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Faculty Perception of Inclusive Instruction at Three South-Central Community Colleges

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Higher Education

by

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Abstract

Enrollment rates for student with disabilities in higher education continue to rise, particularly in 2-year colleges, but graduation rates have not kept pace due to barriers not addressed by traditional disability supports (Black et al., 2014; NCES, 2019; Smedema et al., 2015). Inclusive instruction is a low-cost, high-impact solution that can be implemented on any campus (Black et al., 2014; Lombardi et al., 2013; Roberts et al., 2011). This quantitative study utilized a cross-sectional descriptive non-experimental research design that explored faculty self-reported attitudes and actions associated with inclusive instruction at three of the largest degree-granting, two-year institutions in a single South-Central state in the United States. It utilized an existing survey tool, *Inclusive Teaching Strategies Inventory* (ITSI), which focused on different areas of inclusive instruction in higher education, as well as faculty demographics. The inclusive instruction constructs included: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law concepts (Lombardi et al., 2013). Results indicate that disability training can have a significant effect on faculty actions in implementing accommodations in the classroom. Findings also showed a discrepancy between faculty beliefs and actions in each construct. Further exploration of the results and practical implications are discussed as well.

Keywords: college, community college, inclusive instruction, disability, Universal Design (UD), Universal Design for Instruction (UDI), accommodations, accessible course materials, course modifications, inclusive lecture strategies, inclusive classroom, inclusive assessment, disability law concepts, higher education, faculty perception, and universities.

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"Karen, a dissertation is a lot like a first kiss. It's sloppy, kind of gross, and definitely not going to be your best work. You just need to live through it, learn from it, and move forward." Those were the first words of dissertation advice given to me by Dr. Brent Williams so many years ago, and every time I remember his words it makes me laugh - partly because they were funny and partly because they were spot on. It is through his guidance, as well as that of my other wonderful committee members that I was able to complete this task. Dr. John Murry was the first person I spoke to about the doctoral program and helped me to decide that it was the right path for me. He stuck by my side throughout the entire dissertation process, which is *truly* an underappreciated task, but one I share my greatest and most sincere appreciation for. Dr. Ketevan Mamiseishvili's advice and guidance has always been spot on and instrumental throughout this process, for which I am very grateful for. Last, but not least, I must thank Dr. Mike Miller, for joining the committee last-minute when I switched over to the Ph.D. program a few days before my third chapter dissertation review. His willingness to step in and help last-minute made him a true lifesaver.

I also want to acknowledge every friend, family member, and colleague who ever listened to me talk about my dissertation (sorry about that, I know it must have been awful), encouraged me, and supported me along the way. I don't know if I could have done it without that constant lift of spirit. There are a few standouts who I have to mention by name: Dr. Patti Bokony, my aunt, whose open ear and excellent advice helped get me off the ground, which was the hardest part; Dr. Bryan Aguiar, who served as my lifeline through statistics; Jean Anderson, who was so excited to review my work every time I finished a chapter that I started to worry about her (because that definitely isn't normal), and who *always* asked how I was doing and kept

on encouraging me; my mother, Carol Sutterfield, for always reading my drafts and sharing feedback…and for taking the brunt of my worries, excitements, and fears over the last 9 years; and for my husband, Brennan O'Donohoe, for always standing strong behind me and letting me lean on him when I was overwhelmed or discouraged.

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Dedication

I dedicate this work to my children, Patrick (age 13) and Sophie (age 11). They were only 5 and 2 years old when I started the doctoral program and they have watched me march toward this goal over last nine years. When I initially told them that I was going to get my doctorate and become a doctor, Sophie wailed, "I don't want you to be a doctor, I want you to be my mommy!" Already having endured the injustice of having a younger sister, Patrick rather took it in stride.

Regardless of their initial reactions (or lack thereof), it is for them that I saw this through. I wanted them to witness what it looks like to pursue a dream – the tears, the sacrifice, and the grit. May it give them confidence and inspire them to pursue their own dreams one day. Or may it simply serve as a reminder to be more cautious about biting off more than they can chew at any given time. Both are important lessons.

I also dedicate this work to by brother, Donny, who was born five years before me with severe cerebral palsy. His life, challenging and scary as it has been at times, lit a fire within mine at a young age. It is for him and all the other people I have had the fortune of meeting along my journey, whose voices were often overlooked or undervalued, that I publish this paper; this small piece of a larger voice that I believe will continue to make an impact on this world if we just keep going.

Finally, this paper is in memory of my father, Dennis Sutterfield, who passed away unexpectedly a mere four months before I walked across the stage to accept my diploma. I know that if he could have been there to cheer me on during the last leg of the journey, he would have been. I hope that wherever he is now, he is proud.

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Chapter 1

Introduction

Today's college students are being recruited from increasingly diverse backgrounds. Most students enrolled in either a 2- or 4-year college now identify as coming from a varied age group, socioeconomic status, ethnicity, proficiency with the English language, level of preparedness, work status, severity of disability, family dynamic, or combination of these factors (Boggs, 2010; Chen, 2005; Desai, 2012; Kuh et al., 2005; Lombardi, Murray & Gerdes, 2011; McGuire & Scott, 2006; McGuire et al., 2006; Perdigones et al., 2009; Strayhorn, 2006; Trends, 2017). The growing diversity has challenged institutions of higher education in the United States to create more inclusive campuses for the increasingly complex types of students they serve (Bourke et al., 2000; Edyburn, 2010; Roberts et al., 2011; Zeff, 2007). With this rapid growth in variability comes increased pressure by lawmakers, students, and advocates to develop more inclusive instruction and accessible learning environments (Edyburn, 2010; Lombardi & Murray, 2011; Lombardi et al., 2013; Newby, 2005; Scott, McGuire & Shaw, 2003; Zeff, 2007). This is particularly true for community colleges, or 2-year institutions, which enroll more than half of the nation's undergraduates (Boggs, 2010; Desai, 2012; Gawronski et al., 2016).

Approximately 19% of undergraduate students in the United States identify as having a disability (National Center for Educational Statistics [NCES], 2019). In fact, it is believed that up to 96% of classrooms in both 2- and 4-year institutions have students with disabilities in them. In 2011, only 18% of students with disabilities enrolled at 4-year institutions, compared to their peers without disabilities at 40% (Americans with Disabilities Act [ADA], 1990; Newman et al., 2011). However, research on students with disabilities enrolled at community colleges has not kept pace with its 4-year counterparts.

Student populations at community colleges are unique due to the wide variety of degrees and certificates available. Many students pursue credit courses for an associate degree or take courses to transfer to a 4-year institution. Other students pursue non-credit courses for personal enrichment or job readiness skills. In Fall 2018, an estimated 6.8 million (53%) community college students were enrolled in credit courses, while 5.0 million (47%) were enrolled in non-credit courses. Demographics of these community college students showed that 36% were enrolled full-time and 64% part-time. Females (57%) outnumbered male (43%) students, and the average age of students was 28 years old. Approximately 54% of those students were age 22 or younger, 38% of students were between 22-39, and 9% were 40 years old or older. Regarding ethnicity, 45% identified as Caucasian/White (non-Hispanic), 26% Hispanic or Latino, 13% African American or Black, 6% Asian/Pacific Islander, 4% Two or More Races; 4% Other/Unknown, and 1% Native American (American Association of Community Colleges [AACC], 2020; NCES, 2019). For context, it is also important to note that during the 2017-18 academic year, 19,083 baccalaureate degrees were awarded at universities across the nation, while community colleges awarded 852,504 associate degrees and 579,822 certificates. This highlights another difference in the types of populations they serve and types of degrees and certifications awarded (AACC, 2020).

The overall number of students with disabilities electing to pursue a college degree continues to increase across the board in colleges and universities. However, the number of these students who successfully reach completion has not kept pace (Bills & Spears, 2020; Schelly et al., 2011; Lombardi et al., 2013; McEwan & Downie, 2013; Roberts et al., 2011; Shepler & Woosley, 2012; Stodden et al., 2011). In fact, while 42% of students without disabilities graduated with a degree, only 29% of their peers with disabilities were successfully

able to do so (Newman et al., 2011). This suggests that students with disabilities face barriers in higher education that traditional disability supports do not address (Banfield-Hardaway, 2010; Black et al., 2014; Mamiseishvili & Koch, 2011; Pliner & Johnson, 2004; Roberts et al., 2011; Smedema et al., 2015).

The passage of the Rehabilitation Act of 1978 and the Americans with Disabilities Act of 1990 (as amended in 2010), were both key in establishing legal supports for students in higher education (ADA, 1990; United States Department of Health, Education, and Welfare, 1978). These supports have created a pathway for traditional classroom accommodations to help create an equitable playing field, like extra time on tests or a distraction reduced testing location, for example. However, even with these accommodations being made available through consultation with a designated office on each college campus, students with disabilities have been unable to keep up in the classroom, suggesting the need for support in areas that traditional accommodations do not address (Izzo et al., 2008; Roberts et al., 2011). The potential variability of each student, class, and campus, has presented a challenge to researchers and practitioners to define the problem(s) and identify the solution(s).

Many researchers have suggested traditional disability accommodation supports are not sufficient and that attention needs to be turned toward providing a method of instruction that support a greater number of diverse learners (Black et al., 2014; Burgstahler, 2007; Cook et al., 2009; Gradel & Edson, 2010; Izzo et al., 2008; Lombardi et al., 2013). One potential low-cost, high-impact solution has surfaced over the last two decades, known as Universal Design for Instruction (UDI). UDI, also referred to as inclusive instruction, stems from the concept of Universal Design (UD), and provides training to instructors in order to increase flexibility in both instruction and physical classroom space (Lombardi, Murray, & Gerdes, 2011; McGuire,

2014; Rao et al., 2014; Roberts et al., 2011). Research suggests that not only has UDI reduced barriers and the need for traditional disability accommodations, but it has also increased overall classroom student participation and the greater academic success of all students, with or without disabilities (Gawronski et al., 2016; Ketterlin-Geller & Johnstone, 2006; McGuire & Scott, 2006; McGuire, 2014; Meyer & Rose, 2005; Orr & Hammig, 2009; Roberts et al., 2011; Rose & Meyer, 2002; Scott, McGuire & Shaw, 2003).

UD was declared a "scientifically valid framework for guiding educational practice" in the 2008 Reauthorization of the Higher Education Opportunity Act legislation (SEC. 762 (G) (SEC. 103(C))), and legislators encouraged colleges, universities, and teacher preparation programs to incorporate UD principles in their classrooms at that time (Higher Education Opportunity Act [HEOA], 2008). However, guidance on how to implement UD in the classroom has been limited and disjointed. Furthermore, there is very little empirical evidence to support its use, and most of the research has focused primarily on 4-year colleges in the Pacific Northwest, Midwest, and Northeast portions of the United States (Gawronski et al., 2016; McGuire, 2014; Roberts et al., 2011).

Statement of the Problem

Increasing numbers of students with disabilities elect to attend college each year, but overall retention and graduation rates for this group have not kept pace with their non-disabled peers, suggesting the need for services that extend past traditional accommodations (Black et al., 2014; Davies et al., 2013; Lombardi et al., 2013; McEwan & Downie, 2013; Roberts et al., 2011; Shepler & Woosley, 2012; Stodden et al., 2011). Implementing UDI in the classroom is a low-cost solution that has gained traction over the years, but most of the existing research focuses on

inclusive instruction at the 4-year college level, while most students with disabilities elect to attend community colleges (AACC, 2020; Gawronski et al., 2016; NCES, 2009, 2019).

Initial research that focused on faculty attitudes and actions toward inclusive instruction at both the 2- and 4-year level suggested: (a) faculty who have a limited understanding or do not support UDI are unlikely to utilize it in the classroom (Gawronski et al., 2016); and (b) there was a disconnect between faculty who reported understanding and supporting UDI, but who elected not to implement it (Cook et al., 2009; Dallas et al., 2014; Gawronski et al., 2016; Lombardi & Murray, 2011; Lombardi et al., 2013; Lombardi et al., 2011; Lombardi et al., 2015; West et al., 2016). Research also showed that students with disabilities indicated a positive endorsement or agreement that inclusive instruction is important, but it is only sometimes implemented in the classroom (Gawronski et al., 2016). As such, further research around faculty attitudes and actions toward inclusive instruction is needed to explore the potential value and challenges of implementing UDI in the classroom for students with disabilities in higher education, particularly at the 2-year level and in the South-Central region of the country.

This study focused on the South-Central area of the United States, which includes Arkansas, Louisiana, Oklahoma, and Texas. In U.S. News & World Report's *Best States for Higher Education* rankings (2018), states were scored on percentages of adults in the state with an associate degree or higher, the percentage of students completing public 2- and 4-year programs within 150% of the normal completion time, the average cost of tuition and fees for in-state students, and the average debt load of graduates from both public and private colleges. Findings showed that Arkansas ranked 37th, Louisiana was 42nd, Oklahoma came in at 21st, and Texas was respectively at 34th. When compared to the Pacific Northwest, Northeast, and Midwest areas of the United States, the South-Central region tends to rank much lower in terms

of quality of education in higher education (NCES, 2009; U.S. News & World Report, 2018). As such, having baseline findings from this population will help researchers understand what, if any, unique challenges exist in this region as it pertains to implementing UDI in the area, specifically at community colleges.

Purpose of the Study

The purpose of this study was to examine faculty self-reported attitudes and actions regarding inclusive instruction at three of the largest degree-granting community colleges in a single state located within the South-Central region of the United States. The study also explored differences in self-reported attitudes and actions based on faculty demographics. Findings are instrumental in highlighting trends in the region, within 2-year institutions, and identifying potential needs for professional development.

Research Questions

The following research questions guided this study:

1. What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges?
2. Is there a statistically significant difference between faculty attitudes and actions?
3. What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training?

Limitations

This is a preliminary study to explore faculty self-reported attitudes and actions of inclusive instruction in community colleges, and several limitations have been identified. First,

the study has limited generalizability. The small sample population, restricted to the same state and region of the United States, prohibits the findings from being generalized to other community colleges in other states or regions of the country. Second, there was limited availability of measures on this topic. The *Inclusive Teaching Strategies Inventory* (ITSI) was selected for use in this study. It is a self-report survey which allows for user bias. Some participants may have elected to answer in a more socially desirable way, versus sharing their honest beliefs. Finally, faculty in all three community colleges had the opportunity to teach in both credit and non-credit courses, which resulted in a wide berth of student types and experiences in the classroom. It is possible that this variety of students and types of classes may have influenced the results of the study.

