes the accommodations are offered in a one size fits every classroom as well.

The theme of policy did not emerge in discussions with students; however, funding did emerge:

This is also an economic issue. Some of these accommodations are not cheap.

I remember attending a graduate program with a classmate that needed to pay for her interpreter. ... She also had a lot of expensive devices as well.

I don't consider it a huge expense for a school to have to swallow considering it's the difference between a disabled person being able to attend school or not being able to. If we're talking economically, the fact that this person has an education means that they're much more likely to be self-sufficient or more self-sufficient in the future and earn money that gets pumped back into the economy.

Even though university personnel thought universal design was a topic for discussion, students did not mention it. However, students shared thoughts on funding more than did university personnel, in accordance with the analyzed data. University personnel made comments about policy; yet, students made no mention on policy when defining reasonable accommodations. Table 15 illustrates the topic of specific federal guidelines and policy whereby theme ranking changed in comparison to the previous topic.

The themes of university and reasonable ranked highest for university personnel and for students. Disabilities as a theme ranked high for university personnel; for students, disabilities ranked very low. Issues were a key theme for students. University personnel's discussion on federal guidelines did not include the theme of funding, but did have an abundance of responses regarding policy. Responses from university personnel to the topic follow:

More than half the professors on my small campus think accommodations are giving students an unfair advantage—based on a survey given about five or six years ago

State law usually surpasses a federal one in most instances so that is sort of a one step forward two steps back concept

I think there should be guidelines when it comes to my college because there is at least one complete department that does not “believe” in accommodations

I’m not too sure that there is need for Federal regulation other than the implementation of the State’s interpretation of ADA

Students would then have a consistent, nationally available recourse for what they should expect out of the institution they attend.

In response to the question, Do you feel there should be specific federal guidelines for higher education? Why or why not? some students responded as follows:

Absolutely. We don’t magically lose our disability by going to graduate school.

No, because I think that would require going back to that putting everyone in an accommodations box. Individuals do not fit into boxes. I think when things get too regulated we lose the ability to be flexible and reasonable.

Federal action is necessary

State and local actions work better in my opinion

There is a trade off when you don’t have federal intervention

I think you need some general nationwide laws that provides a basic understanding of how accommodations are dealt and then it would have to go to the states for more details.

Not everyone in both groups thought a need existed for federal policy; however, state interaction was also a topic of discussion. Some participants' perceptions of state regulation were discussed, but participants remarked that views differ from within different states. The feeling I received from both groups was that a need persists to have more discussion on the topic.

Member Checking

Last, I asked the focus groups to member check the transcripts. The participants' thought that the transcripts I sent were accurate about what was said in the focus groups and no changes needed to be made except for some typos. University personnel thought that I kept the group focused yet students believed that there were lags in the conversation, perhaps due to a slow chat system (e-FocusGroups). Moreover, one university personnel had to convey their feelings about accommodations and said they were about equity and not just fairness. This participant sent me a picture to illustrate their feelings (see Appendix I).

Interviews

I conducted 18 interviews: nine participants were university personnel and nine participants were students with disabilities. I asked an introductory question to all participants at the start of the interview: What did you think about my survey? Table 16 illustrates the themes that emerged from coding the interview data for the introductory question and *N* represents the number of times the theme was discussed.

Table 16

Introduction Question for Interviews

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	22	17
Disabilities	26	13
Funding	6	1
Help	14	5
Issues	10	5
Offered/Utilized	25	16
Policy	4	0
Reasonable	12	3
Survey	18	17
Tests	4	1
Thoughts	23	20
Time	8	2
University	55	37

University personnel and students discussed the theme of university most.

Students' major themes were thoughts, accommodations, and surveys for the introductory question; in contrast, university personnel had disabilities and offered–used as major themes in their interviews. All interview participants gave more comprehensive responses to questions than accrued in focus groups.

Addressing the question of what did you think about my survey, most students felt the study was needed, the survey was thought out, and comprehensive. Some students' replies follow:

Research is needed because many disability groups are not addressed and many accommodations overlooked that could provide excellent solutions.

I think there are a lot of aspects of accommodation that I never even knew to think about. I can understand how in some schools in low funding, may not be able to provide some of those accommodation even though to the person receiving them, they are perfectly reasonable.

University personnel also thought the survey was thought out, comprehensive, and the data gathered could be of value for funding resources. Funding for accommodations was a major issue. Some university personnel remarks were:

I remember it asked me opinion on what was reasonable. That got me thinking, because that dialogue isn't often opened up for students or teachers.

In my office currently (this has not always been the case), we focus on the barrier created by design and then determine the best course of action to remove the barrier.

Reasonable accommodations need to be directly related to the functional limitations of the disability to the student's education and help "level" the playing field, not give the student a "leg up" over their non-disabled peers.

Although most participants thought the survey was meaningful, students reflected about their own experiences, whereas university personnel were critiquing my survey questions and data gathered. Participants in interviews all discussed accommodations in response to the introductory question.

The fourth research question was, "What are notable definitions for the term reasonable accommodations as referenced in ADA law according to institutions and students?" I asked all interview participants, "What are reasonable accommodations?"

Table 17 highlights the themes that emerged from the interview question, “What do you consider to be reasonable accommodations?”

Table 17

What are Reasonable Accommodations

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	58	27
Disabilities	29	13
Funding	15	7
Help	18	6
Issues	12	2
Offered/Utilized	31	12
Policy	8	0
Reasonable	31	19
Specific accommodations	35	49
Tests	12	5
Thoughts	15	15
Time	19	7
University	173	91

A new theme emerged—specific accommodations—which was a major theme for all participants. Additionally, university and accommodations were major themes for all participants as well. In the discussions, participants emphasized specific accommodations. University personnel responses follow:

I would say that it depends on the disability. In my classroom, there is one wheelchair accessible desk so the chair can be easily moved and the wheelchair can slide right in. I have at least three visually impaired students this quarter in three different classes so I try to use the largest fonts possible and blow

PowerPoints up so they can see better but I have also made the PowerPoints available to them electronically so they can print out as needed. I do a lot of reading to help them out, especially when writing on the board because they can't see. The Special Services office offered readers but all three declined. I have one student with ADHD who has modifications to include extended time on tests. Tests are electronic but I have printed them off for him and allowed him to complete over the weekend. This student has me on Tuesday and Thursday so he gets tests on Thursday and brings back on Tuesday. I also offer individual tutoring and am currently working with this ADHD student. We do have an interpreter here on campus that signs for the hearing impaired but I have not yet had hearing impaired students in my classroom.

I think we do a good job with accommodations in higher education, but I think that funding is insufficient to cover everything needed. Since it is federally mandated to supply accommodations, it seems it would help if there was additional funding to help achieve this. Many of my colleagues struggle with this year after year—having to argue they need more money to comply with the law when budgets are already being cut and money is hard to come by in these economic times.

I think all accommodations should be based upon the diagnosed disability and the need of the student. For the most part, any accommodation that is necessary for the student to achieve to same level of comprehension as his/her peers without changing the nature of the course, could be seen as appropriate. I think colleges

should have to follow a set of guidelines (not policies) so that accommodations are more consistent; however, accommodations still need to be determined on a case-by-case basis.

Reasonable is determined by the functional limitations of the disability and the interactive process between the counselor (me) and the student. [...] Determining what is reasonable is really a combination of things but I directly relate it to the disability, how it impacts the learning.

More time on test taking I would say is reasonable. I think sign language assistance and note taking is reasonable. I think access to the professor after class to talk or work one on one is an accommodation most students don't take enough advantage of but I think that is a reasonable accommodation that should be encouraged more. I think universal access to buildings and facilities is more than reasonable! Access to software that can help write papers for you, the speak and type software is reasonable. I guess I would say I consider accommodations that still allow for the professor/teacher to work with the student to help them meet their individual needs is reasonable.

I would say that a reasonable accommodation is one that removes a barrier created by design that impedes a student with a disability from having access.

Making existing facilities accessible; job restructuring based on if the professor is trained and knowledgeable in working with students with disabilities, acquiring or modifying equipment based on the needs of the school and the enrollment data for students with disabilities, changing tests, training materials, or policies to

accommodate students with disabilities and to make sure that the institution is in compliance with federal laws pertaining to ADA.

I think that reasonable accommodations should include almost anything that helps a student succeed but does not interfere with the skills or knowledge being taught and/or assessed.

I personally find that any attempt to define what constitutes as a 'reasonable' accommodation must begin with an approach that includes people with disabilities, and this is rarely the case. While the legal definition of reasonable accommodation suggests the institution must provide tools and environmental adjustments that allow a student with a disability to receive the same education as students without disabilities, I believe the term 'reasonable' is just vague enough to give administrators room to leave out a majority of student needs.

Students' responses were:

Educational literature, for student, teacher, and coach, is an integral part of such an accommodation. ... A wide variety of life skills need to be learned and can, in most cases, be easily taught; thereby producing competent adults capable of full lives in a 'normal' community. If one really thinks about it, everything that occurs in an academic situation could be considered an accommodation.

Well I think schools have a responsibility to provide reasonable accommodations for anyone who needs it, but with that said what if a person had a disability that meant that they needed help coming and going around campuses. Could a school afford extra personnel just for that person, and what if it wasn't just one person

that needed this service at all times, what if it were multiple people? Smaller schools may lack the funding to provide this.

In my opinion, reasonable accommodations should be those accommodations that do not change the primary objectives of the course and do not cost an unreasonable amount of money. I, however, don't know how one should determine that do not cost an unreasonable amount of money.

PA is a Personal Assistant, and IDL is independent daily living (skills training in your survey). Others I think that are general services for students vs. reasonable accommodations. Access to all facilities . . . , and maybe the tutoring. "Physical adaptations to classrooms" also seems like a general overall consideration rather than a specific "accommodation."

I consider reasonable accommodations to be no more than what someone needs to cancel out the effects of their disability. An example, audio recording or a test in Braille would be reasonable for a blind person.