Delimitations

The scope of this study is limited to a single state in the South-Central region of the United States. There are 22 community colleges within the state. Three of the largest degree-granting 2-year public institutions were selected for this study, including: (1) College 1, a public, 2-year college located in the northwest region of the state; (2) College 2, a public, 2-year college located in centrally within the state; and (3) College 3, a public, 2-year college, which is also located centrally within the state.

Each of the three institutions differs in its geography, population served, degree types offered, and institutional ownership. College 1 is in a quickly growing area of the state and region. It is a feeder school into the state's flagship 4-year institution. The student body is primarily Caucasian/White (non-Hispanic) (63.3%), followed by Hispanic or Latino (22.6%), Two or More Races (4.5%), and Other (9.6%).

Comparatively, College 2 is also in a metropolitan area, but the student demographics look much different than that of College 1. College 2 has an almost equally split Caucasian/White (non-Hispanic) (45%) and African American or Black (40.5%) student body, with Hispanic or Latino (3.5%) students also having a presence on campus. Finally, College 3 is located in a small, rural town. It serves a primarily Caucasian population (82%), followed by African American or Black (7%), Hispanic or Latino (5%) and students who identified as Other (5%). The variances in demographics for each of these areas is reflective of the communities in which they are located.

Significance of the Study

The number of students from diverse populations, including students with disabilities, electing to attend college continues to climb (Boggs, 2010; Carnevale & Fry, 2000; Desai, 2012; Flannery et al., 2008; Raue & Lewis, 2011; Shepler & Woosley, 2012). This would generally be considered positive findings, but the number of students with disabilities to graduate has remained stagnant, causing many to worry (Izzo et al., 2008; Roberts et al., 2011; Sanford et al., 2011). These findings suggest that to meet the needs of these students, colleges may need to reimagine how to serve them, possibly beyond or in lieu of traditional disability accommodations (Banfield-Hardaway, 2010; Black et al., 2010; Smedema et al., 2015).

Evidence suggests that inclusive instruction practices can make a positive, low-cost impact on the success of students in higher education, including those with disabilities (Lombardi, Murray, & Gerdes, 2011; Schelly et al., 2011). As most students with disabilities elect to attend community colleges, understanding the role inclusive instruction plays in this environment is crucial (Gawronski et al., 2016; NCES, 2009). Very few studies exist that assess faculty and student attitudes and experiences regarding instructional design at the 2-year level.

Of those, none have focused on schools located in the South-Central region of the United States, which is traditionally ranked low in terms of overall educational quality (NCES, 2009). This study serves to strengthen the existing body of literature regarding faculty attitudes and actions toward inclusive instruction, particularly in community colleges within the South-Central regional area of the United States. The term "inclusive instruction" will be used in lieu of UDI through the remainder of the dissertation for ease of reading and consistency.

The ITSI is a tool that can be used by institutions, individual academic divisions, and by Disability Service Offices (DSO) to help better identify specific, real-time culture and training needs. Results can be used to customize training for faculty, both new and ongoing needs. It can also be used to assess faculty post-training to assess the effectiveness of training efforts. Findings may also be of interest to higher education administrators and instructors in South-Central states who are working to ensure the greater success of all students.

Definition of Terms

Included are a variety of terms and acronyms associated with both the disability and educational fields that are relevant to this study.

Academic Accommodation

An academic accommodation is an adjustment to the classroom environment or academic task that allows the person with a disability an equal opportunity to participate in an academic program. By law, accommodations that are requested from an institution, must be "reasonable," and must not place an undue burden on the institution in terms of administration or cost (U.S. Department of Education, 2007).

Disability

The Americans with Disabilities Act (as amended) of 2010 defines disability as either: (1) a physical or mental impairment that substantially limits one or more of the major life activities of an individual; (2) a record of such an impairment; or (3) being regarded as having an impairment. Students must establish they have a disability to qualify for disability services in higher education (ADA, 1990).

Inclusive Instruction

Inclusive instruction includes teaching practices based on the tenets of UD that take a flexible, holistic approach to the design of materials and instructional methods. Designed to be more versatile, they are accessible to a wider variety of students and provide opportunity to reduce barriers and increase student participation and success without the need for additional accommodations (Gawronski et al., 2016).

Modification

A course modification changes the standard of what is to be assessed and is not legally required in higher education (Families and Advocates Partnership for Education [FAPE], 2001). In college, a student must be able to meet the essential eligibility requirements of a program, with or without, reasonable accommodation. Participation cannot require major program modifications, lowering of standards, or "fundamental" alterations to the nature of the program (Thomas, 2018). This is a key difference from services offered in K-12 under Individuals with Disabilities Education Act (IDEA) laws (Individuals with Disabilities Education Act [IDEA], 2004).

Universal Design (UD)

Universal design involves designing products or environments to be accessible to all people without adaptation or special design. Originating from the field of architecture, it has since grown to encompass a wide variety of design disciplines, including education. UD is guided by the following principles: (a) equitable use; (b) flexibility in use; (c) simple and intuitive use; (d) perceptible information; (e) tolerance for error; (f) low physical effort; and (g) size and space for approach and use (The Center for Universal Design, 1997).

Universal Design for Assessment (UDA)

Applying UD principles to assessments can help provide a more accurate idea of what the student has learned, as well as reduce the need for alternate assessments. Elements of UDA can include an inclusive population, detailed defined constructs, non-biased terms, openness to accommodations, clear instructions and procedures, maximum readability, and maximum legibility (National Center on Educational Outcomes [NCEO], 2016).

Universal Design for Learning (UDL)

Universal Design for learning is a model designed for educators to consider adding instructional supports to remove barriers in lesson planning and materials prior to problems arising in the classroom. The UDL model proposes three components that address barriers often seen in the classroom: (a) representation, (b) expression, and (c) engagement (Center for Applied Special Technology [CAST], 2018; Spooner et al., 2007).

Universal Design for Instruction (UDI)

Universal Design for Instruction is a concept that focuses on accessibility issues as an integral component of higher education instructional planning. Several of the most often used instructional accommodations are embedded into the overall instructional design (Silver et al.,

1998). The Principles of UDI include: (a) equitable use; (b) flexibility in use; (c) simple and intuitive design; (d) perceptible information; (e) tolerance for error; (f) low physical effort; (g) size and space for approach and use; (h) a community of learners; and (i) instructional climate (McGuire et al., 2006).

Theoretical Framework

Universal Design for Instruction (UDI) served as the theoretical framework used in this study. UDI stems from the concept of Universal Design, developed in 1997 to make a more accessible physical environment through architectural design. The developers of UDI pulled from the original UD principles, as well as the seminal principles identified by Chickering and Gamson (1987), guidelines from Universal Design for Learning (UDL), and the National Center to Improve the Tools of Educators (Kameenui & Carnine, 1998) in order to expand UD into areas of learning and cognition, which could then be utilized in higher education (Burgstahler, n.d.; National Disability Authority, 2014).

Universal Design Principles

Developed by architects, engineers, environmental design researchers, and product designers through the work of The Center for Universal Design at North Carolina State University, seven UD principles were created to help provide guidance on the design of both environment and products. These principles included: (a) equitable use; (b) flexibility in use; (c) simple and intuitive use; (d) perceptible information; (e) tolerance for error; (f) low physical effort; and (g) size and space for approach and use (Burgstahler, n.d.; National Disability Authority, 2014).

Seminal Principles

In 1987, researchers Arthur Chickering and Zelda Gamson published an article that addressed the areas of improvement needed for undergraduate education. They identified seven principles of good teaching and learning based on research: (a) encouraging contact between students and faculty; (b) developing reciprocity and cooperation among students; (c) encouraging active learning; (d) giving prompt feedback; (e) emphasizing time on task; (f) communicating high expectations; and (g) respecting diverse talents and ways of learning (Chickering & Gamson, 1987).

Universal Design for Learning (UDL)

The Center for Applied Special Technology, known as CAST, a non-profit organization, was established in 1984 with the intent to promote the use of technology for the advancement of all people, especially those with disabilities. The organization developed Universal Design for Learning (UDL), an approach that converted UD principles to education, focusing primarily on K-12 (Davies et al., 2013; Rose et al., 2006; Schelly et al., 2011; Spooner et al., 2007).

For this study, UDI will be used as the theoretical framework, as its primary focus is higher education, rather than UDL which primarily focuses on K-12. The Principles of UDI include: (a) equitable use; (b) flexibility in use; (c) simple and intuitive; (d) perceptible information; (e) tolerance for error; (f) low physical effort; (g) size and space for approach and use; (h) a community of learners; and (i) instructional climate (Black et al., 2014; McGuire et al., 2006).

Chapter Summary

The landscape of higher education is changing rapidly. More students with disabilities are electing to pursue a post-secondary degree, and they are showing up to class with far more

unique challenges and backgrounds than ever before. As the entry point for most of these students, community colleges are tasked with meeting the increased support demands. Implementing inclusive instruction is a campus-wide, low-cost strategy that is flexible by design to meet the various, complex needs of all learners, including those with disabilities (Gawronski et al., 2016; McGuire & Scott, 2006; Meyer & Rose, 2005; Rose & Meyer, 2002).

The following chapters review related research literature (Chapter 2), methodology used (Chapter 3), results of research (Chapter 4), and discussions and conclusions based on the findings (Chapter 5). A full accounting of referenced materials is included. The appendices include supplementary items including IRB letters, permission from the instrument developer to use the survey instrument, copies of the survey instrument, and recruitment letters.

Chapter 2

Review of Related Literature

It has been well-published over the last decade that adults with a postsecondary degree enjoy higher rates of employment and overall greater lifetime earnings than those who do not (Day & Newburger, 2002; U.S. Department of Labor, 2008). This is even more true for adults with disabilities, which is why communities and families in the United States have been putting increased pressure on institutions of higher education to make the educational pathway more accessible (Carnevale & Fry, 2000; Flannery et al., 2008). This push has added to the overall pressure colleges and universities have been under to come up with strategies for stronger student retention, learning and outcomes, accountability, and evidence-based practices for all students (Graham, 2005; McGuire et al., 2006; Orr & Hammig, 2009; Ouellett, 2004; Schelly et al., 2011; Tinto, 2004).

Literature searches for this study came from a variety of sources, including Google Scholar, University of Arkansas Libraries, and the NorthWest Arkansas Community College Library. Primary searches were limited to the 2000-2020 period, although additional resources and articles cited in earlier works are included, as appropriate for historical context. Searches were focused on scholarly and peer-reviewed texts using a combination of keywords, including disability, inclusive instruction, Universal Design, Universal Design for Instruction, faculty perception, higher education, colleges, universities, accommodations, accessible course material, course modification, inclusive lecture strategies, inclusive classroom, inclusive assessment, disability law concepts, and community colleges.

This chapter includes literature regarding faculty perceptions of inclusive instruction and their reported actions toward implementing them in the classroom. This study utilized the

Universal Design for Instruction (UDI) framework, which was designed to bring inclusive instruction into the classroom with a primary focus on colleges and universities. The chapter is divided into the following sections: (a) Students with Disabilities in Higher Education; (b) Universal Design; (c) Universal Design for Instruction; (d) Development of the ITSI; and (e) Chapter Summary.

Students with Disabilities in Higher Education

The number of students with disabilities electing to attend colleges and universities across the country has been steadily growing (Newman et al., 2010). It is estimated that 19% of the college student population in the United States is comprised of students who identify as having one or more disabilities, which has garnered an increase of research on accessibility in higher education (AACC, 2020; Horn et al., 2002; NCES, 2019; Newman et al., 2009). Most of these students are enrolling in public 2- and 4-year institutions (99%) (Raue & Lewis, 2011). However, research continues to show that students with disabilities do not engage with higher education at the same rate as their non-disabled peers (Horn & Nevill, 2006; Johnson & Fox, 2003). Some research even suggests that their attendance rate is half that of non-disabled students (Wagner et al., 2005).

In addition to a lower engagement rate with colleges and universities, of those who do attend, there are still barriers that students with disabilities face that have greatly impacted their experience and ultimately their graduation rates (Dowrick et al., 2005; Eckes & Ochoa, 2005; Izzo et al., 2011; Madaus & Shaw, 2004; Shepler & Woosley, 2012; Stodden et al., 2001). In Shepler and Woosley's (2012) study, researchers looked at all first-time freshmen (n = 5,135) at a medium-sized Midwest public university. Of those students, 120 had reported having a disability. Four regression models were used to investigate data, each with three-block levels.

Findings suggest that expectations and involvement of students with disabilities with the on-campus environment and on-campus organizations helped student integration, as did strong basic academic behaviors, such as study skills and class preparation. All those items help students with disabilities to persist on campus.

Students with disabilities continue to have greater dropout rates than their non-disabled peers (Belch, 2004; Murray et al., 2000; Stodden, 2001, Wessel et al., 2009). There is conflicting data on the precise impact on graduation. In a national 10-year longitudinal study by Sanford et al., (2011), research showed that only 29% of students with disabilities who are enrolled at a college or university will earn a degree, as compared to 42% of their non-disabled peers. This descriptive, non-experimental study examined experiences of a nationally represented sample of youth who were 13-16 years old and receiving special education services in seventh grade or above during the 2000-2001 school year. It relied on student telephone interviews and mail surveys, parent/guardian interviews, high school transcripts, and school and school district student rosters over a period of 10-years. Student participants were followed into young adulthood (up to age 19 to 23) to explore postsecondary outcomes, such as future education, employment, and independent living.

Wessel et al., (2009) took a unique approach in their longitudinal study from 1994-1996 that was designed to determine if there was a difference between retention and graduation rates for students with apparent disabilities (n = 81), students with invisible disabilities (n = 92), and students without disabilities (n = 11,144). This study focused on three cohorts at a single, midsized, public, Carnegie doctoral-granting institution in the Midwest. Findings showed that at year four, students with invisible disabilities had the lowest graduation rate of 11.96% and non-retention rate of 38.04%, compared to students without disabilities with a graduation rate of

20.38% and non-retention rate of 45.08%, and students with apparent disabilities with a graduation rate of 18.99% and a non-retention rate of 40.51%. However, at year five and after, retention and graduation rates were similar.

Researchers acknowledge the findings as contrary to general findings in the literature and speculate that their DSO played a pivotal role in the success of students with disabilities. They cite a very active and well-regarded office on campus, with multiple reaches and orientations for students, as well as a highly involved presence with faculty and staff trainings. There is also a fully funded and active disability student group that provide awareness programming and activities across campus. These things, they believe, may account for the uniqueness of the findings at their university (Wessel et al., 2009).

Increased Requests for Accommodations and Challenges

There are only a few laws impacting students with disabilities in higher education, including Title II of the Americans with Disabilities Act (as amended in 2010) and Section 504 of the Rehabilitation Act of 1973. Both acts of legislation provide adults with disabilities with protections in public and private postsecondary schools by prohibiting discrimination and requiring that the institutions provide auxiliary supports that are "reasonable." The term reasonable is defined as being both reasonable in cost and one that does not compromise the integrity of a program (ADA, 1990; United States Department of Health, Education, and Welfare, 1978). These laws and accompanying general guidance are overseen by the U.S. Department of Justice, Civil Rights Division. This is very different from the disability legislation that protects students in K-12, known as the Individuals with Disabilities Education Act (IDEA), which requires students and faculty members alike to be knowledgeable on the student's disability, the school's respective processes, and uses of accommodations,

modifications, and auxiliary aids (IDEA, 2004). With this transition in legal protections, processes, and support for students moving from high school to college, research has begun to surface in the literature over the last decade on faculty attitudes, perceptions, and beliefs of these issues (Bourke et al., 2000; Cook et al., 2009; Dallas, Upton & Sprong, 2014; Kraska, 2003; Murray et al., 2008; Lombardi, Gerdes, & Murray, 2011; Lombardi et al., 2013; Lombardi et al., 2015; Reed et al., 2003; Skinner, 2007; West et al., 2016; Zhang et al., 2010).

For students to request accommodations in higher education, the process often includes them first registering with their institution's Disability Support Office (DSO), providing documentation of disability, and formally requesting accommodations. ADA approved accommodations are provided to the student and/or faculty member via a formal accommodation letter from the DSO. To activate accommodations, institutions require the student to discuss and plan the accommodations with each faculty member, as accommodations will be applied differently to each course. Students can also elect not to use the full battery of accommodations in each class. The meeting allows both student and faculty to discuss, in depth, which accommodations are needed and agree upon how the accommodations will be implemented in class (Dowrick et al., 2005; Wolanin & Steele, 2004).

The increased number of students with disabilities registering for accommodations and requesting them in the classroom has created additional challenges for faculty to juggle, in addition to their existing duties. Complicating this situation is the reality that an estimated 40 – 60% of college students who received special services in K-12 elect not to request services in higher education. For these students, many will try to informally request accommodations or quietly struggle to succeed without the use of needed assistance, further challenging faculty

members and potentially compromising their own chances at success in the classroom (Newman et al., 2009; Ketterlin-Geller & Johnstone, 2006).

There are several reasons why a student may elect not to request accommodations, such as a student's lack of self-determination skills and social competence, a lack of communication and negotiation skills, and a lack of knowledge of disability rights and responsibilities. Also influencing this decision is a faculty member's lack of knowledge of rights and responsibilities, student perceptions of faculty attitudes, and overall academic culture (Ketterlin-Geller & Johnstone, 2006; Newman et al., 2009; Wagner et al., 2005; Wolanin & Steele, 2004).

Student Lack of Self-Determination Skills and Social Competence

It is crucial for students transitioning to higher education to have strong self-determination skills if they are to successfully make the transition, as they become their own advocates for services in higher education (Ketterlin et al; 2006; Stodden et al., 2002). These skills include the understanding and acceptance of disability, being able to articulate disability, understanding how it impacts learning, being knowledgeable about needed supports to be successful, and having the grit to overcome inevitable obstacles (Getzel et al., 2000; Getzel et al., 2004; Getzel & Thoma, 2008).

In K-12, it is the responsibility of the school to identify, test, and support students to ensure success. In college, however, the entire process of securing and using accommodations becomes the sole responsibility of the student (Ketterlin et al., 2006; Wolanin & Steele, 2004). In fact, as a legal adult, students are fully in charge of their education once they enter college and federal student privacy laws require a student's written permission to grant parents that access. Having a parent help with meetings in college is not usually an accepted part of the culture,

which may further disadvantage some students with disabilities who would benefit from an advocate (The George Washington, 2004).

The skills needed to navigate the accommodation process in college are ideally mastered in high school as a part of the transition process for students who intend to pursue a college education (Eisenman & Chamberlin, 2001; Getzel & Briel, 2006; Thoma et al., 2001; Wehmeyer et al., 2000). However, colleges can also provide trainings in these areas, as many students arrive at college unprepared in this respect. In a study by Palmer and Roessler (2000), researchers found that students with disabilities who received training on negotiation skills and communication surrounding the use of accommodations in college showed a significantly higher score in knowledge of accommodation rights, self-efficacy, conflict resolution and social competence, than those who did not. Thus, there are multiple intervention points where a student with a disability can learn these skills in the transition from high school to college.

Student Lack of Knowledge of Rights and Responsibilities

Like self-determination and social competence skills, students in higher education need to be well-versed in disability rights and responsibilities that now support them in college. Too often, however, they are unprepared to disclose disability or understand how to navigate the accommodation process in college (Brinkerhoff et al., 2002; Getzel & McManus, 2005; Wagner et al., 2005). As such, colleges and universities often find it helpful to provide this type of training.

In addition to students who received services in K-12, there are other students in college who have never been through special services because their disability presented later in life. Some students become injured in sporting activities, car crashes, or high-risk behaviors. Others develop mental health issues or chronic illnesses, both of which frequently start in early

adulthood. Many are victims of workplace accidents or soldiers who are wounded in combat. For all these individuals, disability will be an entirely new experience and one they are not knowledgeable about (Wolanin & Steele, 2004). In a national survey of people with disabilities who developed their disability between the ages of birth and age 39, half of them experience the onset between ages 20 and 39. That means half of students with disabilities happened after leaving high school (Harris Interactive, 2000*).* For those students, the only training or knowledge they had in procuring services in higher education may be what their faculty share, or the college's DSO offers.

Faculty Lack of Knowledge of Rights and Responsibilities

Students are not alone in their lack of knowledge regarding the rights and responsibilities of disability law in higher education; faculty too struggle with this. While faculty are often experts in their given fields, it is not common for them to have expertise in effective pedagogical methods, disability, or inclusive instruction (Dowrick et al., 2005; McGuire et al., 2003; Ouellett, 2004; Rao, 2004). Without this knowledge, faculty are at a disadvantage when it comes to effectively supporting students with disabilities and implementing accommodations in the classroom. The lack of faculty knowledge regarding accommodations has been a commonly reported barrier for students (Dowrick et al., 2005; Eckes & Ochoa, 2005; National Council on Disability [NCD], 2003).

In traditional academic culture, it is the faculty who establish academic standards through their curriculum development and academic governance. They are usually given complete control over how they implement their courses, serving as the guardians of academic standards. Thus, many faculty members view a notification of the need to accommodate from the DSO as a

threat to their academic freedom and a violation of ensuring the sameness for all students. (Cook et al., 2009; Jensen et al., 2004; Ketterlin et al., 2006; Wolanin & Steele, 2004).

The notification from the DSO is often in the form of an accommodation letter. This letter serves as a legal document, providing a list of approved accommodations for the student, without disclosing the student's specific disability. Faculty often receive this letter without fully realizing that they have input into how accommodations are to be implemented in their classroom to maintain that equitable balance (Cook et al., 2009; Jensen et al., 2004; Ketterlin et al., 2006; Wolanin & Steele, 2004).

Faculty report often feeling uncertain about the federal laws governing disability and are not always confident about their understanding of the ethical implementations of specific accommodations. Furthermore, faculty are denied access to disability documentation so they cannot fully establish for themselves whether the student does, in fact, have an established disability and that the accommodations requested are appropriate (Ranseen & Parks, 2005; Wolanin & Steele, 2004). DSO staff tend to be low on the totem pole on campus and with little, if any, teaching experience. They do not usually enjoy the same status as faculty and have a difficult time successfully engaging and advocating for students with disabilities to the academic staff (Wolanin & Steele, 2004). Sending faculty what they may perceive as an "order to accommodate" can also garner negative reactions from faculty as part of a human dislike from being told what to do (Ferkis, 2002).

Invisible Disabilities. Faculty concerns and instinctive negative reactions can also be exacerbated when there are invisible disabilities involved, such as learning disabilities, mental health disabilities, or other less visible conditions (Barnard et al., 2008; Dowrick et al., 2005; Wolanin & Steele, 2004). A disability of anxiety or a learning disability, for example, is

not always visibly seen and it may be disconcerting for a faculty member to engage with a student who looks and behaves as the average college student but is approved for accommodations. Because faculty are not notified of the specific disability, faculty sometimes question the legitimacy of the requested accommodations and send an unintentional message to students in their frustration of the situation (Dowrick et al., 2005; Jensen et al., 2004).

Unintentional Messaging. The lack of awareness and unintentional messaging to students through early interactions with faculty can quickly contribute to the difficult climate for students with disabilities and may further play a role in student success (Rao, 2004). Most students with disabilities in higher education have one of three types of disabilities: a learning disorder, attention deficit hyperactivity disorder, or a mental health disorder (Raue & Lewis, 2011). While faculty members, in general, have overall positive attitudes toward students with disabilities, they are more likely to feel negatively toward students with learning disabilities and mental health disabilities, as opposed to students with physical or mobility impairments (Berry & Mellard, 2002; Burgstahler et al., 2000; Gitlow, 2001; Sniatecki et al., 2015). Student perceptions of a faculty member's attitude and capability, with respect to supporting students with disabilities, has also been identified as one of the key factors which determine whether a student will request accommodations or not (Lombardi & Murray, 2011; Reed et al., 2003).

Student Perception of Faculty Attitudes

Research has shown that faculty perceptions and their handling of accommodations plays a large role in a student's ultimate decision to pursue and use accommodations in the classroom (Campbell et al., 2003; Kurth & Mellard, 2007; Lombardi & Murray, 2011; Rao, 2002, 2004; Stodden et al., 2002). In a 2002 study by Hartman-Hall and Haaga, students at a

4-year university reacted to hypothetical scenarios in which faculty would respond negatively or positively to a request for accommodations. Positive reactions led to students' decisions to seek further assistance, whereas negative reactions had the opposite reaction. This suggests that faculty behavior is hugely impactful in a student's decision to request accommodations in the classroom. Thus, negative faculty attitudes, in addition to lack of faculty knowledge, are two of the greatest barriers to students with disabilities finding success in the classroom (Campbell et al., 2003; Kurth & Mellard, 2007; Lombardi & Murray, 2011; Rao, 2002, 2004; Stodden et al., 2002; Wolanin & Steele, 2004).

Academic Culture

There may be a good reason faculty do not often feel very knowledgeable about the laws surrounding the support of students with disabilities, inclusive teaching strategies, or even services offered by the DSO (Leyser & Greenberger, 2008). In 2009, The National Center for Education Statistics found that 64% of postsecondary institutions provided faculty members with materials and resources to help them support students with disabilities in the classroom. With very few campuses adequately addressing disability as a piece of the overall global diversity, DSOs are often left alone in ensuring a welcoming environment for students, faculty, and staff members with disabilities (Evans et al., 2017).

In terms of student experience with other students on campus, a 2017 national study found that students with disabilities (75%) were less comfortable on campus than their peers without disabilities (85.2%). Disabled students also reported being less comfortable in their classes (67.4%) than their non-disabled peers (71.6%). Of those students with disabilities, 23% reported witnessing discrimination and 22% experienced offensive verbal comments on campus.

For context, these reported numbers came in second to levels of bias and discrimination experienced by black students on campus (Harbour & Greenberg, 2017).

Students with Disabilities in Community Colleges

Community colleges have historically enrolled more than half of the overall nation's undergraduates, and more students with disabilities have been shown to opt for this option over a 4-year college (ADA, 1990; Boggs, 2010; Desai, 2012; Newman et al., 2011). It is approximated that 20% of college students at any 2-year or 4-year college have a disability (NCES, 2019). However, these students are also not alone in their need for unique learning supports.

Community colleges are facing increased numbers of diverse students in the following areas: age; ethnicity; first generation college students; socioeconomic status; English language learners; supporting a family; full-time employment; and level of preparedness (Boggs, 2010; Chen, 2005; Desai, 2012; McGuire & Scott, 2006; McGuire et al., 2006; Strayhorn, 2006; West et al., 2016). This often results in students needing additional supportive instruction in areas of reading, writing, and mathematics before being able to progress to college-level classes (Bok, 2013). With these dynamics, some community colleges and faculty members have proactively shifted the focus toward promoting greater inclusion and reducing barriers for the increasingly diverse student body through research-based instructional practices and teaching strategies that will help make course content and material more accessible to all students (Edyburn, 2010; McGuire et al., 2006; Orr & Hammig, 2009; Ouellett, 2004; Schelly et al., 2011; Zeff, 2007).

Universal Design

To address the growing diverse student population and need for greater retention and graduation rates, institutions are looking to Universal Design (UD) as a solution. Ronald Mace, founder of The Center for Universal Design at the North Carolina State University, coined the

term “Universal Design” (UD) in 1970 in the fields of architecture and design. It was the result of a new value system where designers of space felt they were responsible to design with the considerations of all human diversity (McGuire et al., 2006).

UD was further defined in 1997 as “the design of products and environments to be usable by all people to the greatest extent possible” (The Center for Universal Design, 1997, para. 1). In the architectural field, this could manifest in many ways. One example is a grocery store transitioning from a traditional pull/push door to an automatic door. Not only is this a benefit to wheelchair users who struggle with traditional doors, but it also helps anyone who is using a buggy to transport groceries. The doors broaden the usability to the public and do not compromise on aesthetics of design (McGuire et al., 2006; Scott et al., 2003). It simply removes disability from the equation (Connell et al., 1997; Lombardi, Murray, & Gerdes, 2011).

To create the principles of UD, a team was assembled that included architects, engineers, environmental design researchers, and product designers. Together, they brought their diverse experiences to create a solid foundation of principles. The seven UD principles include (Burgstahler, 2015; Connell et al., 1997):

1. Equitable use – Design is both marketable to people with diverse abilities and useful. An example of this would be a website that works well with screen reader software to make it accessible to people who are blind or who have low vision.
2. Flexibility in use – Design is accessible to a wide range of preferences and abilities. An example would be a museum exhibit that offers both written and audio options for attendees.