For students and university personnel, time was a factor in providing accommodations. One person went beyond the typical extended time for tests "allowing the student to take breaks (in which they did yoga poses) during the tests." Another person said, "we often make arrangements for students to have extended time." Additionally, "I have authorized triple time." In contrast, another person remarked "Unlimited time is NOT reasonable." Another mentioned that their school officially offers extra time for tests and assignments. Because time was an issue for both groups,

perhaps specific guidelines for “time” are implicated, perhaps by the school or the government.

All interview participants provided in-depth thoughts about reasonable accommodations. Most participants gave specific accommodations examples; some participants shared some of their life experiences. During online interviews, university personnel had one major theme of specific accommodations, whereas students with disabilities had one major theme of reasonable. Both groups of interviews had two additional major themes of accommodations and university. The groups differed in responses regarding what are not reasonable accommodations. University personnel responses follow:

I am fairly flexible and can't really think of anything that would be unreasonable.

It's hard to just say one accommodation is not reasonable without knowing specific functional limitations a student may have—they differ greatly depending on individual.

Any accommodation or request for an accommodation that fundamentally changes the instructional material or the outcome of the course would not be reasonable. Any accommodation that gives any student an advantage over others would not be reasonable.

For most students “no time limit” on tests and assignments, is NOT reasonable.

Things that will “fundamentally alter course content.”

[...] The only unreasonable situations I have found are, like I said, those that abuse the accommodations provided. And those students are hurting themselves more than anyone else.

I suppose I would say that the word reasonable in the legal sense takes away from the possible services institutions could provide by allowing the DS resource providers to only look at what those accommodations they believe should or have to provide to students.

Students responses were:

I didn't find the offered accommodations helpful.

Segregation is not reasonable. Humiliation is not reasonable. Lack of patience is not reasonable. I think that certain actions of academic facilitators are not reasonable; up to and including a facilitator allowing peers to segregate, humiliate, or otherwise abuse disabled individuals. Ostracism, verbal abuse, and such are all not reasonable accommodations.

There is nothing unreasonable to ask for as an accommodation.

I don't have any specific accommodations that schools do not think are reasonable, I just said that because I hope that schools lack the funding to provide certain specific accommodations rather than think certain ones were unreasonable and that is the reason to not provide it.

An unreasonable accommodation would be an accommodation that would change the primary objectives of the courses or program. However, I also think that

objectives should be created and revised to help accommodate students with a variety of disabilities. However, another university that I've attended requires all coursework to be completed by the end of the term. I think that university does not provide sufficient reasonable accommodation of time for its students.

I cannot think of anything I found unreasonable.

The "accessible transportation from home to campus" and vice versa, unless home is on campus, I am not sure is an individual accommodation from the school, but rather personal "responsibility."

Unreasonable accommodations would be whatever gives someone an unfair advantage over their classmates. An example, an oral examiner that could provide additional help with questions might not be reasonable.

Most university personnel believed that if an accommodation would change the course content, that accommodation would be unreasonable. In contrast, one student mentioned course content, whereas other students believed nothing is unreasonable or gave examples such as transportation or a translator.

Students answered the fifth research question, What are the students' beliefs and feelings about the accommodations? in response to the following questions: What experience do you have with accommodations? Do you think you are receiving reasonable accommodations? Additionally, university personnel answered the seventh research question, What are the university personnel's beliefs and feelings about the accommodation process? in response to the following questions: What experience do you have with accommodations? Do you think you are providing reasonable

accommodations? Table 18 highlights the themes that emerged from the interview questions for both groups.

Table 18

Students' and Personnel Beliefs About Accommodations

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	32	21
Disabilities	21	12
Funding	4	3
Help	13	13
Issues	14	14
Offered/Utilized	31	19
Policy	11	0
Reasonable	16	8
Specific accommodations	47	33
Tests	15	3
Thoughts	23	20
Time	30	13
University	126	21

The major themes for both groups of interview participants about accommodations were accommodations, specific accommodations, and university. Students believed they were not receiving reasonable accommodations. Four students thought they were reasonably accommodated, three students believed they were not reasonably accommodated, and two said they were partially reasonably accommodated. Students spoke about extra time, accessibility, process by which accommodations were obtained was lonely, and residency accommodations. Some students' experiences were expressed as follows:

Yes, there is nothing that is preventing me to receive education at my school.

There are ramps to all of the buildings where my classes are and bathrooms have accessible stalls, and there is accessible parking.

I feel embarrassed because my condition has caused difficulties with communication before, and I'm worried that being vocal about my accommodations will seem like bragging, or may in some other way shift people's perceptions of me. It's part of the reason that I don't like using the word "disabled" when talking about my needs.

I requested to be able to do the dissertation only part-time, but my current school does not allow any students, from what I've been told, to do the dissertation only part-time. Also, I don't know if I will be provided sufficient time to fulfill each of the major milestones for the dissertation.

All but one university person believed they were providing reasonable accommodations. Personnel remarked about/acknowledged extra time, triple time for exams, breaks for exams, large print materials, materials being available prior to course, following current ADA law, accommodating students' preferences rather than just students' needs,

After being asked, What experience do you have with accommodations and do you think you are providing reasonable accommodations? personnel explained their experiences:

I hope so! I am also not shy about sharing that I too have a learning disability. I have had students tell me after the fact that my sharing of my own experience made them feel more comfortable when asking for help.

There are times I have definitely had to consult with others, OCR, DOJ/DOE about particular requests because the ground is so uncharted sometimes as new things become known in the field. If anything, I think we sometimes err on the side of accommodating too much than not enough.

... we have to get creative sometimes in order to provide those accommodations. It is a constantly evolving operation, and as classes and students change, we change with them.

To be clear, no my institution does not even come close to meeting what I would consider a standard of reasonable accommodations for the disability culture on our campus. ... Along with fellow students, I developed a disability student group, and our efforts to make sure students with disabilities were recognized and services provided were met with direct acts of aggression... The DS coordinators response really says it all when it comes how universities view the role of disability services, she said "I am the head of the disability services here on campus and our job is to make sure the university does not get sued."

Heartbreaking but probably true.

I do get concerned that students might not ask me for what they need- all of my students are first-year undergrads, and are a little cowed by coming to office hours. I try to make clear what kinds of accommodations I'm happy to provide.

Research Question 6 asked, How do accommodations effect students? Student interview participants answered the question, How do accommodations affect students personally, academically, and professionally? Additionally, university personnel responded to the eighth research question—How do accommodations affect the university personnel? by answering the following question: Do accommodations affect you personally and professionally? I did not ask university personnel if accommodations affected them academically because accommodations are not accommodations for them. Table 19 emphasizes the themes from the interview questions.

Even though affects became a new theme for this last research question, it was not a major theme, according to the data output of Atlas.ti. For university personnel, the major themes were university, thoughts, and specific accommodations. Interestingly, enough university and specific accommodations were major themes of students also, but the theme of issues was more relevant to students then to university personnel.

Table 19

Effects of Accommodations Personnel and Students

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	23	17
Affects	11	12
Disabilities	16	26
Funding	0	9
Help	16	6
Issues	9	28
Offered/Utilized	18	16
Policy	2	2
Reasonable	1	2
Specific accommodations	29	42
Tests	1	2
Thoughts	36	13
Time	3	13
University	67	59

One student commented that there was no effect from accommodations and another said they have no affect at all. The reason could be because these students believed in universal accommodations and self-accommodations rather than tangible accommodations that their school was willing to provide for them. Other responses follow:

Accommodations affect me in all three areas. ... It can become a little depressing.

My accommodations affect me in every way.

Hmmm, personally I have trouble, or am a little hesitant asking for accommodations that will help me get by easier, but not a necessity.

I think the time I've spent in [my school] has affected all three of those things.

I've greatly improved academically since I started going there, they've improved my confidence as a person, and have helped me out with job fairs and résumé writing. Since I got to college, I've had to think a lot about what I need and what I don't, since resources are scarce. I also sometimes feel self-conscious about being "different" and how using benefits confirms that.

Having the right support/accommodations have made a huge difference in my academic life.

Sometimes I am simply unable to function as I lack those accommodations.

All students who believed accommodations affected them personally; most agreed that accommodations influenced their lives academically and professionally. Additionally, two students felt accommodations affected them in all three ways.

Even though I did not ask university personnel if accommodations affected them academically (because the accommodations were not for them), they offered more in-depth responses than students; however, one person just said "no." Responses from university personnel follow:

It has made me more sensitive to my students needs. Emotionally and for my own mental sanity I have to keep some boundaries. To be honest, I can't let their troubles go home with me at night. But I do try my best to meet them where they are at, and to speak their language so learning can occur.

I do think accommodations affect people in disability services both personally and professionally—at least I hope they do. I hope everyone has compassion and wants to make good decisions that will best serve their students.

I am professionally impacted with every decision I make in my role as Disability Service Provider. Every decision I make can be considered a good decision or a bad one depending on who you ask. If I am considered in a negative light, which could potentially impact the next student who has to rely on the same person's willingness to work with me. ... I find that it helps to explain why I make the decisions I do and to be willing to entertain other ideas with the openness to change direction if need be. It has helped me a great deal to be willing to admit when I have made mistakes or to share that there is no one answer and that I may not be correct. I find that working with campus partners and acknowledging their expertise (content and pedagogy) and the expertise of the student (expert on him/herself) is the most successful path to inclusive design and barrier removal when an accessible, sustainable design is not present during the design phase.

I do think that thinking about accommodations and providing them where necessary has affected me. ... Thinking through my policy on accommodations and talking to students about their needs have made me give all my students more freedom to do what works for them, which I think makes me a better teacher.

... as I ponder and think about the question more deeply, 'yes' is definitely the answer because these accommodations affect my students and my students affect me (some more than others!!)