3. Simple and intuitive use – Design is easy to understand for a variety of experience, knowledge, language skills, or concentration level. An example of this is a science experiment in class that uses clear and intuitive control buttons.
4. Perceptible information – Design communicates important information to the user, regardless of sensory abilities or ambient conditions. An example of this is the use of a captioned television in a busy restaurant.
5. Tolerance for error – Design minimizes adverse consequences of accidental actions. An example of this is software that notifies the user when they are possibly making an inappropriate selection.
6. Low physical effort - Design can be used comfortably, efficiently, and with a minimum of fatigue. An example of this is a store that replaces a traditional door with an automatic door for people with a wide variety of physical characteristics.
7. Size and space for approach and use – Appropriate size and space is utilized for use, regardless of the user's body size, mobility, or posture. An example of this is a flexible work area designed for both left-handed and right-handed employees.

The UD movement grew in the 1980s when CAST launched an initiative to identify more flexible curricular materials and activities, as well as technologies, to support learners with more diverse learning profiles (U.S. Office of Special Education Programs, 1999). By 1995, CAST began to define UDL and its principles, designed for the K-12 system, which were first published in 1998 by Meyer & Rose. The same year, Silver, Bourke, and Strehorn (1998) published UD-related work that was targeted more towards higher education, introducing the idea of universal instructional design (UID). This single-institutional study did not produce any framework or

principles. Rather it served as an impetus that would launch other research to come, expanding research of UD in higher education, including UDI (McGuire, 2014).

In general, UD for education utilizes a holistic approach for each step, from the design of materials to instructional methods used by faculty. It also addresses diverse needs in the classroom that are not mandated by accommodation services or traditional instruction, but can have a powerful impact on the learner, regardless of disability or learning type (Gawronski et al., 2016). It combines engaging best-practices for students and challenges them to engage with the material in a variety of modalities, formats, and technologies (CAST, 2011; Izzo, 2012; Meyer & Rose, 2000). Poorly designed or inflexible curricula may pose greater barriers for students with disabilities, as well as to students without disabilities. The use of inclusive instruction allows the curriculum to be able to adapt to each learner rather than the learner adapt to the curriculum (Meyer & Rose, 2005).

Universal Design for Instruction (UDI)

In 2003, Scott, McGuire, and Foley published a new framework designed specifically for higher education, known as Universal Design for Instruction (UDI). This framework pulled from seven of UD's nine original principles, adding two additional principles from literature regarding effective instructional studies and recommended practices for college teaching (Chickering & Gamson, 1987; Kameenui & Carnine, 1998). This took the general philosophy of UD and expanded it to the realm of higher education without the required technology piece seen in UDL (McGuire, 2014).

The UDI framework is also often coupled with two other major corollary frameworks – Universal Design for Assessment (UDA) and Universal Design for Learning (UDL). All three

share five common themes (Orr & Hammig, 2009; Thompson et al., 2002; Scott, McGuire, & Shaw, 2003; Rose et al., 2006):

1. Backwards design – Mapping course learning goals and objectives first and connecting them to all course assignments and requirements.
2. Multiple means of presentation – Presenting content in a flexible manner to reduce barriers, such as course materials being provided in both digital and print format.
3. Inclusive teaching strategies and learner supports – Lecture strategies that assist with student comprehension, such as summarizing key points, scaffolding, and small group work.
4. Inclusive assessment – Varied assessment techniques that allow students to select from combinations of demonstration options that are all connected to course objectives.
5. Instructor approachability and empathy – Allowing for a variety of engagement options and assisting students to seek out additional supports, if needed.

UDI, when singled out, specifically seeks to apply the original UD architectural principles to the academic environment and provides a framework for how to proactively design instruction to include the greatest number of learners possible (Hall et al., 2012; King-Sears, 2014; Scott et al., 2001; Zeff, 2007). It mirrors the UD principles, adding two additional constructs: (a) community of learners; and (b) instructional climate.

Under the UDI framework, faculty are given flexibility to plan and deliver inclusive instruction based on the needs of their diverse learners, assess the outcomes, and provide more support in areas where traditional accommodations may miss (McGuire & Scott, 2006; Roberts et al., 2011). It includes nine principles that focus on broad beliefs of accessible teaching and

learning that were built from the seven original principles of UD (The Center for Universal Design, 1997; McGuire et al., 2001).

1. Equitable use – Instruction is designed to be accessible for diverse learners; identical, when possible, equivalent when not (e.g., reading materials and accessible course notes).
2. Flexible in use – Instruction that accommodates a variety of abilities (e.g., multiple instructional techniques).
3. Simple and intuitive – Instruction designed in a predictable manner that serves a variety of student experiences, knowledge, language skills, concentration levels, and eliminating unnecessary complexity (e.g., detailed syllabus, grading rubric).
4. Perceptible information – Instruction designed so that important information is communicated effectively to every student, regardless of student's sensory abilities (e.g., audiobook version of textbook).
5. Tolerance for error – Instruction keeps in mind the variety of student learning paces and prerequisite skills (e.g., feedback on projects throughout the semester).
6. Low physical effort – Instruction minimizes nonessential physical effort (when that is not the essential requirement) to allow student to focus more on learning (e.g., allowed use of online assignment submission).
7. Size and space for approach and use – Instruction designed for appropriate size and space to increase approach, reach, and manipulations for all students (e.g., use of circular seating).
8. Community of learners – Instructional environment promotes communication and interaction between students and faculty (e.g., facilitate study groups, group work).

9. Instructional climate – Instruction designed to be welcoming and inclusive (e.g., written, as well as verbal statements regarding accommodation discussions).

Development of the Inclusive Teaching Strategies Inventory (ITSI)

Knowing that faculty perceptions and attitudes regarding inclusive instruction and accommodations can impact the success of students in the classroom, researchers Lombardi and Murray (2011) developed, and field tested a survey instrument known as the *Expanding Cultural Awareness of Exceptional Learners (ExCEL)* survey. It measured university faculty attitudes toward disability through the faculty member's willingness to make classroom accommodations and adopt Universal Design principles. The survey established content validity because: (a) many of the factors were taken from a pre-existing survey instrument with promise of reliability and validity (Murray et al., 2008); (b) content for newly added items were based on UD framework and adapted frameworks that promoted inclusive instructional design in the classroom (Connell et al., 1997; Rose & Meyer, 2002; Scott, McGuire, & Shaw, 2003); and (c) experts in the field reviewed the tool.

Researchers included all UDI framework items, minus community of learners. It also pulled from the common themes of UDI, UD, and UDA, with the exception of backward design. The result featured six subscales that made up the full survey: (a) accommodations; (b) accessible course material; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; and (f) inclusive assessment. Later, a final, seventh subscale of disability law and concepts, was added, as researchers found that faculty knowledge of laws regarding accommodation impacts their willingness to provide them in the classroom (Leyser & Greenberger, 2008; Lombardi et al., 2013; NCES, 2009; Nelson et al., 1990; Rao & Gartin, 2003).

Since its inception in 2011, the ExCEL survey has gone through several updates and testing, establishing that it is both a reliable and valid tool to survey both faculty attitudes and actions pertaining to inclusive instruction as a predictor of student success (Lombardi & Murray, 2011; Lombardi et al., 2105; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013; West et al., 2016). The survey was renamed in Lombardi, Murray, and Gerdes' 2011 study, *College Faculty and Inclusive Instruction: Self-Reported Attitudes and Actions Pertaining to Universal Design.* The survey is now known as the *Inclusive Teaching Strategies Inventory (ITSI)*. It has been used in several studies of 4-year institutions since that time (Dallas et al., 2014; Hartsoe & Barclay, 2017; Lombardi et al., 2013; Lombardi et al., 2015; West et al., 2016). In 2016, it was used in its first community college study to examine its use by institutions as a tool to assess institutional climate and professional development needs (Gawronski et al., 2016).

Research Designs Used in ITSI Studies

The following section will present an overview of ITSI study designs without the findings, which follow in the subsequent section. Aggregate findings will be presented for each subscale (i.e., accommodations, accessible course material, etc.), allowing for more helpful context when interpreting the findings of this study.

2011 Lombardi and Murray (EXCEL)

In 2011, Lombardi and Murray developed, and field tested the *Expanding Cultural Awareness of Exceptional Learners* (ExCEL) survey, which would later be converted into the Inclusive Teaching Strategies Inventory (ITSI). The instrument was designed to assess faculty perceptions and attitudes regarding students with disabilities in 4-year universities, as well as explore demographics and their impact on those factors. To launch this instrument, researchers selected a single institution in the Pacific Northwest with an enrollment of 20,376 students. Full-

time faculty (defined as working at 0.5 FTE or greater) were targeted, as they were thought to have the most time on campus and influence over campus climate. They had a 27% participant response rate (n = 289) in the study, which is consistent with other similar studies of this nature, focusing on university faculty and disability perception (Bourke et al., 2000; Murray, et al., 2008; Murray, Wren et al., 2009; Vogel et al., 2008).

In addition to demographic information, the ExCEL included questions on prior disability training and 39 Likert-style questions focused on areas of disability law, inclusive instructional practices, and areas of accommodation. The responses measured levels of agreement from 1 = (*strongly disagree*) to 6 = (*strongly agree*). Questions were developed from two primary sources, existing literature of UD, and a published 2008 study by Murray, Wren, and Keys regarding university faculty perceptions of students with learning disabilities (Rose et al., 2006; Scott, McGuire, & Shaw, 2003).

For this study, an electronic survey was emailed to full-time teaching faculty, with three additional follow up emails requesting participation. Once data were collected, researchers took steps to examine both the reliability and validity of the tool. To explore the tool's reliability, researchers used Cronbach's alpha within the subscales and on the entire instrument. A score of .80 was considered preferable and .70 adequate (Nunnally & Bernstein, 1994). Validity was examined through psychometric evaluation through exploratory factor analysis (EFA), resulting in eight factors: (a) fairness in providing accommodations ($\alpha = 0.85$, $X = 5.09$, $SD = 0.63$); (b) knowledge of disability law ($\alpha = 0.82$, $X = 3.30$, $SD = 1.08$); (c) adjustment of course assignments and requirements ($\alpha = 0.78$, $X = 3.86$, $SD = 0.85$); (d) minimizing barriers ($\alpha = 0.70$, $X = 4.29$, $SD = 0.94$); (e) campus resources ($\alpha = 0.69$, $X = 4.24$, $SD = 0.82$);

(f) willingness to invest time (α = 0.74, *M* = 4.75, *SD* = 0.83); (g) accessibility of course materials (α = 0.69, *M* = 4.81, *SD* = 0.79); and (h) performance expectations (α = 0.65, *M* = 4.96, *SD* = 0.63). Researchers elected to keep each of these factors based on the Kaiser-Guttman rule, theoretical plausibility of item groupings, Velicer's MAP test, Parallel Analysis, and an examination of scree plots (O'Connor, 2000; Preacher & MacCullum, 2003). Multivariate analysis of variance (MANOVA) tests were conducted for the three sets of data: (a) gender and teaching status with the factor scores from eight subscales; (b) six colleges with the eight attitude and perception variables; and (c) faulty grouped on whether they had had previous disability training were analyzed against the eight factors.

Overall, researchers established partial construct validity through: (a) the use of questions taken from a pre-existing survey that showed strong evidence of validity and reliability (Murray et al., 2008); (b) all new content added was based on UD framework (Connell et al., 1997); and (c) content was reviewed by content experts. In addition, the 8-factor structure showed evidence of discriminant and convergent validity. The items that were grouped together showed indicators with moderate intercorrelations within each construct, which is evidence of convergent validity. Evidence of discriminant validity was seen in weak to moderate factor correlations (Kline, 1998).

2011 Lombardi, Murray, and Gerdes

Researchers Lombardi and Murray next joined with researcher, Gerdes, and published *College Faculty and Inclusive Instruction: Self-Reported Attitudes and Actions Pertaining to Universal Design* in 2011. The single-institution study of a 4-year university in the Pacific Northwest focused on increasing the body of literature about faculty perceptions of

inclusive instruction based on UD. As with similar studies, there was a 23% response rate (Bourke et al., 2000; Cook et al., 2009; Murray, Lombardi et al., 2009; Vogel et al., 2008).

Formerly known as the ExCEL, the survey was formally renamed as the *Inclusive Teaching Strategies Inventory* (ITSI) in this study. It showed internal consistencies and factor scores in previous studies apart from two factors below the acceptable .70 criterion, which were refined in this study (Nunnally, 1975). In addition to that update, faculty were asked to report both their attitudes and actions for each question in the following constructs: (a) multiple means of presentation; (b) inclusive lecture strategies, (c) accommodations, (d) campus resources, (e) inclusive assessment, and (f) accessible course materials. Researchers used chi-square analysis to explore consistency between attitudes and actions of faculty. Researchers used Cronbach's alpha on the full-scale and within subscales, showing all within the adequate to preferable reliability. The action subscales ranged from .72 to .85, and the attitude subscales ranged from .70 to .89.

This institution boasted an enrollment of approximately 20,500 students, 1,700 faculty members, and 1,200 graduate assistants. Faculty demographics were as follows: 82% white, 7% Asian/Pacific Islander, 3% Hispanic, 1% African American or Black, 1% Native American, 1% Two or More Races, and 4% Unknown. There were slightly more male faculty members (54%) than female faculty members (46%). Only full-time faculty members were targeted for this study (1,023) with a response rate of 23% (n = 233).

2013 Lombardi, Murray, and Dallas

In this study, researchers explored university faculty attitudes toward disability and inclusive instruction between two schools in *University Faculty Attitudes Toward Disability and Inclusive Instruction: Comparing Two Institutions.* This cross-validation study used exploratory

and confirmatory factor analysis to explore faculty responses pertaining to participation in prior training, type of training, and the assessment of the provision of inclusive teaching practices. The DSO served students with disabilities at both institutions, utilizing traditional accommodation request procedures. All faculty at both institutions were invited to participate with a 24% response (n = 381) and 23% response rate (n = 231) respectively (Lombardi et al., 2013).

The ITSI was administered at both institutions and included all seven constructs. Researchers also asked faculty to report prior disability experience with the following variables: (a) prior training (yes/no); and (b) type of training, which included less intensive training (i.e., read articles or books, visited websites) and more intensive training opportunities (i.e., workshops and courses). Findings showed that regardless of gender, training is most crucial in influencing faculty attitudes, regardless of the intensity of training.

University 1 was a public Midwestern university, medium-sized, that had a nationally recognized rehabilitation institute with several academic programs to support the improved lives of people with disabilities. The DSO served students with disabilities in the traditional way, providing a process for students to register with the office and request accommodations. All faculty at this institution were invited to participate in the electronic survey, with a 24% response rate (n = 381). University 2 was similarly a medium-sized public institution, but it was located in the Pacific Northwest. The electronic survey was issued to 1,011 tenure-line and instructional faculty with a 23% response rate (n = 231).

The ITSI was administered at both institutions based on seven constructs: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability laws and concepts. The seventh subscale, disability laws and

concepts, was added in a cross-validation study using exploratory and confirmatory factor analysis with a Cronbach's alpha of .87. In addition to this added construct, researchers also asked faculty to report prior disability experience with an additional two variables: (a) prior training (yes/no), and (b) type of training, which included less intensive training (i.e., read articles or books; visited websites) or more intensive training opportunities (i.e., workshops and courses).

There is much research to suggest that faculty gender is related to attitudes toward students with disabilities (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Murray, Wren, et al., 2009; Skinner, 2007). As such, researchers compared the descriptive statistics of compared subgroup scores according to both prior training and gender. A hierarchical regression model was also used to determine whether these demographic characteristics and training opportunities positively influenced faculty attitudes regarding each of the seven constructs.

2014 Dallas, Upton, and Sprong

Dallas, Upton, and Sprong (2014) in their non-experimental, cross-sectional explanatory survey research design study, *Post-Secondary Faculty Attitudes Toward Inclusive Teaching Strategies,* measured faculty attitudes toward academic accommodations and inclusive instruction in a single 4-year public university in the Midwest. Researchers used three subscales from the ITSI: (a) multiple means of presentation; (b) inclusive lecture strategies; and (c) accommodations for students with disabilities. In addition to the three subscales, researchers captured demographic information, including amount of prior disability-related training, and amount of experience with people with disabilities. The electronic survey was emailed to all

1,621 faculty members with a 24% response rate (n = 381), consistent with other similar studies of its kind.

Independent sample *t*-tests were utilized for full-time and part-time teaching status. Analysis of variance (ANOVA) tests were used to explore the relationship between the dependent and independent variables. Findings showed no significant difference between full- and part-time teaching, which was the first time these two groups had been studied.

2016 Gawronski, Kuk, and Lombardi

In this study, Gawronski, Kuk, and Lombardi examined a single, medium-sized public community college in the Northeastern area. This is the only community college study utilizing the ITSI to date. The study utilized the survey to explore faculty attitudes and actions as it pertained to inclusive instruction in the community college. In addition to exploring faculty perceptions, this study also introduced an amended ITSI designed to survey student attitudes and actions on the same scale, the *Inclusive Teaching Strategies Inventory-Student (ITSI-S).*

The ITSI-S was adjusted in the following ways from the original ITSI instrument: (a) adjustment to item stems; (b) addition of student demographics and disability information; (c) adjustment to the action response scale; and (d) small grammatical adjustments. Students were asked their attitudes/beliefs based on perceptions of faculty actions and attitudes about the original ITSI constructs. The response options for attitudes scale ranged from 1 *(strongly disagree)* to 7 *(strongly agree).* The response options for the faculty action scale ranged from 1 *(no opportunity)* to 5 *(always).*

The ITSI-S underwent a pilot test (n = 179; 36% response rate) to establish reliability using Cronbach's α. Overall reliability was good, $\alpha = .83$. While some of the subscales rated as excellent or good, the subscales course modifications ($\alpha = .66$) and inclusive assessment

(α = .68) showed questionable internal consistency reliability. However, researchers opted to not provide alternate forms of test-retest design to establish reliability due to the nature and design of the study. Validity was established in the following ways: (a) all of the items were drawn from a pre-existing instrument that showed evidence of both reliability and validity (Lombardi & Murray, 2011); (b) the content is consistent with major frameworks related to Universal Design in higher education (Lombardi & Murray, 2011; Orr & Hammig, 2009); and (c) content experts in the field reviewed the items, including the author if the instrument to ensure clarity and fit with the construct. In addition to this survey, student participants were also asked to report demographic data, which included ethnicity, disability status, contact with the DSO, and diagnosed disability (n = 449; 7% response rate).

Faculty participants in this study included both full- and part-time members (n = 179). Demographic data collected included ethnicity, position type, academic department, rank, and teaching experience. Data were examined using descriptive and inferential statistics. For the research questions, a series of MANOVA's were conducted for both faculty and student attitudes.

As the ITSI had only been used in one community college study, researchers focused on a single institution and instead of reporting subscale scores, it regrouped them into overall attitude and action scores (Gawronski et al., 2016). Results of the study showed statistically significant findings in the overall action scales for faculty ages 35-44 and of Caucasian/White (non-Hispanic) decent. This was not found in any of the 4-year studies. Faculty in this study were also found to have higher action scores in inclusive instruction than their attitudes scores, with the only potential explanation being that this study focused on a 2-year college versus a 4-year

college (Lombardi et al., 2013; Lombardi, Murray, & Gerdes, 2011; Lombardi & Murray, 2011).

2016 West, Novak, and Mueller

In this study, researchers utilized the ITSI at a single 4-year public research institution in the Pacific Northwest region to assess the inclusive instructional climate. The study was limited to College of Education faculty members (n = 52) and assessed what accommodative strategies faculty were to assist students with disabilities in their classes, and what they perceived as most important toward student success. The study reported a 26% response rate, with a mixture of tenure track and adjunct faculty. There is no required disability training for faculty at this institution.

Over a three-week period, faculty and instructors were asked questions that explored the relationship of attitudes and actions in two areas: (a) accommodations to assignment due dates and individual reading loads; and (b) physical accommodations, such as checking classroom space to identify any potential physical barriers for students. Across all undergraduate and graduate programs within the college, only thirty-three students had disclosed disability to the DSO.

Researchers utilized a statistical analysis of the descriptive statistics for each subscale in the instrument, and then an analysis of the subscale-level responses, similar to Lombardi, Murray, et al. (2011). Cronbach's Alpha was then explored for each subscale. This allowed for researchers to analyze both large- and small-scale trends in the data.

2017 Hartsoe and Barclay

In this most recent study using portions of the ITSI, researchers focused on a single mid-sized Mid-South public university. All 653 faculty members were invited to participate with a

13% response rate (n = 85). Of those who participated, 60% were female, 38.3% were male, and 1.6% did not indicate gender. Status of position was collected with 41.7% having tenure status, 12% working toward tenure, and 23% not pursuing tenure.

Researchers broke the ITSI down uniquely by eight constructs under three unique domains: *Beliefs* – (a) Inclusive Classroom Strategies; (b) Inclusive Lecture Strategies, (c) Accommodations, (d) Course Modifications, (e) Inclusive Assessment, and (f) Accessible Course Materials; *Confidence* – (g) Disability Law; and *Knowledge* – (h) Campus Resources. They were focused on identifying potential correlations between participant beliefs, knowledge, and confidence in the various areas of inclusive instruction. These were also further explored by participant professorial rank and gender.

The Pearson product-monument correlation coefficient was used to explore relationships between the subscales and of the survey, followed by a series of one-sample *t*-tests to compare the mean subscale responses to the existing population parameters. Finally, ANOVA procedures were used to explore demographic grouping variables and subscales.

ITSI Subscales

Over the evolution of the ITSI, there have been seven common subscales to arise from the research: (a) accommodations; (b) accessible course material; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law and concepts. These have all been shown to be both reliable and valid through various studies (Lombardi & Murray, 2011; Lombardi et al., 2013; Lombardi, Murray, & Gerdes, 2011; Murray et al., 2008; West et al., 2016). The following section explores the details of what each of these constructs explores through the survey. Each construct is broken down into

two sections: (1) what general research findings have shown about the construct; and (2) specific findings in studies that have utilized the ITSI survey tool, or portions of it.

Accommodations

An academic accommodation is an adjustment to the classroom environment or academic task that allows the person with a disability an equal opportunity to participate in an academic program. Accommodations can include specially designed equipment, adjusting classroom procedures, or structural alterations (United States Department of Health, Education, and Welfare, 1973). What would *not* be considered "reasonable" accommodations are changes that alter the fundamental expectations of the program or the standards of achievement. In other words, accommodations should reduce the impact of the disability on an individual's learning or measurement of achievement. This is often referred to as leveling out the playing field. It should not alter the course standards (Wilhelm, 2003). If a student benefits from an accommodation, over and above leveling the playing field, it is no longer targeting the skill deficit due to disability but giving an advantage to the student (Ketterlin et al., 2006).

Questions on the ITSI survey regarding accommodations home in on specific accommodation requests from students. The construct was developed from the UD and UDI concepts of equitable use. Examples of accommodations commonly seen in higher education include extending time for examinations; providing examinations in alternative locations; readers and scribes for testing; wheelchair-accessible desks and tables; calculators or keyboards with large keys; materials provided in alternative media, such as large print or audio formats; interpreters or real-time captioning; and a notetaker or recorder (Wolanin & Steele, 2004).

In Bourke, Strehorn, and Silver's (2000) study, researchers focused on the University of Massachusetts, Amherst, a mid-sized university in the Northeast, which has a specialized program to support students with learning disabilities. Using a self-developed survey that had been reviewed by the institution's DSO, as well as by the research review committee at the university's Center for Counseling and Academic Development, researchers focused on faculty members' reported degree of ease or difficulty in providing instructional accommodations, as well as their perceptions of the need for this support and their own beliefs on the need for and benefit of providing these accommodations. Findings showed that faculty felt it was easier to provide accommodations if they had sufficient resources.

The survey was mailed to 485 full-time and part-time faculty members with a 35% return (n = 170). Items on the survey were based off the accommodation form utilized by the college's DSO, capitalizing on the content validity. Demographic information was obtained, as well as answers to questions on faculty experiences providing accommodations using a 4-point Likert scale, as well as a "not applicable" option for faculty who had not provided a specific accommodation before.

In another study focused on faculty perceptions of providing accommodations, researcher Marie Kraska, in her 2003 study, *Postsecondary Students with Disabilities and Perceptions of Faculty Members,* expanded the focus of her study to include all students with disabilities, versus only students with learning disabilities. This study was a single-institution study at a public 4-year, state institution in the southeast. A questionnaire was sent to all faculty members to ascertain perceptions of supporting students with disabilities and assess any significant differences in the demographic areas of gender, age, years of teaching experience, academic rank, academic department, and extent of contact with students with disabilities.

The study invited 106 faculty (both full-time and part-time) to participate and had a response rate of 67% (n = 106). The study included a 30-item Likert-style questionnaire that assessed whether faculty agreed or disagreed with the statements, using questions with both positive and negative connotations. This questionnaire was adapted from its original form used by Larrivee and Cook (1979) and sent for review by experts.

Findings for this university suggested that faculty generally held favorable attitudes toward serving students with disabilities. Significant findings with academic unit were shown. Faculty members in the College of Arts and Sciences were more favorable toward providing accommodations to students with disabilities than those found in the School of Education and the School of Business. This ran contrary to other studies that showed the School of Education as typically being the most favorable in providing accommodations at the time, which has been a consistent finding in the research since that time (Lombardi & Murray, 2011; Murray et al., 2008; Rao, 2002; Rao & Gartin, 2003; Skinner, 2007; Williamson, 2000). Researchers suggested that this irregular finding could have been due to turmoil in the workplace at the time.

ITSI Findings on Accommodations. Findings among studies have varied within this construct. One study found that there was a greater proportion of faculty who expressed positive attitudes toward accommodations than those who endorsed the actual actions (Lombardi, Gerdes, & Murray, 2011). In general, findings have shown that faculty show agreement toward accommodations that are easier and less time-consuming than major ones (Lombardi, Gerdes, & Murray, 2011; Lombardi & Murray, 2011). Faculty attitudes toward accommodations have also been shown to be influenced by training opportunities and support, regardless of the level of the training opportunity (i.e., more vs. less intensive) (Lombardi et al., 2013). There have been no

significant findings regarding the amount of teaching experience and this construct (Gawronski, 2014; Lombardi, Gerdes, & Murray, 2011)

Female faculty have been shown to have more positive attitudes in this area than their male peers in several studies, although not all (Bourke et al., 2000; Lombardi & Murray, 2011; Lombardi et al., 2013; Murray et al., 2008; Rao, 2002; Skinner, 2007). However, regardless of gender, faculty who have had prior disability-related training scored high in favorable attitudes (Lombardi & Murray, 2011; Lombardi et al., 2013). Faculty at the College of Education have consistently come out with more favorable attitudes of accommodations than other colleges (Dallas et al., 2014; Lombardi & Murray, 2011; Murray et al., 2008).

Other unique predictors of positive attitudes toward accommodations in 4-year institutions include years of teaching experience and the college served within the university. Faculty with 13+ years of experience showed significantly higher scores in this construct in one study (Dallas et al., 2014), while other studies found that the years of teaching experience was not a significant factor (Kraska, 2003; Lombardi, Gerdes, & Murray, 2011). Younger faculty (i.e., those who grew up after the implementation of disability law) and those who have personal experience with students with disabilities have also been linked to greater willingness to provide accommodations, along with a belief that students with disabilities add to the richness of diversity in the classroom (Berry & Mellard, 2002; Burgstahler et al., 2000; Rao & Gartin, 2003; Lombardi & Murray, 2011; Murray, Wren, et al., 2009).

Accessible Course Materials

While accessible course materials can be interpreted in a variety of ways, the survey limits this to online offerings. It specifically focuses on the use of a course website, posting electronic coursework, and the submission of assignments through online formats. This construct

derives from the UD and UDI concepts of tolerance for error, low physical error, perceptible information, simple and intuitive use, and equitable use. It also pulls from the UD, UDI, and UDA common theme of multiple means of presentation.

ITSI Findings on Accessible Course Materials. In one study, researchers compared two universities and found female faculty with training scored higher than their male counterparts at one institution, while the reverse was true at the other (Lombardi et al., 2013). However, researchers have found that faculty attitude in accessible course materials is influenced by support and training opportunities, regardless of gender (Lombardi et al., 2013). All faculty with more than 48 hours of training had a significantly higher score in this area than those with no prior disability training (Dallas et al., 2014). In the case of Dallas et al., (2014), researchers found that faculty at the Colleges of Applied Sciences and Art Education, and Mass Communication and Media Arts had more favorable views of this subscale than the colleges of Science and Liberal Arts.