Most university personnel believed accommodations affected them personally, yet even more thought accommodations affected them professionally. Additionally, one university person thought they needed to share part of their course syllabus regarding accommodations (see Appendix J). Last, all themes that emerged from participant discussions in focus groups and interviews appear in Appendix H. For the qualitative strand of this study, Appendix H shows that university personnel and students with disabilities had accommodations and university as major themes; however, disabilities were a major theme for university personnel and specific accommodations were a major theme for students.

Mixing Data

I originally created the survey for this study to gain knowledge and responses from participants and to follow up with focus group and interview questions regarding what are reasonable accommodations. Even though there was no research question for finding similarities and differences among the results of quantitative and qualitative data, I thought it was vitally important to contain this section in the manuscript. However, before the study was conducted, in Chapter 3 I stated, “I coded the results of the focus groups and interviews to be able to compare and contrast responses with the quantitative survey results.” Hence, my intent was to conduct a statistical analysis. In contrast, no methodological analytical approach exists for this type of “mixing data.”

Yet, I found that respondents answered Question 2 on the survey—Do you consider “line item” a reasonable accommodation?—with either a yes or no answer. This question can be compared to the focus group/interview question, “What do you consider to be reasonable accommodations”? Therefore, Tables 20 and 21 present descriptive

statistics (frequencies and percentages) of what participants considered to be reasonable accommodations from the quantitative and qualitative data.

First, I converted the quantitative data to an Excel spreadsheet for each group of participants (university personnel and students with disabilities). Then I conducted descriptive statistics (frequencies and percentages). Second, I entered the qualitative data from the focus groups and interviews transcripts into one Word document and then into one Atlas.ti file. Afterward, I used the number-crunch function to create an item list of specific accommodations. Finally, an Excel spreadsheet aided in conducting descriptive statistics for the data. The results appear in Tables 20 and 21, which will be discussed in detail in Chapter 5. The accommodations suggested by participants are in Table 21.

Table 20

*Descriptive Statistics What are Reasonable Accommodations From Categorical Survey**Data (N = 191)*

Accommodation	University personnel		Students with disabilities	
	<i>f</i> Yes	% Yes	<i>f</i> Yes	% Yes
Sign language interpreters/translitterators	90	96.7	88	89.9
Real-time captioning	82	88.1	91	92.8
Oral interpreters/translitterators	77	82.8	85	86.7
Readers	80	86.0	87	88.7
Classroom note takers or scribes	87	93.5	84	85.7
Faculty provided written course notes or assignments	79	84.9	85	86.7
Adaptive equipment and technology	91	97.8	94	95.9
Physical adaptations to classrooms	86	92.4	89	90.8
Paratransit for on-campus mobility	79	84.9	90	90.8
Personal attendants	49	52.7	69	72.6
Independent-living skills training	47	50.5	61	62.2
Audio textbooks/digitally recorded texts	88	94.6	92	93.8
Large print or Braille materials	90	96.7	92	93.8
Help with learning strategies or study skills	75	80.6	86	87.7
Tutors to assist with ongoing coursework	72	78.3	85	89.5
Alternative exam formats	89	95.7	95	96.9
Additional exam time	88	94.6	93	94.9
Course substitution or waiver	59	63.4	68	69.3
Priority class registration	60	64.5	63	64.2
Disability resource handbook	78	83.8	89	90.8
Career or placement services targeted for students with disabilities	70	76.1	84	88.4
Disability benefits counseling	53	57.6	70	73.7
Counseling about vocational rehabilitation services	59	64.8	76	79.2
Moving classes to a more accessible location	83	89.2	79	80.6
time back to complete coursework following hospitalization	86	92.4	89	90.8
Alternative text format course readings or textbooks	86	92.4	92	93.8

Table continues

Accommodation	University personnel		Students with disabilities	
	<i>f</i> Yes	% Yes	<i>f</i> Yes	% Yes
Speech to write programs	89	95.7	91	92.8
Accessible transportation from home to campus or campus to home	53	58.2	71	74.7
Proctor exam and/or exam reader	79	84.9	89	90.8
Dictionary used for exams	51	54.8	60	61.2
Calculators used for exams	71	76.3	76	77.5
Other testing accommodations	82	88.1	88	89.8
Advocacy	70	78.7	86	90.5
Access to all facilities and services on campus	88	94.6	94	95.9
Flexible attendance requirements and assignment deadlines	68	73.1	80	81.6

Table 21

Descriptive Statistics: What Are Reasonable Accommodation from Categorical Data from Focus Groups and Interviews (N = 35)

Accommodation	f/university personnel	f/students with disabilities
Sign language interpreters/transliterators	7	1
Real-time captioning	5	0
Oral interpreters/transliterators	5	0
Reader	1	3
Classroom note takers or scribes	10	4
Faculty-provided written course notes or assignments	1	4
Adaptive equipment and technology	19	5
Physical adaptations to classrooms	0	2
Paratransit for on-campus mobility	0	0
Personal attendants	1	4
Independent living skills training	0	3
Audio textbooks/digitally recorded texts	0	0
Large print or Braille materials	0	4
Help with learning strategies or study skills	0	0
Tutors to assist with ongoing coursework	1	2
Alternative exam formats	1	0
Additional exam time	19	4
Course substitution or waiver	1	1
Priority class registration	0	0
Disability resource handbook	0	0
Career or placement services targeted for students with disabilities	0	0
Disability benefits counseling	0	0
Counseling about vocational rehabilitation services	0	0
Moving classes to a more accessible location	4	0
Time back to complete course work following hospitalization	0	6
Alternative text format course readings or textbooks	0	1
Speech to write programs	6	4
Accessible transportation from home to campus or campus to home	0	2
Proctor exam and/or exam reader	0	1

Table continues

Accommodation	f/university personnel	f/students with disabilities
Dictionary used for exams	0	0
Calculators used for exams	7	3
Other testing accommodations	3	1
Advocacy	1	3
Access to all facilities and services on campus	3	4
Flexible attendance requirements and assignment deadlines	8	2
Additional time for assignments	10	23
Housing accommodations	4	4
Instructor time	5	0
Taking breaks for class/test	5	0
Quiet/alternative space to test	7	2
No time constraints on exams	5	1
Double time on testing	2	1
Universal accommodations	4	4
Access to power points	2	1
Audio recordings of lectures	2	0
Prior to course, materials given a head of time	1	0
Making images higher contrast in presentations	1	0
Noise cancelling headphones	1	0
Video and visual material	3	0
Wheelchair accessible desk	2	0
Support coaches	0	6
General residency accommodations	0	7
Residency (overseas) accommodations	0	8
Comfortable location/environment	0	2
Ramps to all of the buildings	0	2
Small class size	0	1
Suitable seating	0	2

**Note.* No frequency was reported because not all participants mentioned specific accommodations in the focus groups and interviews, as did survey participants (see Table 20). Survey participants could only once say if a specific accommodation was reasonable, whereas focus group and interview participants were allowed as many times as they wished about whichever accommodations they thought to be reasonable;

**Participants suggested the last 22 specific accommodations in focus groups and interviews.

Evidence of Trustworthiness

I conducted member checking for focus group members. Additionally, after each interview, I asked if participants had any additional comments regarding our interview or the study.

Credibility

Some strategies employed in this study were triangulation, member checking, thick description, and clarification of researcher bias, in order to gain reliable information from participants.

Transferability

It was important for this study to include students from different geographical and college levels for generalizability and transferability to accrue back to the population from which this study's sample was drawn.

Summary

The goal of this study was to investigate how university personnel and students with disabilities felt and thought about reasonable accommodations in higher education. I asked eight research questions. The surveys helped answer Research Questions 1, 2, and 3. I asked both groups of participants, "Do you consider the following accommodations to be reasonable accommodations?" I conducted a chi-square analysis that yielded statistical significance for the categorical data of seven of the 35 accommodations, answering the first and second research questions. Those variables were accessible transportation, advocacy, career or placement services, counseling for vocational-rehabilitation services, disability benefits counseling, personal attendants, and tutors. To answer the third research question, I conducted *t* tests for Likert data and 30 of 35

accommodations reached statistical significance. Last, some participants from both groups used the option of “other” to specify any additional accommodations that were not listed in the survey.

I conducted focus groups and interviews. The fourth research question addresses notable definitions for the term reasonable accommodations. Focus group and interview participants responded about what participants considered to be reasonable accommodations: university personnel responses were more abstract whereas students’ responses were more concrete.

Interviews helped answer the fifth and seventh research questions, which asked about participants’ beliefs and feelings about accommodations. Students had mixed responses to whether they were being reasonably accommodated; the majority of university personnel thought they provided reasonable accommodations. Furthermore, interviews assisted in answering the sixth and eighth research questions, addressing how accommodations affect students with disabilities and university personnel. The majority of students thought accommodations affected them personally, professionally, and academically. Most university personnel believed accommodations affected them personally, yet even more thought accommodations affected them professionally.

Chapter 5 presents the results section in a meaningful manner in the order in which data were collected. The chapter starts with surveys, moves to the focus groups, and concludes with the interviews. The chapter also includes implication for positive social change in higher education, public policy, and research.

Chapter 5: Conclusion

Introduction

Background

ADA of 1990 safeguards individuals with disabilities, including in higher education (Cox, 2010). However, the term reasonable accommodations in higher education in accordance with the law, is ambiguous. Additionally, insufficient research exists on the unclear interpretation among university personnel and students with disabilities. This study explored the experiences and knowledge of participants to acquire a deeper and more comprehensive meaning of the term reasonable accommodations in higher education.

Nature of Study

This study was a sequential and exploratory mixed-method. The dependent variable was the perception of the participants; the independent variables were the role of participants in an academic setting (university personnel or students with disabilities), and which accommodations were offered by university personnel or used by the students with disabilities. Demographic items included age, race, gender, ethnicity, and economic status. Data were gathered from participants in an online survey, and in interviews and focus groups. I analyzed the quantitative and qualitative data using SPSS and ATLAS.ti software, respectively.

Interpretation of the Findings

In this section, I extend the findings from Chapter 4 in the order of the research questions. The first section presents the first three research questions from the

quantitative data and the second section discusses the remaining research questions from the qualitative data. Last, I discuss mixing the data.

Quantitative Data

The first research question was “What is the difference in perceptions of the term reasonable accommodations according to university personnel and students with disabilities in higher education?” Results from this study showed similarities between the perceptions of the term reasonable accommodations for university personnel and students with disabilities in higher education. The results for the second question, “What are the similarities between these groups’ perception of the term reasonable accommodations?” showed similarities in perceptions of the term reasonable accommodations. For example, Disability Support Service Centers in colleges provide various types of additional supports to students with disabilities (Summers, White, Zhang, & Gordon, 2014) such as tutors, as an accommodation. Both groups, university personnel and students with disabilities, had more than 70% agreement that tutors are a reasonable accommodation. Additionally, from the results it is plausible that tutors (odds ratio of 2.35) would be a more likely accommodation offered and used when compared to disability-benefits counseling (odds ratio of 2.05) or counseling for vocational-rehabilitation services (odds ratio of 2.05). Finding similarities among the two groups could begin to aid in defining what reasonable accommodations are.

In contrast, to answer the third research question, “What is the difference in the distribution of specific accommodations offered by university personnel and the use of specific accommodations by students?” I asked participants how often they offered or used specific accommodations. For this question, as compared to Questions 1 and 2,

tutors did not have as high a response rate as sign language and oral interpreters–transliterators (see Tables 10 and 11). Cawthorn and Leppo (2013) found that postsecondary students with hearing impairments highly used interpreters (92%) and note takers (93%) more often than speech-to-text technology (33%). The authors concluded that for these types of accommodations, “a more scaffold approach may be necessary” (Cawthorn & Leppo, 2013, p. 449) to teach students about these specific types of accommodations. Nevertheless, in comparison to the present study’s quantitative strand, students with disabilities aligned with use of note takers $M = 1.79$ ($SD = 1.29$). By comparison, university personnel aligned with a numerically larger offering of the accommodation of note takers $M = 3.12$ ($SD = 1.62$). Moreover, it is essential to note here that in the qualitative strand, students rated note takers highly; this was considered a specific accommodation. These findings are important to make positive social change because without a consensus of what are reasonable accommodations among groups, then specific guidelines within the law cannot be created. More research is needed in this area.

Qualitative Data

Focus groups. Focus groups helped answer the next research questions. I asked an introductory main question to both groups: “What were your thoughts about my survey?” Most comments were positive. University personnel were not as conversational and immediately forthcoming about their thoughts as were the students. The theme of help-support was a focus in the student group, but not for the university personnel group. I believe that this was because the students wanted to make known their need for more help and support. Moreover, university personnel’s lack of knowledge regarding disability law (McWaine, 2011; Rush, 2011) could have contributed to a less

conversational moment in their focus group and could be a rational explanation why students are not receiving enough support. The introduction question for the focus groups gave rise to a discussion of the next research question regarding the term reasonable accommodations.

To answer the fourth research question—What are notable definitions for the term reasonable accommodations as referred to in ADA law according to institutions and students?—I asked both groups about their experiences with accommodations, whether there should be guidelines, and what they considered to be reasonable accommodations. Even though help-support was not a key theme from the introductory question for personnel, it was a key theme when discussing what they thought of the first three focus group questions, and the theme of accommodations was also a major focus for group discussion.

While discussing reasonable accommodations with university personnel, I thought they would discuss specific accommodations at length; however, participants talked about abstract issues such as rights and policy. University personnel mainly defined reasonable accommodations as support that removes barriers for the students but does not change the content of what is being taught. Perhaps I should have tried to steer them from having their own discussion on the topic, but interesting issues arose. The theme of funding included that budgets were a huge factor for providing accommodations. Additionally, lawsuits can pose issues for universities (*Constantine v. Rectors & Visitors of George Mason University*, 2005; *Doe v. Oklahoma City University*, 2010; *Mershon v. St. Louis University*, 2006; and *Toledo v. Sanchez*, 2007). Moreover, university personnel

also believed accommodations cannot be universal due to different locations, professions, and types of disability.

In contrast, students thought reasonable accommodations were more tangible than did university personnel. Students gave examples such as note takers or interpreters. Perhaps this was because students are the individuals using the accommodations and know about their own needs, whereas university personnel try to figure out how to provide accommodations. Students also thought accommodations should be individualized rather than from a list. They also thought that students should not have to pay for them but agreed that accommodations can be costly. While students are in school and not working full-time jobs, their budgets for accommodations can burden them financially.

When I asked both groups about having federal guidelines for higher education accommodations, most participants thought guidelines should exist but should not be federally mandated policies. Participants thought that a need exists for more research regarding the topics of reasonableness, policy, and funding in higher education because the themes are greatly intertwined. For example, if universities have funding for interpreters for students, the school can consider that reasonable. However, according to law, if the accommodation is an undue burden on the school, it cannot be considered reasonable. Hence, the literature review gave examples of undue burdens and fairness; and this impacts the law such as with the agreement of Portable Practical Educational Preparation, Inc. (with individuals unnamed) failed to provide a qualified sign-language interpreter in a classroom (U.S. DOJ, 2005). The court ruled that Portable Practical Educational Preparation will provide qualified sign-language interpreters unless it is an

undue burden. Ending both groups' discussions concluded that, if there are undue funding burdens for accommodations then it can affect the schools' policy as those policies pertain to federal guidelines, and students' ability to pay for accommodations.

I conducted member checking with both focus-group participants and they confirmed the manuscripts they reviewed were accurate. University personnel commented they thought it was a good experience and that the topic needed more research. Students said sometimes it was difficult to keep participants on topic and focused. In retrospect, I thought there was insufficient time to get through my questions for both groups, explaining why I did not ask about the backgrounds of each participant. Perhaps with more time for future focus-group research, I will ask about their backgrounds.

Interviews. Some interviews took weeks and some months to complete due to participants either having very busy work, school, and family schedules, hospitalizations, or vacations. University personnel participants had a higher dropout rate than students. However, university personnel offered more comprehensive interviews than students did. I asked all participants an introductory question: "What did you think of my survey?" Students thought the survey was comprehensive and covered a multitude of accommodations. University personnel also thought the survey was comprehensive and raised their awareness regarding specific accommodations.

Focus groups and interviews addressed the fourth research question: "What are notable definitions for the term reasonable accommodations, as referenced in ADA law, according to institutions and students?" The provision or use of specific accommodations was a theme that arose from this question for both groups. For university personnel,

specific accommodations included bigger fonts, reading to students, readers, extended test time, tutoring, sign-language interpreters, note takers, and access. Some university personnel mentioned nontangible accommodation issues such as that the accommodation must remove barriers, should be assessed on a case-by-case basis, and depend on the type of disability. For students, specific accommodations included note takers, coaches, life-skill training, “everything,” modified test questions, being able to work at one’s own pace, separate test locations, writers, attendants to help get from place to place on campus, residency accommodations, audio recordings, tests in Braille, extended course time, personal assistants, independent-daily-living-skills training, and physical adjustments to classrooms. Again, students felt accommodations were more specific than did university personnel. I believe this phenomenon is because students use the accommodations and know what they need, whereas university personnel try to provide what students need. Additional research can assist in how to bridge the gap between the two, new methods of training for professionals, and aiding in creating specific legal guidelines.

The fifth research question was “What are the students’ beliefs and feelings about the accommodations?” The seventh research question was “What are university personnel’s beliefs and feelings about the accommodations?” To answer these questions, I asked interviewees what experience each had with accommodations. In addition, I asked students with disabilities if they thought they were receiving reasonable accommodations and asked university personnel if they believed they were providing reasonable accommodations. An important finding in this study was more than half the students thought they were not receiving reasonable accommodations. Other studies also found

that lack of satisfaction, inadequately providing accommodations, and negative attitudes (Burgstahler and Moore, 2009; Hadley, 2007; and Schiro-geist, 2009). Specific accommodations such as more or extended time were particularly expressed in the interviews. One participant said, “the extra time to complete assignments helped tremendously” whereas another student said, “I don’t know if I will be provided sufficient time.” It is well known that any degree program takes time to complete, but some individuals need more time than others need, especially students with disabilities. Students with disabilities that are not reasonably accommodated could seek other avenues in order to acquire the proper accommodations they need.

It is well known that any degree program takes time to complete, but some individuals need more time than others, especially students with disabilities. In hindsight, I wondered if students who were not reasonably accommodated requested accommodations beyond the scope of their school’s Disability Resource Center. If this were so, it is worth contemplating if changing the school would help the student be more academically successful. In addition, the school’s compliance with ADA needs to be investigated and whether the Office of Civil Rights could assist in the situation. I also wonder how students who acquired accommodations did so when others did not. More research is needed in this area.

Almost all university personnel thought they were providing reasonable accommodations, but most believed difficulties ensue in providing them. After reviewing the interviews transcripts for this question, I speculated if accommodations for students with disabilities are intended to help remove barriers. Also, I wondered if at times the

accommodations created a barrier for personnel to provide reasonable accommodations and if specific guidelines would be beneficial in reducing barrier development.

The sixth research question was “How do accommodations affect students personally, academically, and professionally?” The eighth research question was “How do accommodations affect university personnel?” To answer these questions, I asked participants how accommodations affect them. Participants provided a variety of responses.

Two students believed they were unaffected by accommodations whereas other students believed accommodations affected them personally, professionally, and academically. One said they received accommodations even after graduation to complete their degree program. Another student said, “It can become a little depressing.” Thinking back, perhaps I should have asked if they were seeking professional help or how they were handling personal emotional effects. One student believed accommodations made improvements in all three areas of life, whereas another said it improved her life only academically and personally. Because accommodations affected most students academically and personally, I think each area of life directly influences the other. More research is needed to explore how one variable can affect or influence the other variable.