Course Modifications

A course modification changes the standard of what is to be assessed (FAPE, 2001). In higher education, a student must be able to meet the essential eligibility requirements of a program, with or without, reasonable accommodation. As such, participation cannot require major program modifications, lowering of standards, or "fundamental" alterations to the nature of the program (Thomas, 2018). This is a key difference from services offered in K-12 under IDEA laws (IDEA, 2004).

As discussed in Chapter 1, there is an important difference between a modification and an accommodation. An accommodation is legally mandated in higher education and helps to level the playing field of students with disabilities by eliminating the impact of the disability. An

example of this is providing an audio textbook for a student with a reading disability, so that the student is not impeded by the disability in consuming the material. The student is still responsible to consume the same content as their non-disabled peers, but the audiobook allows the student to do so at the same pace without the disability acting as an impediment.

Course modifications, on the other hand, are not typically seen in higher education, nor are they mandated by law. They are, however, seen in K-12 and many students transitioning into higher education may not understand the difference. Accommodations are designed to remove disability from the equation and provide a more equitable playing field (Lombardi et al., 2013). Using the same example in the previous paragraph, a student with a reading disability who received a modification might have a faculty member who reduces the overall amount of reading for that student. That would reduce the overall course load for the student, thereby creating a different set of course requirements for the student with a disability than their peers without disabilities. This would be considered an inequitable solution, as the student with the disability now has an advantage over other students.

This construct is unique and unusual to include in the survey, as it does not come from UDI framework. Rather, researchers added it to explore the lengths and means that faculty are currently accommodating or modifying course content for students currently, anticipating that faculty who are flexible in these areas will tend to be more flexible for students regardless of disability (Lombardi et al., 2013). Questions in this subscale are related to major changes in course assignments or requirements (e.g., allow a student with a documented disability to complete extra credit assignments).

ITSI Findings on Course Modifications. Very few statistical findings have arisen in the literature regarding faculty attitudes and actions on course modifications. There have been some

mixed reactions regarding extra credit and reduced reading loads, which can be considered course modifications. While faculty show openness to accommodations in general, researchers speculate that faculty feel that these modifications may compromise the intellectual rigor of their course (West et al., 2016).

Inclusive Lecture Strategies

Questions regarding inclusive lecture strategies measure teaching strategies that are specific to a typical college lecture-style class format. This would include simple strategies faculty may use to assess student comprehension, such as repeating student questions to the class before answering. Summarizing key points throughout the lecture is another example. This construct comes from UD and UDI concepts of flexibility in use and UDI's concept of size and space.

ITSI Findings on Inclusive Lecture Strategies. In one study, faculty attitude in the subscale of inclusive lecture series show that while a great number of faculty endorse a positive attitude, even more endorsed actions. Researchers found these results to be counterintuitive and may suggest that faculty are practicing inclusive lecture practices without realizing or positively endorsing them. In other words, faculty found some of these strategies to be good practice in general and did not necessarily realize they are also techniques used in inclusive instruction (Lombardi, Gerdes, & Murray, 2011).

There have been few demographics found to impact faculty attitudes and actions in this construct. Female faculty with prior disability-related training have been shown in some studies to score higher than their male counterparts (Hartsoe & Barclay, 2017; Lombardi et al., 2013). Prior training and prior-disability related experiences were also shown to be a small but

significant contribution to the attitude scores, regardless of gender (Lombardi, Gerdes, & Murray, 2011).

In the single community college study that utilizes the ITSI, non-significant findings showed an obvious disagreement in this construct. Faculty reported favorable attitudes based on the tenets of UD, but then reported rarely, if ever, implementing inclusive instruction in their classrooms (Gawronski, 2014). The researcher offered no explanation as to why these results differed from previous studies (Lombardi et al., 2013; Lombardi, Gerdes, & Murray, 2011; Lombardi & Murray, 2011).

Inclusive Classroom

This subscale contains items related to the presentation of course content with a particular emphasis on flexibility, various instructional formats (e.g., small group work, peer-assisted learning, and hand-on activities), and the use of technology. It also includes willingness to include written statements in the course syllabus that encourage students to disclose a disability or any barriers to learning, as well as make the verbal announcements in class. This construct takes its roots from UD and UDI's size and space approach of use, UDI's instructional climate and the UD, UDI, and UDA's common theme of instructor approachability and empathy.

ITSI Findings on Inclusive Classroom. Attitudes in this construct have been shown to be influenced by institutional support and training opportunities at their institution, regardless of gender (Lombardi et al., 2013). However, females with prior disability training scored higher in positive feelings toward inclusive classrooms, over their male counterparts. Research also found that faculty overall responded that it is important to survey their classroom for physical barriers for students, but their actions did not match. This may indicate a need for a

reminder for faculty to check on this periodically or participate in a training prior to each semester start (Hartsoe & Barclay, 2017; West et al., 2016).

Inclusive Assessment

Applying UD principles to assessments can help provide a more accurate idea of what a student has learned without inadvertently testing a student's disability. Elements of this can include openness to accommodations, clear instructions and procedures, maximum readability, and maximum legibility (NCEO, 2016). The ITSI survey measures items relating to flexible response options on the exams, nontraditional exams, and flexible deadlines. This construct is derived from the UD, UDI, and UDA's common theme of inclusive assessment.

ITSI Findings on Inclusive Assessment. While inclusive assessment found generally neutral endorsement across faculty, of those who reported a positive attitude, approximately 49% reported "maybe" or "no" actions (Lombardi, Gerdes, & Murray, 2011). Influencing faculty in this area is institutional support and training opportunities, regardless of gender. Although, there have been some gender differences noted. Specifically, Lombardi, Murray et al., (2013) found that male faculty were more likely to engage in this than female faculty, whereas Hartsoe and Barclay (2017) found the opposite.

Researchers believe that less intensive training in this area also contributed to a more significant variance, suggesting that faculty may be more responsive to books and articles, rather than more intensive workshops (Lombardi et al., 2013). In addition to less intensive training, prior training was found to be a small but significant contribution to the attitude scores, regardless of gender (Lombardi, Gerdes, & Murray, 2011; Lombardi et al., 2013).

Disability Law and Concepts

This subscale contains items that relate to knowledge of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, an understanding of the terms "disability" and "Universal Design," and faculty knowledge of their own role in compliance with these laws. Researchers hypothesized that there would be a deep, underlying relationship with faculty understanding of laws and their accompanying actions (West et al., 2016).

In a 2016 study by West, Novak, and Mueller, the ITSI was administered at a single-institution study in the Pacific Northwest region. Researchers collected responses from fifty-two faculty members (26% response rate) at the College of Education. Findings showed a lack of confidence in faculty knowledge of disabilities and the legal rules surrounding it. Similarly, general research findings show that faculty knowledge of laws regarding accommodation impacts their willingness to provide accommodations (Leyser & Greenberger, 2008; Lombardi et al., 2013; NCES, 2009; Nelson et al., 1990; Rao & Gartin, 2003). It also has found that faculty tend to report limited understanding of the laws surrounding students with disabilities (Burgstahler et al., 2000; Leyser & Greenberger, 2008; Rao, 2002; Villarreal, 2002; Vasek, 2005; Wilson et al., 2000).

ITSI Findings on Disability Law and Concepts. Faculty attitude in this subscale was found to be influenced by institutional support and training opportunities. This is regardless of gender, although women with prior training have shown higher scores than men (Lombardi et al., 2013). However, researchers have also found an unusual pattern in this construct. While respondents in one study reported a confidence in their knowledge and responsibilities related to disability law, they also had a substantial number of faculty in areas of ADA law and Section 504 law report not feeling confident in their knowledge of these laws. Researchers speculate that

faculty confidence in making accommodation has promoted a stronger sense of overall confidence in implementing these laws, without fully understanding them (West et al., 2016).

Demographics

In addition to the ITSI constructs themselves, researchers have frequently collected demographic data to explore what impact, if any, it has on the attitudes and actions of faculty members in implementing inclusive instruction on campus. There have not been any significant findings when comparing full-time and part-time faculty in any of the subscales (Dallas et al., 2014; Gawronski, 2014; Lombardi & Murray, 2011). Gawronski et al., (2016) found that Caucasian/White (non-Hispanic) faculty members between 35-44 years had higher overall action scale scores in his single community college study, but there have been no other studies to find this (Lombardi et al., 2013; Lombardi, Murray, & Gerdes, 2011; Lombardi & Murray, 2011).

Gawronski et al., (2016) also found that there were no significant findings in academic disciplines regarding faculty attitudes toward inclusive instruction and accommodations. That is contrary to what other studies have found, which suggest that colleges of education have traditionally been more positive toward those constructs, although positive attitudes have also been found in the fields of architecture and liberal arts, as well (Lombardi & Murray, 2011; Murray et al., 2008; Lombardi, Murray, & Gerdes, 2011; Rao, 2002; Rao & Gartin, 2003; Skinner, 2007; Williamson, 2000).

Faculty Training Opportunities

As a result of the findings of faculty impact on the accommodation process, faculty attitudes and knowledge toward disability have begun to show up more readily in current literature, including the impact of training on faculty, although not at the pace as in other

countries, such as Spain (Lombardi & Murray, 2011; Murray, Lombardi et al., 2009; Murray et al., 2008; Vogel et al., 2008). Concerns of compromised academic freedom, and a lack of understanding of laws and responsibilities, however, can be addressed by training. In fact, research has shown a reoccurring theme that training can help promote positive attitudes of faculty toward both students with disabilities and the accommodation process (Murray, Lombardi, et al., 2009; Lombardi, Murray, & Gerdes, 2011; Lombardi & Murray, 2011; Murray, Wren, et al., 2009; Sowers & Smith, 2004).

Some institutions have used these results to present at brown bag sessions at their respective institutions, using results to guide the conversation to areas where faculty were most interested or lacked an understanding. This led to positive conversations about what are hard-fast rules of serving students with disabilities, and where is there greater flexibility in providing more inclusive instruction that will benefit all students (West et al., 2016). The ITSI can also be used as a follow-up tool to gauge understanding of a training or workshop (Lombardi et al., 2013).

Challenges with Training

There are several challenges to implementing inclusive instruction in higher education, starting with a lack of faculty interest and limited training resources (Raue & Lewis, 2011). Inclusive instruction requires faculty to be the primary responsible party in executing the principles in the classroom, which requires a great deal of knowledge and expertise around the principles (Cross-sectional, 2015; McGuire & Scott, 2006; Lombardi & Murray, 2011; Ouellett, 2004; Scott, Loewen et al., 2003). Time constraints then become a major barrier for faculty (Johnson & Fox, 2003). In addition to expected faculty resistance, institutions can expect to see challenges with limited time and finances, and lack of DSO teaching experience support. The

largest hurdle, however, is that there is currently no legal mandate (or funding) for comprehensive inclusive instruction on campuses (Brinckerhoff et al., 2002; Moriarty, 2007; Skinner, 2007).

For the time being, a shift to an inclusive instruction model will have to be an institution-wide, top-down initiative. Block, Loewen, and Kroeger (2006) stressed the importance of the institution in supporting students with disabilities in this way. Specifically, they recommended a shift from a traditional medical model of disability (where the focus is on changing the student) to a social model (focusing on the institution and inclusive instruction). Departmental support has also been shown to be effective in easing the burden of implementing accommodations in the classroom (Bourke et al., 2000).

Overall, research suggests that lacking federal requirements and funding, institutional support, department support, and training can all help institutions positively drive this shift and influence faculty attitude toward students with disabilities and implementing inclusive instruction on campus (Bourke et al., 2000; Block et al., 2006; Lombardi & Murray, 2011; Murray, Lombardi et al., 2009; Murray et al., 2008; Vogel et al., 2008). Once on board, however, institutions face the challenge of producing in-house material, as there is no standardized material available. There is limited research on the effectiveness of different types of teaching materials, however, any type of training has consistently been shown to improve faculty attitudes toward students with disabilities and providing accommodations, regardless of demographic characteristics. That suggests that at this point, getting any type of training to faculty is better than nothing at all (Bourke et al., 2000; Block et al., 2006; Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013; Murray, Lombardi et al., 2009; Murray, Wren et al., 2009; Park et al., 2012).

Chapter Summary

Utilizing the principles of inclusive instruction can be a strong, realistic tool for faculty who are faced with the challenge of an ever-increasingly diverse student body. With more students with disabilities arriving on campus, both trying to make it with and without accommodations, faculty have an increasing workload in the classroom. In lieu of "retrofitting" their courses through use of traditional disability accommodations, faculty could utilize the principles of inclusive instruction to approach their course with flexibility and creativity to meet the needs of *all* students in the classroom (Dallas et al., 2014).

The ITSI has been established as a useful tool for 2-year and 4-year institutions to utilize in-house to assess the climate, attitudes, and actions of faculty members toward inclusive instruction. With limited resources for training and development, this tool can help administrators target specific areas of training needed (Gawronski et al., 2016). It can also be used to assess individual departments for an even more targeted training on a smaller scale (Gawronski et al., 2016).

The research on favorable attitudes toward inclusive instruction and whether they translate into action is one of great relevance in today's classroom. Findings to-date suggest that there is a strong relationship between training and positive attitudes and actions toward students with disabilities. There is further research to suggest that knowledge of specific disability laws lead to instructor confidence and thus a willingness to provide more inclusive instruction to students (West et al., 2016).

Faculty lack of knowledge, on the other hand, can send unintentional messaging to students and create a climate where students do not feel comfortable seeking needed accommodations (Rao, 2004). It can also breed resentment in faculty if they believe that some

students are getting an unfair advantage and they have no say in how accommodations are implemented in the classroom, or if they believe they are having to compromise their academic freedom (Cook et al., 2009; Jensen et al., 2004; Wolanin & Steele, 2004). Training in inclusive instruction can address all these concerns and help foster a more comfortable and positive outlook on supporting students with disabilities and inclusive instruction in the classroom (Murray, Lombardi, et al., 2009; Lombardi, Murray, & Gerdes, 2011; Lombardi & Murray, 2011; Murray, Wren, et al., 2009; Sowers & Smith, 2004).

Chapter 3

Methodology

The purpose of this study was to examine faculty perceptions of inclusive instruction and its implementation at three, 2-year degree-granting colleges in a single South-Central state. These perceptions are instrumental in identifying potential barriers of faculty electing to implement inclusive instruction in the classroom, which could positively impact the success of students with disabilities in higher education.

The following research questions guided this study:

1. What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges?
2. Is there a statistically significant difference between faculty attitudes and actions?
3. What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training?

Research Design

This quantitative study utilized a cross-sectional descriptive non-experimental research design, which allowed me to explore and compare several variables at a single point in time, or during a relatively short period of time, without manipulating or modifying the environment. I was able to primarily describe the phenomenon being studied and document its characteristics (Cresswell, 2012; Cross-sectional and longitudinal studies, 2015; Johnson, 2001; Johnson & Christensen, 2000). This study design also has the added benefit of studying current attitudes, practices, beliefs, and opinions (Cresswell, 2012)

The measures were administered through an online survey, the ITSI (Lombardi et al., 2015). The use of an online survey tool has the following advantages: (1) access to individuals who may otherwise be difficult to reach; (2) expedient survey delivery; (3) automated data collection; and (4) cost and environmental savings by moving from paper format to an electronic medium (Wright, 2005). Previous similar studies also have utilized online surveys for data collection, providing a response rate between 20-25%, which this study used for comparison (Cook et al., 2009; Dallas et al., 2014; Gawronski et al., 2016; Lombardi et al., 2013; Lombardi et al., 2015; West et al., 2016).

Population and Sampling

Population

The three colleges selected to participate in this study were identified both for their size and uniqueness. They are three of the largest degree-awarding institutions within the state, which was desirable in terms of collecting enough data to analyze. The state is a mixture of both metropolitan and rural areas, which was reflected in the institutions selected. Each of these institutions differs in terms of its geography, student population demographics, and degree types offered.

College 1 is located in a metropolitan area with 8,383 students, the largest student population of the three colleges. It serves primarily Caucasian/White (non-Hispanic) students (63.3%), followed by Hispanic or Latino (22.6%), and Other (14.1%). It offers a variety of degree types, including Associate of Arts, Associate of Applied Science, Associate of Science, Technical Certificates, and Certificates of Proficiency.

College 2 is similarly located in a metropolitan area and serves 7,870 students. It primarily serves Caucasian/White (non-Hispanic) students (45%). However, African American,

or Black students also make up a large proportion of the population (40.5%), followed by Hispanic or Latino (3.5%), and Other (11%) students. This college offers the same types of degrees as College 1.

College 3 is located in a rural area of the state and serves less than half the number of students of the first two colleges, with an enrollment of 3,317 students. The student body is composed primarily of Caucasian/White (non-Hispanic) students (82%), followed by African American or Black (7%), Hispanic or Latino (5%), and Other (6%) students. In addition to the degree types offered by Colleges 1 and 2, this institution also offers Bachelor of Arts, Bachelor of Science, and Master of Business Administration degrees. Table 1 further illustrates these institutional demographics.

Table 1
Description of the Three South-Central Community Colleges

	College 1	College 2	College 3
Geography	Metropolitan	Metropolitan	Rural
Student population	8,383	7,870	3,317
Student demographics	Caucasian/White (non-Hispanic) (63.3%); Hispanic or Latino (22.6%); and Other (14.1%)	Caucasian/White (non-Hispanic) (45%); African American or Black (40.5%); Hispanic or Latino (3.5%); and Other (11%)	Caucasian/White (non-Hispanic) (82%); African American or Black (7%); Hispanic or Latino (5%); and Other (6%)
Degree types offered	Associate of Arts; Associate of Applied Science; Associate of Science; Technical Certificates; Certificates of Proficiency	Associate of Arts; Associate of Applied Science; Associate of Science; Technical Certificates; Certificates of Proficiency	Associate of Arts; Associate of Applied Science; Associate of Science; Bachelor of Arts; Bachelor of Science; Technical Certificates; Certificates of Proficiency; Master of Business Administration

Sampling

This study utilized data from both full-time and part-time faculty members at three degree-granting 2-year public institutions. All faculty at each college were invited to participate, apart from faculty members teaching primarily in Early College Experience and Adult Education programs. It was determined that the typical student profile for those two programs falls outside of the limited scope of this study. This study was targeted toward "traditional" student experiences at a community college. Early College Experience programs are geared toward high school students and are subject to IDEA laws, which would preclude faculty from reporting on disability accommodations in those classes. Adult Education programs focus on assisting adults in preparation of taking the G.E.D., a high school diploma equivalency program that operates

differently than traditional college courses. Aside from faculty in those two programs, all full-time and part-time faculty at each of the three institutions were invited to participate.

Measures

Inclusive Teaching Strategies Inventory (ITSI)

The Inclusive Teaching Strategies Inventory (ITSI) was the tool used to collect data for the study. The ITSI evolved from an earlier instrument known as the *Expanding Cultural Awareness of Exceptional Learners* (ExCEL) survey and has undergone multiple development phases since that time (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013). The survey is designed for faculty in higher education to report their attitudes and actions regarding inclusive teaching strategies. Permission to use the instrument can be found in Appendix A.

The ITSI was administered to all participating faculty members via Qualtrics. A copy of the full survey instrument is included in Appendix B. It assesses seven constructs that are founded on inclusive instructional practices based on Universal Design frameworks: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law concepts (Lombardi et al., 2013). There are 31 questions regarding faculty attitudes in the survey. Each question stem begins with "I believe it's important to." There are also 31 questions about faculty actions in the survey. Each action question stem begins with "I do this." There are six questions regarding disability law and concepts. Each of these questions begin with the stem "I am confident in." Participants were guided to reflect on the last three academic years when answering the action questions.

The first subscale, accommodations, includes eight questions specific to the accommodation process (e.g., I make individual accommodations for students who have disclosed their disability to me). The second subscale, accessible course materials, includes four questions that focus on the multiple formats of course materials faculty utilize in their courses, such as lecture, text, graphics, audio, hands-on exercises, and video (e.g., present course information in multiple formats).

The third subscale, course modifications, has four questions that focus on modifications faculty may choose to implement in their course(s) (e.g., reduce the overall course reading load for a student with a documented disability even when I would not allow a reduced reading load for another student). It is important to reiterate here that course modifications are not required by higher education disability law and are not typical in college (West et al., 2016).

Inclusive lecture strategies make up the fourth subscale, featuring four questions that focus on the strategies faculty members utilize in the traditional lecture-style classroom (e.g., begin each class session with an outline/agenda of the topics that will be covered). The fifth subscale is inclusive classroom and is made up of nine questions that focus on the various instructional formats which faculty use to share information with students (e.g., use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands-on activities). In this study, I made an error on one of the questions from this construct, resulting in one less attitude question and one less action question. The question was entered into the survey software incorrectly, discrediting it, and requiring that it be omitted from the study.

The sixth subscale, inclusive assessment, has four questions regarding faculty use of various assessment tools in the classroom, such as written essays, portfolios, and journals

(e.g., allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams). The final subscale, disability law and concepts, has nine questions that focus on faculty understanding of terms "Universal Design" and "disability," in addition to knowledge of Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act.

In addition to faculty attitudes and beliefs in those seven focus areas, faculty also were asked to report demographic characteristics. These included gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training (yes or no), and type of training (i.e., less intensive training or intensive training). Intensive training is defined as workshops or classes, while less intensive includes the use of articles, books, or websites.

Dependent Variables

Dependent variables for this study include overall attitude and action scale scores from the ITSI survey (Gawronski et al., 2016; Lombardi & Murray, 2011; Lombardi et al., 2011; Lombardi et al., 2013). They assess seven constructs, which include: (a) accommodations ($\alpha = .85$); (b) accessible course materials ($\alpha = .70$); (c) course modifications ($\alpha = .76$); (d) inclusive lecture strategies ($\alpha = .80$); (e) inclusive classroom ($\alpha = .84$); (f) inclusive assessment ($\alpha = .71$); and (g) disability law & concepts ($\alpha = .87$) (Dallas, et al., 2014; Gawronski, et al., 2016; Lombardi, et al., 2011; Lombardi, et al., 2013; Lombardi, et al., 2015; West, et al., 2016).

On the survey, faculty were prompted to assess their attitudes using a Likert scale with options ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). They were then prompted to assess their actions for the same questions using a Likert scale with options ranging from

1 (*no opportunity*) to 5 (*always*). For confidence in disability law and concepts, faculty were given Likert options that ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Independent Variables

This study examined faculty demographic variables that may have had an influence on attitudes and actions regarding inclusive instruction. The independent variables include gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training. Table 2 shows the survey's independent variables and levels of measurement.

Table 2
Description of Faculty Independent Variables and Levels of Measurement

Variable	Description	Type
Gender	Faculty identified as: male, female, or other.	Nominal
Race/Ethnicity	Faculty identified as: African American or Black; Asian/Pacific Islander; Caucasian/White (non-Hispanic); Hispanic or Latino; Two or More Races; or Other	Nominal
Academic Discipline	Faculty identified their primary academic department as: Agriculture, Food and Life Sciences; Arts and Communication; Automotive Technology; Aviation Technology; Business and Computer Information; Certified Retail Analyst and Space Planning; Construction Technology; Cosmetology; Criminal Justice; Culinary and Hospitality; Diesel Technology; Education; Environmental Sciences; Fire Science; Funeral Science; Graphic Design and Digital Media; Health Professions; Industrial Technology; Legal; Mathematics, Science, and Engineering; Military Technology; Other [type answer]	Nominal
Amount of teaching experience	Faculty identified total number of teaching experience: 0-4 years; 5-9 years; 10-14 years; 15-19 years; 20-24 years; 25 years or more	Ordinal
Employed part-time or full-time	Faculty identified as either full-time or part-time	Dichotomous
Prior Training	Faculty identified either yes or no.	Dichotomous
Type of Training	If faculty identified 'yes' to having had prior training, they further identified the type of training: intensive (i.e., workshops or classes); less intensive (i.e., articles, books, or websites)	Dichotomous

Validity and Reliability

The ITSI has undergone several studies that have shown repeated evidence of acceptable reliability and validity (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013). All studies using the ITSI have focused on 4-year institutions, except for Gawronski et al. (2016), which focused on a single community college in the Northeast. In 2013, the instrument was also converted to a Spanish-language version (Lombardi & Sala-Bars, 2013).

Validity

Validity relates to whether a test is measuring what it is designed to measure (Heale & Twycross, 2015). The content, convergent and discriminant validity of the ITSI was established in the original use of the study in 2011 when the instrument was transitioning from its former name, *Expanding Cultural Awareness of Exceptional Learners* (ExCEL) survey. At that time, researchers Lombardi, Murray, and Gerdes (2011), expanded the survey into a 32-item instrument, now known as the ITSI, which focuses on six constructs where respondents are asked to report both their attitudes and actions for each. Researchers began by establishing content validity through four faculty members and a director of disability services. They went on to examine the tool using exploratory factor analysis with principal analysis factoring and an oblique rotation.

The findings resulted in researchers retaining eight factors, based on the Kaiser-Guttman rule, as well as Velicer's MAP Test, Parallel Analysis, an examination of scree plots, and the theoretical plausibility of the item grouping. This provided strong evidence that this tool could be used for assessing faculty attitudes and actions in regard to disability (Lombardi & Murray, 2011). This tool has also been used in multiple studies to examine institutional context

(Lombardi et al., 2013; Dallas et al., 2014), as well as a new Spanish version that showed promising preliminary evidence of validity (Lombardi & Sala-Bars, 2013).

Pilot Test. To further establish validity of the ITSI for the purpose of this study, a pilot test was conducted with two content experts in serving students with disabilities in higher education. Both work in the state where the colleges for this study are located. This was done to ensure that terms and descriptions used on the survey would convey from different parts of the country where this instrument has been used before. One expert holds a leadership role at a DSO and has extensive experience in working at a 2-year college with students with disabilities. The other content expert also holds a leadership role at a DSO and has extensive experience in working at both the 2-year level and 4-year levels. Both assessed the tool in terms of being easy to understand, the time it takes to complete the assessment, and accurately phrased/worded questions.

There was one change to the instrument based on feedback. Question 31 asks, "I believe it is important to allow students to express comprehension in multiple ways." Based on feedback, the question was revised for greater clarification to read, "I believe it is important to allow students to express comprehension in multiple ways (e.g., oral, written)". Similarly, on Question 62, the action version of the same question, the examples were added, "I always allow students to express comprehension in multiple ways (e.g., oral, written)."

Reliability

Reliability refers to the extent that the findings from a test are consistent over time (Heale & Twycross, 2015). The ITSI has shown evidence of acceptable reliability in multiple studies using Cronbach's alpha with a range of .70-.87 when examining the full scale, as well as within the different subscales (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011;

Lombardi et al., 2013; Dallas et al., 2014; West et al., 2016). The findings indicated that the ITSI can be a reliable and valid tool for assessing faculty attitudes and actions regarding inclusive instruction, which could then be used to focus professional development activities within individual institutions (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013; Dallas et al., 2014; West et al., 2016).

Establishing Reliability in Current Study. To assess the subscales from the ITSI survey and confirm overall reliability scores in this study, Cronbach's alphas were calculated. The Cronbach's alpha is a measurement tool for scale reliability. It measures how closely related a set of items are. The range is from 0 to 1 with numbers closer to one indicating greater internal consistency, and thus reliability. There is a range among authors on how to interpret and describe the alpha values. In general, sufficient values for the reliability of an instrument fall Between .70 and .95 (Cronbach, 1951; Taber, 2017; Tavakol & Dennick, 2011).

The overall Cronbach's alpha for the attitude subscales for this study, which includes six subscales and 31 items, was .89. This indicates a strong internal reliability of these subscales and their associations with each other. The alpha for action subscales, which includes six subscales and 31 items, was .82. While slightly lower, it still showed a very strong internal reliability of these subscales within the instrument. The alpha for the disability and law concept subscale, including one subscale and six items, was .80 and strong. Finally, the overall ITSI internal consistency score for all 68 items was .92. This showed a strong reliability and was consistent with earlier reliability findings for the ITSI (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011). These findings are illustrated in Table 3.