University personnel spoke about how accommodations affect them personally and professionally but not academically because they do not use the accommodations in school. One person said, “No, not at all” whereas another person was quite bold and stated, “I do think accommodations affect people in disability services both personally and professionally—at least I hope they do.” As a researcher and a social worker, I believe this participant acknowledged human compassion that should be in the mind of

professionals when they have influence over other people's lives in the academic arena. Yet, some university personnel stated accommodations are "time consuming." One said that when they really think about accommodations, professionally, it makes them a better teacher. Another said it affects them both ways because accommodations affect their students, so in turn their students' needs affect them.

Another university person made a positive point: professionally, accommodations affect educators because accommodations help students reach their full potential. Other personnel expressed accommodations affected them in both ways because they had students ask for too much, such as to do the student's laundry. Most personnel said accommodations affected them professionally but not personally. I believe personnel feel this way because accommodations are not for them to use, perhaps explaining why more students felt accommodations affected them personally. More research is needed on this phenomenon.

Mixing Data

Creswell et al. (2003) pointed out that numerical data could be merged with qualitative software (p. 232). Therefore, I coded the results of the focus groups and interviews to compare and contrast them with the quantitative survey results. Table 20 clearly shows that students with disabilities had higher frequency rankings for specific accommodations than university personnel (90 or more participants).

For university personnel, 90 or more participants believed sign-language interpreters–translators, adaptive equipment–technology, and large print or Braille materials were reasonable accommodations. Yet, students had 10 accommodations with high-frequency rankings whereas university personnel had only three. Most students with

disabilities believed alternative examination formats, adaptive equipment–technology, and access to all facilities and services on campus were considered reasonable accommodations. Both groups believed strongly that technology (Fichten, Asuncion, Barile, Ferraro, & Wolforth, 2009; Stodden, Roberts, Picklesimer, Jackson, & Chang, 2006) was a reasonable accommodation. More research is needed in the area of technology as an accommodation to help create guidelines of which types of current technology are considered reasonable and not an undue burden on the schools.

The lowest frequency-rated accommodation for university personnel were personal attendants and independent-living-skills training, with only 49 participants and 47 participants, respectfully, believing these were considered reasonable accommodations. Additionally, low-rated accommodations for students with disabilities were dictionary use for examinations (60 participants), independent-living skills (61 participants), and priority class registration (63 participants).

Results were similar for focus groups and interviews. Both groups had high frequency for adaptive equipment–technology (university personnel, 19 participants; students with disabilities, 5). I think this was because it is easier for university personnel to have technology help the student than for them to help individual students. Also, I think students had a lower rate of mention on the list of specific accommodations because they had a higher rate of other suggested specific accommodations. For example, other studies and the law have discussed specific accommodations such as double time on testing (Thomas, 2000), universal design/accommodations (Burgstahler & Moore 2009), and suitable/accessible seating (U.S. DOJ, 2008a). Yet, additional examination time was high only for university personnel, whereas time to complete coursework following

hospitalization was highest for students with disabilities, perhaps because this was one student's main concern.

Nevertheless, a new dimension emerged from the focus groups and interviews. Both groups made 22 additional suggested specific accommodations that were not included on the list of 35 specific accommodations on the survey. I must reiterate that more research is needed in this area of specific accommodations as well to create positive social change and guidelines that are clear-cut enough and are not vague in order for everyone involved in the accommodation process in higher education to understand the law. I believe these additional accommodations came into view as participants reflected on their own work and experience. Last, interesting enough, additional time for assignments ranked highest for both groups: university personnel (10 participants) and students (23 participants) as a suggested accommodation. This may be due to students and university personnel needing more time for individual assignments; hence, group projects, teamwork, and homework were not mentioned in either the focus groups or interviews.

Individuals with disabilities are protected by the Federal ADA law (U.S. DOJ, 2009a). The law occasionally is too ambiguous to provide equal opportunity in higher education (Reeser, 1992). Additionally, Title III of the act states that "reasonable ... accommodations [shall be granted] to individuals with disabilities, unless the entity can demonstrate that making such modifications would fundamentally alter the nature of such goods, services, facilities, privileges, advantages, or accommodations" (U.S. DOJ, 2009a, para 33). During interviews, some university personnel believed that if an

accommodation would change the course content, that accommodation would be unreasonable. Yet, students felt, for the most part, nothing is unreasonable.

A review of the literature revealed court cases on reasonable accommodations (*Constantine v. Rectors & Visitors of George Mason University* 2005; *Doe v. Oklahoma City University*, 2010; *Mershon v. St. Louis University*, 2006; *Toledo v. Sanchez*, 2007; and *Zukle v. Regents of the University of California*, 1999). The outcomes from those court cases affect university personnel professionally. University personnel job performance can be influenced if asked to change or modify their teaching style or their required employment tasks to accommodate students with disabilities. These rulings also influence administrators and staff of universities who must set guidelines in accordance with case law. Research results from the interviews revealed that university personnel were affected personally and professionally. Moreover, students voiced they were affected academically, personally, and some of them, professionally.

To reiterate, Cox (2010) spoke about a “person’s right to sue for ADA accommodations” (p. 187). In the qualitative strand of this study, participants did speak and emphasized that policy and lawsuits were highly stressful issues. One participant stated: *The challenge with federal laws is that there are fifty states and they may see things differently*; because the law can be a challenge to interpret, why not change the law? Why not create specific guidelines? As emerged in the survey results, focus groups, and interviews, no consensus exists of what exactly are reasonable accommodations. For this reason, a special commission should be appointed to oversee policies (Frieden, 2003) to help reduce barriers for students with disabilities and to reduce the discrepancies in and

among agencies and policies. Lastly, there is a lack of literature regarding research studies about participants' feelings and thoughts on reasonable accommodations.

Limitations of the Study

For the quantitative survey of my study, I used a national instrument from the NCES. I believe the instrument was a reliable choice. Additionally, participants who took the survey were anonymous; hence, I believe they likely told the truth about how they felt regarding reasonable accommodations. Moreover, in the focus groups, I changed participants' e-mail addresses to be the colors of the spectrum to maximize confidentiality. Last, I believe participants in the interviews were quite frank and truthful because they invested a great deal of time and energy completing the interviews. Some interviews took weeks to complete.

One limitation of this study was gaining participants in a reasonable time frame. It took a very long time to gain participants because, at times, they would drop out. My determination and ability to continuously draw new participants to the study was accomplished with due diligence. Another limitation was that I had to know whether participants were students or university personnel. I mitigated this limitation by requiring all participants to have a school e-mail address. Additionally, there were some participants that failed to complete the quantitative survey; therefore, I coded questions that were unanswered in the survey and that were not completed with a missing value of 999 for numeric values (SPSS Inc., 2007, p. 46) and "NR" for missing categorical data (SPSS Inc., 2007, p. 48). Finally, I conducted member checking in the qualitative strand to confirm participants' responses.

Recommendations

Research on the variations in defining terminology on higher education accommodations is currently limited. The purpose of this study was to explore how university personnel and students with disabilities defined the term to develop a specific, universal definition for reasonable accommodations in a higher education context. The ADA of 1990 requires institutions of higher education to provide equal learning opportunities for students with disabilities, who often require accommodations. Limited current research exists on the interpretation of reasonable accommodations by university personnel and students; thus, this study worked to acquire a more definitive definition of the term reasonable accommodations in higher education through interviews and focus groups with this target population.

During data collection for this study, participants expressed a need for more research on the topics of reasonableness, policy, and funding in higher education, and how these topics interrelate. For example, language interpreters may be considered a reasonable accommodation for low-English-literacy students at a particular university. However, if the financial cost of the language interpreters creates an undue burden on the university, the accommodation would be considered unreasonable. Determining whether an accommodation is actually an undue burden to the university or a fair necessity for the student is a complex process; many participants spoke about this problem and cited examples in great detail, explained in the results chapter.

Participants in this study commented they appreciated being a part of the focus groups, and that the topic of defining reasonable accommodations in higher education needed more research. A limitation of this study was the lack of very specific questions

regarding the larger implications accommodations could have on student academic, personal, and professional success. Additional questions on participants' use of professional mental health resources could provide insight into how students with accommodations handle the emotional effects of their situation. Participant feedback suggests accommodations positively affected their academic and personal life. More research is needed to explore the relationship between receiving reasonable accommodations and student academic and personal outcomes.

An explanation for students who are not given adequate reasonable accommodations could be that the necessary accommodations are beyond the capabilities of their university's Disability Resource Center. Possible solutions to help alleviate this problem are providing accommodation-specific funding to universities that are not currently in ADA compliance, or involving the Office of Civil Rights in the implementation of more effective accommodation programs. Additionally, more research is necessary to explore the differences in how students at various universities seek and acquire accommodations.

When discussing accommodations with university personnel, the focus groups concentrated on personal and professional aspects of providing reasonable accommodations to students. Positive comments about accommodations included the belief that accommodations help students reach their full potential, and accommodations allow university personnel to be more effective teachers. However, some participants were concerned about the time-consuming nature of providing accommodations to students, and others suggested that sometimes students "ask for too much." In contrast

with students, university personnel did not express that accommodations affected their personal lives, as students with disabilities did.

Aligned with Section 101.9 of ADA, accommodations are defined as making existing facilities used by employees readily accessible to and usable by individuals with disabilities ... acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training materials or policies, the provision of qualified readers or interpreters, and other similar accommodations for individuals with disabilities. (Blair & Salzberg, 2007, p. 15)

The terminology used in this definition is ambiguous. Without a clearer set of standards for providing reasonable accommodations to students in higher education, policymakers cannot begin to adjust policies and implement fair university practices on student accommodations. This research study explored how university students and personnel conceptualize accommodations, and what effect these accommodations have on the success of the population of interest. Further research is necessary to hone in on a more specific definition of reasonable accommodations that can be applied ubiquitously throughout higher education. Last, while conducting the literature review, I found no Supreme Court cases when searching law libraries on higher education and ADA law. Perhaps this phenomenon also needs to be explored and researched.

Implications

As was clear from the survey responses, focus groups, and interviews, no consensus exists of what exactly are reasonable accommodations. For this reason, I believe that a special federal commission could be appointed to oversee policies (Frieden,

2003) created to help reduce barriers for students with disabilities. Also, such a commission could reduce the discrepancies in and among federal and state-to-state policies for all levels of higher education.

The results of my research showed that from university to university, sometimes reasonable accommodations in accordance with ADA law are not provided or sometimes not used by students with disabilities when offered. Participants agreed that there needs to be change in the areas of compliance; however, positive change can occur when perceptions regarding funding and policy do not differ within the educational arena. Perhaps to reduce the fraction of universities not in compliance with ADA, the federal government should mandate that all universities that accept federal funds employ an ADA-compliance coordinator or officer. In addition, all staff should be trained to adhere to the new policies and to ADA law, as was in question in settlement agreements of schools such as the University of Michigan, University of Chicago, Colorado College, and Swarthmore College.

Positive Social Change in Policy on the Individual's Level

Professors and directors of services for students with disabilities are not only part of the organizational educational arena but are individuals themselves, affected by reasonable accommodations. These individuals must perform due diligence to ensure and fulfill the legal obligation of ADA law and that the possibilities and opportunities for all students are equal. Through mandated training on ADA law, sensitivity training, and disability-awareness training, professionals could aid in facilitating learning for all students. On an individual basis, students with disabilities have the right to have reasonable accommodations in higher education; however, along with the right comes the

responsibility of inquiring, maintaining, and using that right. The old adage regarding if you see something, do something, applies here with students. If they know they need accommodations, they must speak to whoever will listen to receive what is needed for their learning process to be successful.

Conclusion

In summary, life does not occur in a vacuum, neither does ADA law. The law was created to require compliance with all of it. To appreciate and fully understand the law helps those it was intended to protect.

In conclusion, from my research I have learned that reasonable accommodations are more than just a check list, as was clear from the survey responses, or tangible items a student might gain during a semester. Accommodations are a needed support for students with disabilities in higher education. The accommodations remove barriers. Moreover, reasonable accommodations are the foundation for university personnel to facilitate learning for students with disabilities. Much research is needed to gain consensus regarding awareness, policy, and compliance with reasonable accommodations. I hope, when stakeholders ever have a consensus, that the opportunities will become equal.

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Appendix A: List of Accommodations

1. Sign language interpreters/transliterators
2. Real-time captioning
3. Oral interpreters/transliterators
4. Readers
5. Classroom note takers or scribes
6. Faculty-provided written course notes or assignments
7. Adaptive equipment and technology (eg, assistive listening devices, talking computers)
8. Physical adaptations to classrooms
9. Paratransit for on-campus mobility
10. Personal attendants
11. Independent living skills training
12. Audio textbooks/digitally recorded texts
13. Large print or Braille materials
14. Help with learning strategies or study skills
15. Tutors to assist with ongoing coursework
16. Alternative exam formats (eg, large print, Braille, audio formats)
17. Additional exam time
18. Course substitution or waiver
19. Priority class registration
20. Disability resource handbook
21. Career or placement services targeted for students with disabilities

22. Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)
23. Counseling about vocational rehabilitation services
24. Moving classes to a more accessible location
25. Time back to complete course work following hospitalization
26. Alternative text format course readings or textbooks (e.g., doc, html or text documents for purposes of using text to speech computer software programs, e.g. ReadPlease)
27. Speech to write programs (e.g. Dragon NaturallySpeaking)
28. Accessible transportation from home to campus or campus to home
29. Proctor exam and/or exam reader
30. Dictionary used for exams
31. Calculators used for exams
32. Other testing accommodations
33. Advocacy
34. Access to all facilities and services on campus (e.g., libraries, housing, computer labs)
35. Flexible attendance requirements and Assignment deadlines
36. Other (please specify)

Appendix B: Letter to Editors of National Newspapers

Dear Editor (Name of editor if possible or the name of the newspaper)

I am a Walden Ph.D. student in the Organizational Psychology program and conducting my dissertation research study regarding reasonable accommodations in higher education. Your newspaper was chosen to disseminate my study because it is listed as one of the nation's top newspapers on Newsmax. It would be greatly appreciated if you would publish the following letter in order to inform the public of my research study.

Thank you in advance for your consideration,

Anita Schwartz, LMSW

Contact email address

Phone

Address

Dear Readers,

If you are either a college student with a disability or university personnel at a college, there is a research study in which you might be interested. The purpose of this study is to get a better understanding of the perception of what the term reasonable accommodations means in higher education.

If you agree to be in this study, you will be asked to:

- Take a survey (less than 20 minute's duration)
- Answer interview questions (less than 1-hour duration)
- And/or take part in a focus group (less than 1 hour duration)

There is no compensation for participating in the survey. For those who volunteer and are chosen (first come basis) to take part in the focus group or interview will receive a \$20 Starbucks or Amazon.com gift card (participant's choice).

Your participation is voluntary and you can withdraw from the study at any time. If you would like to find out more information or participate in my study, you may contact me via e-mail anita@abc.com using your school e-mail address.

Appendix C: Letter to Disability Service Centers

Letter to Disability Service Centers Listed in K&W Guide to Colleges for Students with Learning Disabilities or Attention Deficit Disorder from Princeton

Dear Service Center Provider (Name of provider or the name of the school)

I am a Walden University PhD student in the Organizational Psychology program and conducting my dissertation research study regarding reasonable accommodations in higher education. Your Service Center was chosen to disseminate the study because it is listed in Kravets and Wax (2005) *K&W Guide to Colleges for Students with Learning Disabilities or Attention Deficit Disorder*, 8th Ed., published by Princeton Review. It would be greatly appreciated if you would participate in the study, and post the following flyer in order to inform your students and fellow university personnel of my research study.

Thank you in advance for your considerations,

Anita Schwartz, LMSW
Contact email address
Phone

Dear University Personnel and Students,

If you are either a college student with a disability or university personnel, there is a research study in which you might be interested. The purpose of this study is to get a better understanding of the perception of what the term reasonable accommodations means in higher education.

If you agree to participate in this study, you will be asked to:

- Take a survey (less than 20 minute's duration)
- After the survey, you can take part in either a focus group or an interview

If you would like to find out more information, please visit:

<https://www.youtube.com/watch?v=n77B8GgMst8>

Questions about the study, you may contact Anita via e-mail anita@abc.com using your school e-mail address or call (555) 555-5555

To take the survey please visit: <https://www.surveymonkey.com/s/accommodationsADA>

Appendix D: Facebook.com Page, General Information

If you are either a college student with a disability or university personnel, there is a research study in which you might be interested. The purpose of this study is to get a better understanding of the perception of what the term reasonable accommodations means in higher education.

If you agree to participate in this study, you will be asked to:

- Take a survey (less than 20 minute's duration)
- After the survey, you can take part in either a focus group or an interview

If you would like to find out more information, please visit:

<https://www.youtube.com/watch?v=n77B8GgMst8>

Questions about the study, you may contact Anita via e-mail anita@abc.com using your school e-mail address or call (555) 555-5555

To take the survey please visit: <https://www.surveymonkey.com/s/accommodationsADA>

Youtube.com page, general information:

The following text will be a youtube.com page that will scroll up and a voice will read the text.

If you are either a college student with a disability or university personnel, there is a research study in which you might be interested. The purpose of this study is to get a better understanding of the perception of what the term reasonable accommodations means in higher education.

If you agree to participate in this study, you will be asked to:

- Take a survey (less than 20 minute's duration)
- After the survey, you can participate in either a focus group or an interview

Eighteen participants are needed for focus groups, 9 participants that are university personnel and 9 students. Additionally, 18 participants are needed for interviews, 9 participants that are university personnel and 9 that are students.

Some basic information about the study:

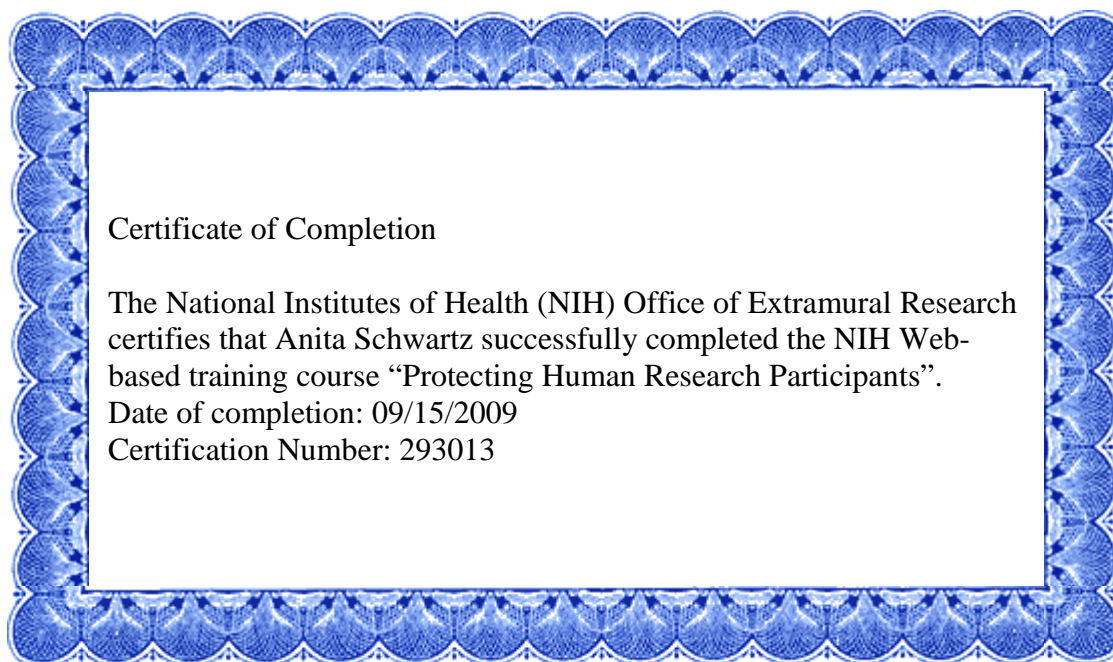
There will be no risk to you for taking part in this study. Your participation is voluntary and you can withdraw from the study at any time. The benefits of the study may include helping educators, students, and lawmakers to get a better understanding of what reasonable accommodations are from different perspectives. This can help lawmakers when changing or creating new law regarding accommodations in higher education. There is no compensation for participating in the survey. However, those who volunteer and are chosen (first come basis) to take part in the focus group or interview will receive a \$20 Starbucks or Amazon.com gift card (participant's choice).

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project.

Questions about the study, you may contact Anita via e-mail anita@abc.com using your school e-mail address or call (555) 555-5555

To take the survey please visit: <https://www.surveymonkey.com/s/accommodationsADA>

Appendix E: NIH Certificate of Completion



Appendix F: Survey

1. Date taking this survey _____
2. Age:
 - 18–25
 - 26–35
 - 36–45
 - 46–55
 - 56–65
 - 66–75
 - 76–85
 - 86–95
3. Gender:
 - Male
 - Female
4. Race:
 - White
 - Black
 - Hispanic
 - Asian
 - Other _____
5. Level of Education:
 - 1st year of college
 - 2nd year of college
 - 3rd year of college
 - 4th year of college
 - Masters
 - PhD
6. Which state do you live in? _____
7. In which state is your college or university located? _____
8. Does your college or university offer online courses and/or degree programs?
Yes or No
9. What is your school e-mail address? _____
(*required to take part in research study*)
10. Are you currently a student? Yes or No

11. Are you a student with a disability? Yes or No

If you are a student with a disability, please go to question 15.

12. Are you currently an employee of a college or university? Yes or No

13. If yes, are you teaching faculty or staff? *(Please check off either faculty or staff)*

If you are employed as teaching faculty or staff, please go to question 14.

14. As an employee of a college or university, how often did you offer the following accommodations to students?

1. Sign language interpreters/transliterators

Not offered

Offered less than 25% of the time

Offered 25% – 50% of the time

Offered 51% – 75% of the time

Offered more than 75% of the time

2. Real-time captioning

Not offered

Offered less than 25% of the time

Offered 25% – 50% of the time

Offered 51% – 75% of the time

Offered more than 75% of the time

3. Oral interpreters/transliterators

Not offered

Offered less than 25% of the time

Offered 25% – 50% of the time

Offered 51% – 75% of the time

Offered more than 75% of the time

4. Readers

Not offered

Offered less than 25% of the time

Offered 25% – 50% of the time

Offered 51% – 75% of the time

Offered more than 75% of the time

5. Classroom note takers or scribes

Not offered

Offered less than 25% of the time

Offered 25% – 50% of the time

- Offered 51% – 75% of the time
Offered more than 75% of the time
6. Faculty-provided written course notes or assignments
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time
7. Adaptive equipment and technology (e.g., assistive listening devices, talking computers)
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time
8. Physical adaptations to classrooms
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time
9. Paratransit for on-campus mobility
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time
10. Personal attendants
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time
11. Independent living skills training
Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

12. Audio textbooks/digitally recorded texts

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

13. Large print or Braille materials

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

14. Help with learning strategies or study skills

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

15. Tutors to assist with ongoing coursework

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

16. Alternative exam formats (e.g., large print, Braille, audio formats)

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

17. Additional exam time

- Not offered
- Offered less than 25% of the time
- Offered 25% – 50% of the time
- Offered 51% – 75% of the time
- Offered more than 75% of the time

18. Course substitution or waiver
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

19. Priority class registration
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

20. Disability resource handbook
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

21. Career or placement services targeted for students with disabilities
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

22. Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

23. Counseling about vocational rehabilitation services
 - Not offered
 - Offered less than 25% of the time
 - Offered 25% – 50% of the time
 - Offered 51% – 75% of the time
 - Offered more than 75% of the time

24. Moving classes to a more accessible location
 - Not offered
 - Offered less than 25% of the time

Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

25. Time back to complete course work following hospitalization

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

26. Alternative text format course readings or textbooks (e.g., doc, html or text documents for purposes of using text to speech computer software programs, e.g., ReadPlease)

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

27. Speech to write programs (e.g. Dragon NaturallySpeaking)

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

28. Accessible transportation from home to campus or campus to home

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

29. Proctor exam and/or exam reader

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time
 Offered 51% – 75% of the time
 Offered more than 75% of the time

30. Dictionary used for exams

Not offered
 Offered less than 25% of the time
 Offered 25% – 50% of the time

Offered 51% – 75% of the time
Offered more than 75% of the time

31. Calculators used for exams

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

32. Other testing accommodations

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

33. Advocacy

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

34. Access to all facilities and services on campus (e.g., libraries, housing, computer labs)

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

35. Flexible attendance requirements and Assignment deadlines

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

36. Other (please specify): _____

Not offered
Offered less than 25% of the time
Offered 25% – 50% of the time
Offered 51% – 75% of the time
Offered more than 75% of the time

If you are employed as faculty or staff of a college, please go to question 16.

15. As a student with a disability, how often since attending college or university classes have you used the following accommodations?

1. Sign language interpreters/transliterators

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

2. Real-time captioning

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

3. Oral interpreters/transliterators

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

4. Readers

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

5. Classroom note takers or scribes

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

6. Faculty-provided written course notes or assignments
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

7. Adaptive equipment and technology (e.g., assistive listening devices, talking computers)
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

8. Physical adaptations to classrooms
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

9. Paratransit for on-campus mobility
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

10. Personal attendants
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

11. Independent living skills training
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

12. Audio textbooks/digitally recorded texts
 - Not used

Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

13. Large print or Braille materials

Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

14. Help with learning strategies or study skills

Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

15. Tutors to assist with ongoing coursework

Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

16. Alternative exam formats (e.g., large print, Braille, audio formats)

Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

17. Additional exam time

Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

18. Course substitution or waiver
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

19. Priority class registration
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

20. Disability resource handbook
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

21. Career or placement services targeted for students with disabilities
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

22. Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

23. Counseling about vocational rehabilitation services
 - Not used
 - Used less than 25% of the time
 - Used 25% – 50% of the time
 - Used 51% – 75% of the time
 - Used more than 75% of the time

24. Moving classes to a more accessible location
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time
25. Time back to complete course work following hospitalization
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time
26. Alternative text format course readings or textbooks (e.g., doc, html or text documents for purposes of using text to speech computer software programs, e.g. ReadPlease)
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time
27. Speech to write programs (e.g. Dragon NaturallySpeaking)
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time
28. Accessible transportation from home to campus or campus to home
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time
29. Proctor exam and/or exam reader
Not used
Used less than 25% of the time
Used 25% – 50% of the time
Used 51% – 75% of the time
Used more than 75% of the time

30. Dictionary used for exams

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

31. Calculators used for exams

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

32. Other testing accommodations

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

33. Advocacy

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

34. Access to all facilities and services on campus (e.g., libraries, housing, computer labs)

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

35. Flexible attendance requirements and Assignment deadlines

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

36. Other (please specify): _____

Not used

Used less than 25% of the time

Used 25% – 50% of the time

Used 51% – 75% of the time

Used more than 75% of the time

16. For both faculty and staff employees of colleges and students, please answer the following question: Do you consider the following accommodations to be *reasonable accommodations*?

Sign language interpreters/transliterators	Yes or No
Real-time captioning	Yes or No
Oral interpreters/transliterators	Yes or No
Readers	Yes or No
Classroom note takers or scribes	Yes or No
Faculty-provided written course notes or assignments	Yes or No
Adaptive equipment and technology (e.g., assistive listening devices, talking computers)	Yes or No
Physical adaptations to classrooms	Yes or No
Paratransit for on-campus mobility	Yes or No
Personal attendants	Yes or No
Independent living skills training	Yes or No
Audio textbooks/digitally recorded texts	Yes or No
Large print or Braille materials	Yes or No
Help with learning strategies or study skills	Yes or No
Tutors to assist with ongoing coursework	Yes or No
Alternative exam formats (e.g., large print, Braille, audio formats)	Yes or No
Additional exam time	Yes or No

Course substitution or waiver	Yes or No
Priority class registration	Yes or No
Disability resource handbook	Yes or No
Career or placement services targeted for students with disabilities	Yes or No
Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)	Yes or No
Counseling about vocational rehabilitation services	Yes or No
Moving classes to a more accessible location	Yes or No
Time back to complete course work following hospitalization	Yes or No
Alternative text format course readings or textbooks (e.g., doc, html or text documents for purposes of using text to speech computer software programs, e.g. ReadPlease)	Yes or No
Speech to write programs (e.g. Dragon NaturallySpeaking)	Yes or No
Accessible transportation from home to campus or campus to home	Yes or No
Proctor exam and/or exam reader	Yes or No
Dictionary used for exams	Yes or No
Calculators used for exams	Yes or No
Other testing accommodations	Yes or No
Advocacy	Yes or No
Access to all facilities and services on campus (e.g., libraries, housing, computer labs)	Yes or No
Flexible attendance requirements and Assignment deadlines	Yes or No
Other (please specify): _____	Yes or No

This concludes the survey portion of the research study.

If you would like to continue helping in this research study by being interviewed by the researcher or being part of a focus group, then click on “I give my permission to the researcher to contact me via e-mail to set up a convenient time for me to participate.”

Focus groups will be recorded by e-FocusGroups. The interview will be recorded via an independent secure chat program (i.e. yahoo IM or any other program that participants have access). The recordings will be a typed manuscript. You may be asked to review the draft manuscript for accuracy of what was said during your interview.

For your focus groups and interviews, you will be asked to answer questions (less than 1-hour duration). Please note there are a limited number of participants needed for the either focus groups or interviews.

If you are selected (first come, first serve basis) then at the end of the interview or focus group you will be sent either a \$20 gift card to Amazon.com or Starbucks, your choice.

I give my permission to the researcher to contact me via e-mail to set up a convenient time for me to participate in a focus group.

I give my permission to the researcher to contact me via e-mail to set up a convenient time for me to participate in an interview.

Thank you for participating in this part of the research study.

Appendix G: Permission Letter to Utilize Public Domain Survey

The following is an explanation of the modification of the items in the public domain survey utilized and the permission letter.

Subject : Re: publication number ED005242P

Date : Thu, Dec 01, 2011 10:03 AM CST

From : "Coopersmith, Jared" <jc@abc.com >

To : Anita Schwartz <anita@abc.com >

Hi Ms. Schwartz,

I'm glad to hear the report will be helpful for your dissertation. All of our surveys are public domain and can be re-used without specific permissions. Please cite NCES as the source of the item(s) and be sure not to give the appearance that NCES approve your study.

The title of the questionnaire is the bold text on the definition and instructions page, "Students with Disabilities at Postsecondary Education Institutions."

Regarding reliability and validity, our surveys are developed through interviews and pretesting. We conduct initial interviews with prospective respondents on the topics we intend to ask about. We then draft a survey instrument based on this input and conduct a pretest. We further revise the questions based on the pretest. Input from content experts and the federal Office of Management and Budget is also incorporated into the questionnaires. The technical notes in the report also include the percent of cases imputed for each data item (table B-2).

This is the full report. That language is designed to alert readers that there is more information available from the data collection than included in the report. If you're interested in additional findings, the public-use version of the data can be downloaded from this site: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011019>. If your dept/university has a restricted-use license with NCES, you could also obtain the restricted-use data, which includes institution identifiers and more detailed characteristics.

Let me know if you have any further questions and good luck with your research.

Jared Coopersmith

National Center for Education Statistics

Project Officer

Fast Response Survey System (FRSS)

Postsecondary Education Quick Information System (PEQIS)

123 ABC Street
New York, NY 10001
Phone (555) 555-5555

From: Anita Schwartz <anita@abc.com >
Date: Thu, 1 Dec 2011 09:45:23 -0600
To: Jared Coopersmith <jc@abc.com>
Subject: publication number ED005242P

Dear Jared Coopersmith,

I writing to you regarding publication number ED005242P (reference below). Currently, I am a PhD student at Walden University and just started working on my dissertation. I am very excited about this stage of my education. The working title of my dissertation is: A National Mixed Methods Research Study: Defining Reasonable Accommodations in Higher Education for Adult Students with Disabilities. Hence, reading the Raue and Lewis report has been very helpful.

I have just a few questions about the report.

First, question number seven, on the questionnaire, I would like permission to utilize it for my survey instrument. Would it be possible to acquire the authors' contact information to gain permission?

Second, on the questionnaire, I did not see a title. Is there a title for it, or an ID number that I can use to reference it in my dissertation?

Third, how can I acquire information regarding the questionnaire's reliability and validity?

Lastly, on page 2, it states "...the purpose of this report is to introduce new NCES data through the presentation of tables containing descriptive information, only selected findings are presented". Now, since only select findings are presented, how can I obtain the other findings? I think it will be interesting to read the full report.

Thank you so much for your help in advance with my educational experience, Anita Schwartz, LMSW

Reference

Raue, K., and Lewis, L. (2011). *Students With Disabilities at Degree-Granting Postsecondary Institutions* (NCES 2011-018). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Regards,
Anita Schwartz, LMSW
Cell: (555) 555-5555

Difference in Survey Question

The survey instrument is from the NCES Question 7, the survey states: Listed below are support services or accommodations designed for students with disabilities. Please indicate whether your institution provided that service or accommodation to a student with disabilities in 2008–09 (12-month academic year). Include only services and accommodations designed for students with disabilities. (Raue et al., 2011, p. C-5)

The item has a list of 25 services/accommodations (see Table 1) with yes and no responses possible, thus the data gathered from the survey is ordinal (Gravetter & Wallnau, 2007, p. 23). The question from the published instrument will be modified for the proposed research to gain a deeper understanding of the participants' viewpoints regarding the construct. Therefore, the first question of the survey will be:

1A. As a university employee, how often did you offer the following accommodations to students? A list of 35 items will be presented with a Likert rating scale. The items will be coded as follows: 1 = not offered; 2 = offered less than 25% of the time; 3 = offered 26% – 50% of the time; 4 = offered 51% – 75% of the time; 5 = offered more than 75% of the time

For students the first question is:

1B. As a student, how often did you use the following accommodations? A list of 35 items will be presented with a Likert rating scale. The item will be coded as follows: 1 = not used; 2 = used less than 25% of the time; 3 = used 26% – 50% of the time; 4 = used 51% – 75% of the time; 5 = used more than 75% of the time

For both university personnel and students, question number two of my survey would refer back to the first question's list of accommodations but would ask the question:

2A, 2B. (For both university personnel and students) Do you consider the following accommodations to be reasonable accommodations? The participant's answers would be either yes=1 or no=2.

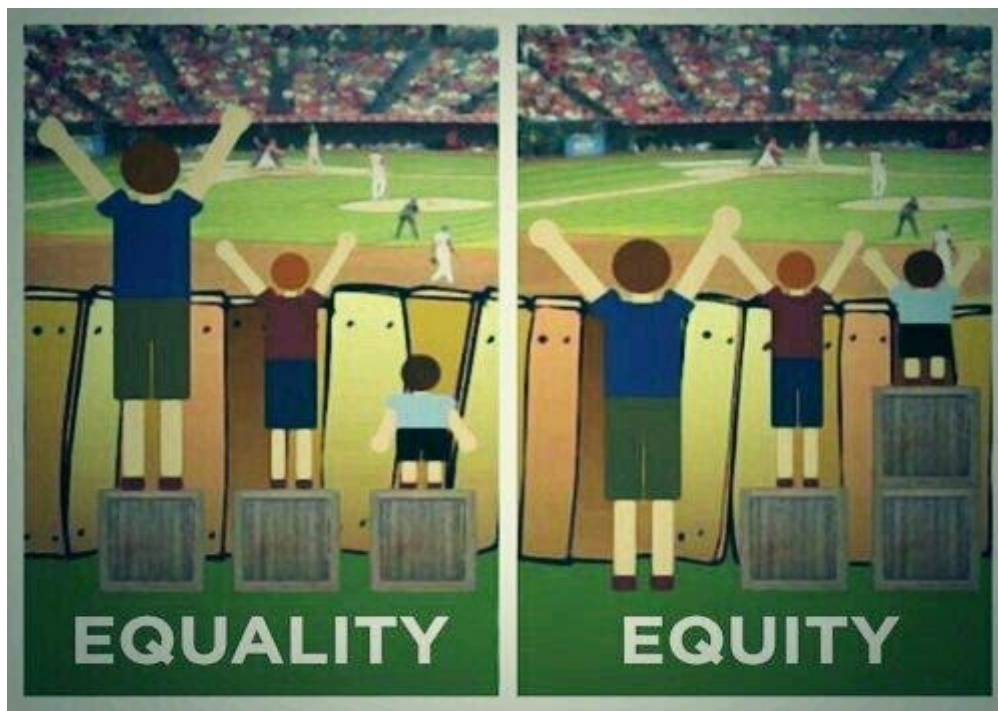
Appendix H: Total Themes

Table K1

Affects of Accommodations Personnel and Students

Theme	<i>N</i> university personnel	<i>N</i> students with disabilities
Accommodations	242	173
Advocacy	0	3
Affects	11	12
Asked	0	11
Disabilities	179	100
Experience	3	1
Funding	53	42
GPA Graduate	0	11
Help/Support	102	96
Issues	109	106
Needed	0	13
Offered/Utilized	122	79
Levels of education	0	9
Policy	70	67
Reasonable	129	79
Specific Accommodations	141	36
Survey	18	17
Tests	81	12
Thoughts	164	126
Time	93	45
University	698	355

Appendix I: University Personnel of How They View Accommodations



Appendix J: Syllabus From University Personnel Given in an Interview

CLASSROOM POLICY

Not everyone prefers to be called by their legal name, and not everyone's preferred pronouns (for example, she/her/hers, he/him/his, they/them/there, he/her/his) are obvious to others. In this class, everyone has the right to go by the name and pronouns that they prefer. You may introduce yourself using whatever name you wish to use, and should write your preferred name on all assignments. If your name or pronoun preference changes during the semester, please let me know so that I can refer to you by the correct name and pronouns.

I prefer that my students call me Mary123 (rather than Ms. M, Prof. M, etc.) and I prefer the pronouns she, her, and hers.

We all learn in different ways. Please feel free to manage your classroom experience in the way that is best for you. You may make audio recordings of lectures or discussions, take pictures of the board, use a computer or other device to take notes and complete in-class assignments, sit wherever you like in the classroom, bring in food or beverages, leave the classroom when necessary, etc. Students who want transcripts for audio/visual material should let me know as soon as possible so that I can make them. If there is something I can do to create a more comfortable learning environment for you, please never hesitate to ask (for example, "can you speak more slowly/loudly/clearly?" or "can you make the image brighter/more high-contrast?" or "can you ask Jack to wear less cologne in class?"), even if you're not registered with Disability Services.

The Office of Disability Services has resources and technologies to help you manage your learning environment. If you have a disability, you are encouraged to register with this office. You may be entitled to accommodations in your courses, such as additional time on tests, staggered homework assignments, or note-taking assistance. This office will give you a letter outlining the accommodations to which you are entitled that you can share with your teachers. Whether or not you choose to register with Disability Services, I encourage you to talk to me about any accommodations that would improve your experience of WR100.