Table 3
Current Study Cronbach's Alpha for Each of the Overall Subscales

	N	A
Accommodations	16	.81
Accessible Course Materials	8	.71
Course Modifications	8	.73
Inclusive Lecture Strategies	8	.81
Inclusive Classroom	14	.86
Inclusive Assessment	8	.80

Data Collection

Data collection for this study consisted of the ITSI online survey questionnaire, which was used to gather community college faculty demographic information, as well as their attitudes and actions associated with inclusive instruction. The use of an online format makes the survey more accessible, expedient, automated, and cost-efficient (Wright, 2005). The survey questionnaire was hosted by Qualtrics at the University of Arkansas.

Research has shown that multiple contacts are more effective in increasing response rates in online surveys (Dillman, 2011; Schaefer & Dillman, 1998). While there is no one magical technique for getting high response rates in online surveys, Dillman (2011) identified elements that have individually been shown to improve respondent rates with online surveys, which are implemented in this study, including: (a) a respondent-friendly questionnaire; and (b) up to five touches with the recipient of the questionnaire using different stimuli.

For this survey, an attempt to create a respondent-friendly questionnaire was made through the pilot test by ensuring that the questions were clear and easy to understand. A commercially designed software, Qualtrics, was also used to ensure the design was both attractive and easy to use for participants. There were three contact points for potential participants, including: (a) a pre-notice email; (b) an invitation to participate email; and

(c) a thank you/follow up email. Each institution was given an option on how they preferred their faculty members to be contacted.

Following IRB approval from the University of Arkansas for this study (Appendix C), as well as IRB approval from College 1 (Appendix D) and College 3 (Appendix E). College 2 did not issue a formal IRB approval, rather they gave verbal approval over the phone. Once the study began, a prenotice email was sent to faculty that explained that the survey would be sent out a few days after the initial contact (Appendix F). It contained a brief introduction to the study, why their participation was important, consent documents, and contact information for myself, my faculty advisor, and the IRB contact. Approximately one week later, participants received another email with the link to the study (Appendix G). A week after that, faculty received a follow-up email, thanking those who had participated, and reminding those who had not that there was still one week remaining to complete the survey. That email also had a link to the survey (Appendix H). The recruitment and survey email timelines are shown in Table 4.

Table 4
Recruitment Email Timelines for Each College

	Recruitment Email Send Date	Survey Email w/ Link Send Date	Thank you/ Reminder Email w/ Link Send Date	Survey Close Date
College 1	April 5, 2021	April 12, 2021	April 19, 2021	April 27, 2021
College 2	April 5, 2021	April 12, 2021	April 19, 2021	April 27, 2021
College 3	April 20, 2021	April 26, 2021	May 2, 2021	May 11, 2021

Survey emails were sent to a total of 683 potential participants across the three colleges. A total of 369 surveys were sent to College 1 through Qualtrics, which was the preferred method of that college. For College 2, a total of 167 survey emails were sent to potential participants through the college's Institutional Research and Reporting Coordinator, per their preference. A total of 147 emails were sent to College 3's potential participants through my university email

account after running into some challenges with the Qualtrics software. Through the email, a special link was sent to only College 3 faculty, so that when they completed the survey anonymously, their responses would be recorded under the proper college in Qualtrics. The table below breaks down the number of emails sent, surveys started, and surveys finished by institution, as well as the aggregate numbers. Data were imported from Qualtrics to Statistical Package for the Social Sciences (SPSS) version 26 and the data were examined prior to analysis.

Table 5
Survey Instrument Emails Sent and Completion Rates

	Number of emails sent	Number of survey's started	Number of surveys completed	Completion rate % (rounded)
College 1	369	63	51	14%
College 2	167	31	28	17%
College 3	147	32	28	19%
Overall	683	126	107	16%

Faculty Participation Demographics

Upon closing the surveys, 110 surveys appeared to be completed. However, upon closer review, three were judged as ineligible for data analysis. Two were dropped because they were listed as "Other" for gender. One was dropped due to a preference not to share academic department. Thus, the final number of completed surveys that were used for data analysis was 107.

Of the 107 surveys analyzed, 38.3% of participants identified as male (n = 41) and 61.7% identified as female (n = 66). Respondents reported 12.1% having 0-4 years of teaching experience (n = 13), 12.1% having 5-9 years of teaching experience (n = 13), 17.8% having 10-14 years of teaching experience (n = 19), 17.8% having 10-14 years of teaching experience (n = 19), 17.8% having 15-19 years of teaching experience (n = 19), 12.1% having 20-24 years of teaching experience (n = 13), and 28.0% having 25 or more years of teaching experience

(n = 30).

Regarding teaching status, 18.7% reported working part-time (n = 20), while 81.3% reported working full-time at their respective institution (n = 87). When asked whether they had received any prior training, 92.5% of faculty reported "yes" (n = 99), while 7.5% reported no (n = 8). Of those who answered "yes" to having received prior disability training, 45.8% reported receiving less intensive training (i.e., articles, books, or websites) (n = 49), compared to 58% who had received intensive training (i.e., workshops or classes) (n = 58).

Upon review of Racial/Ethnic Background and Academic Department variables it was determined that adjustments be made to the data categorization. In the category of Racial/Ethnic Background, respondents provided the following responses: 3.54% identified as African American or Black (n = 4); 0.00% identified as Asian/Pacific Islanders (n = 0); 85.45% identified as Caucasian/White (non-Hispanic) (n = 94); (1.82%) identified as Hispanic or Latino (n = 2); 4.55% identified as Two or More Races (n = 5); and 4.55% identified as Other (n = 5). With such small sample sizes in all categories other than Caucasian, it was decided that for the data analysis of all categories, other than Caucasian/White (non-Hispanic), would be collapsed into a single "Faculty of Color" category.

In the category of Academic Department, there was a wide variety of submissions, many of which did not contain any representative participants in the study. Following are the submissions to the prompt, "What academic department do you primarily work in at your institution?": 5.45% identified working in Agriculture, Food and Life Sciences (n = 6); 35.45% identified working in Arts and Communication (n = 39); 0.91% identified as working in Automotive Technology (n = 1); 0.00% identified as working in Aviation Technology (n = 0); 12.73% identified as working in Business and Computer Information (n = 14); 0.00% identified

as working in Certified Retail Analyst and Space Planning (n = 0); 2.73% identified as working in Construction Technology (n = 3); 0.00% identified as working in Cosmetology (0); 3.64% identified as working in Criminal Justice (n = 4); 2.73% identified as working in Culinary and Hospitality (n = 3); 0.00% identified as working in Diesel Technology (n = 0); 3.64% identified as working in Education (n = 5); 0.00% identified as working in Environmental Sciences (n = 0); 0.00% identified as working in Fire Science (n = 0); 0.00% identified as working in Funeral Sciences (n = 0); 0.00% identified as working in Graphic Design & Digital Media (n = 0); 6.36% identified as working in Health Professions (n = 7); 2.73% identified as working in Industrial Technologies (n = 3); 0.00% identified as working in Legal (n = 0); 17.27% identified as working in Mathematics (n = 19); 0.00% identified as working in Military Technologies (n = 0); 0.00% identified as working in Office Supervision, Management and Technology (n = 0); 0.00% identified as working in Professional Truck Driving (n = 0); 0.00% identified as working in Welding Technology (n = 0); and 6.36% identified as Other (n = 7).

The 7 respondents who selected "Other" were prompted to then provide the academic department they primarily served via a fill-in-the-blank survey response option. One respondent wrote, "I prefer not to answer". That respondent was dropped from the data analysis due to not being able to be properly categorized. The other six fill-in-the-blank submissions included items that should have been submitted under the available categories. They were rerouted into those categories accordingly.

With the wide spread in responses, it was determined best to drop any of the departments that had zero representatives and combine the remaining categories into the following: (1) Arts and Communication, which included Arts and Communications, Criminal Justice, and Culinary and Hospitality; (2) Agricultural Sciences, Mathematics and Industrial Technologies, which

included Agriculture, Food and Life Sciences, Automotive Technology, Construction Technology, Industrial Technologies, and Mathematics; (3) Business and Computer Information remained the same; (4) Health Professions remained the same; and (5) Education remained the same. The updated categories and responding numbers are shown in Table 6.

Table 6

Number and Percentage of Sample Faculty Characteristics

Faculty Characteristics	N	%
Gender		
Male	41	38.3%
Female	66	61.7%
Racial/Ethnic Background		
Caucasian/White (non-Hispanic)	93	86.9%
Faculty of Color	14	13.1%
Academic Department		
Arts and Communication	48	45.0%
Agricultural Sciences, Mathematics and Industrial Technologies	31	29.0%
Business and Computer Information	14	13.0%
Health Professions	9	8.0%
Education	5	5.0%
Years of Teaching Experience		
0-4 years	13	12.1%
5-9 years	13	12.1%
10-14 years	19	17.8%
15-19 years	19	17.8%
20-24 years	13	17.8%
25 or more years	30	28.0%
Part-Time or Full-Time Teaching Status		
Part-time	20	18.7%
Full-time	87	81.3%
Prior Disability Training		
Yes	99	92.5%
No	8	7.5%
Type of Disability Training		
Less Intensive	49	45.8%
Intensive	58	54.2%

Missing Data

The design of the survey required an answer to each question before it would allow respondents to progress to the next question. All questions had to be completed before the survey

was eligible for submission. Prior to the analysis, all data were screened for model assumptions of multivariate normality and homoscedasticity. Of the 682 surveys sent to potential participants, 110 were completed and eligible for analysis. There were an additional 19 surveys (15%) that were started but not completed. The Little's missing completely at random (MCAR) test suggested that data were not missing at random. However, the findings showed that as participants continued through the survey, more and more items were left incomplete, suggesting that they may have experienced a lack of motivation or survey fatigue (Dillman, 2011). For example, items 6-20 were missing 2.5% of data, items 21-37 were missing 5% of data, items 38-57 were missing 9% of data, and items 58-70 were missing 13% of data.

Data Analysis

The data analysis for each of the research questions varied based on the type of question and statistical analysis warranted. All data collected were exported into SPSS version 26 for analysis. Cronbach's alphas were calculated to assess subscale overall reliability scores.

Question 1: What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges?

Descriptive statistics were used to report the mean and standard deviation for each attitude and action subscale, which included: (a) accommodations; (b) accessible course material; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law and concepts. Mean and standard deviation were deemed sufficient as the dependent variables were continuous, ruling out the need to use frequencies and percentages.

Question 2: Is there statistically significant difference between faculty attitudes and actions?

A paired *t*-test was used to determine statistically significant differences between faculty attitudes and actions. Assumptions of normality of variance were also assessed. Homogeneity of variance was not assessed as the paired *t*-test does not operate under the assumption that operations within a group are normal, nor do they assume that groups are homoscedastic (McDonald, 2014).

Question 3: What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training and type of training?

The homogeneity of variance assumption was assessed to explore the answer to this question. As variances were equal, one-way ANOVAs were used to further analyze the data to answer this question. Post hoc tests were used in cases where there were multiple groups that required further exploration on how the groups differed from each other.

Chapter Summary

The research design for this study allowed for the exploration and comparison of multiple variables at a single moment in time without modifying the environment. Using the ITSI online survey instrument, full-time and part-time faculty at three community colleges identified attitudes and actions toward inclusive instruction in higher education. Each college was selected for its uniqueness (i.e., geography, student population, degree types offered) and for being one of the three largest degree-awarding institutions in the state.

A series of survey emails were sent to faculty participants, which resulted in the gathering of data for the study. Data were uploaded into SPSS version 26 and were analyzed in order to answer the three research questions guiding this study. Descriptive statistics were used to report the mean and standard deviation for each attitude and action subscale in order to answer the first question. The second question was addressed through a paired *t*-test for each construct and assumptions of normality of variance were assessed. The final question assessed the homogeneity of variance assumption first. Once it was determined that the variances were equal, one-way ANOVAs were used to further analyze the data. Post hoc tests were used in cases where there were multiple group comparisons, as in the case of academic department and years of teaching experience.

Chapter 4

Data Presentation and Analysis

While the number of students with disabilities continues to rise in higher education, their graduation rates have not kept pace (Bill & Spears, 2020; Schelly et al., 2011; Lombardi et al., 2013). There is evidence to suggest that using inclusive instruction can have a positive, low-cost impact on students in higher education, including those with disabilities (Lombardi, Murray, & Gerdes, 2011; Schelly et al., 2011). As such, this study sought to help further explore the differences in faculty self-reported attitude and actions associated with inclusive instruction at 2-year colleges in the South-Central region of the United States, where there has been minimal research. Findings can help better determine if there is a need for additional support and training of these teaching strategies in order to better support the success of students with disabilities in higher education.

Context of the Study

This quantitative study utilized a cross-sectional descriptive non-experimental research design, which allowed me to explore and compare several variables at a single point in time without manipulating the environment. I was then able to describe the current attitudes and phenomenon being studied and then document its characteristics (Cresswell, 2012; Cross-sectional and longitudinal studies, 2015; Johnson, 2001; Johnson & Christensen, 2000).

Participants included both part-time and full-time faculty members at three degree granting 2-year public institutions in a South-Central state. Data from each of the three colleges were combined and studied in aggregate due to the limited sample size (n = 107). The measures were administered through an online survey, the *Inclusive Teaching Strategies Inventory* (ITSI)

(Lombardi et al., 2015). Results from this study can easily be compared to other ITSI findings from both 2-year and 4-year colleges from around the United States.

This chapter includes a presentation of the data analysis of the survey results to address the following research questions:

1. What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges?
2. Is there statistically significant difference between faculty attitudes and actions?
3. What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty: gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training?

Research Findings

Research Question 1: Faculty Attitudes and Actions

The first research question asks, "What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges in the South-Central region?". To answer this question, descriptive statistics were analyzed for faculty self-reported attitude and actions associated with each of the ITSI subscales: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law and concepts.

Accommodation Attitude and Action

The accommodation attitude scale had a range of possible Likert-scale options from 1 *(strongly disagree)* to 7 (*strongly agree)* and the accommodation action scale from 1 *(no opportunity)* to 5 *(always)*. The average overall accommodation attitude mean was 5.76

(*SD* = 1.30), and the average overall accommodation action mean was 4.04 (*SD* = 1.31). The accommodation attitude question with the highest mean was "I believe it is important to arrange extended time on exams for students who have documented disabilities," ($\bar{x}$ = 6.21). This question also had the lowest standard deviation at 1.13. These findings similarly aligned with the same accommodation action, "I arrange extended time on exams for student who have documented disabilities," with a mean reported score of 4.67 and the lowest standard deviation at .82.

The accommodation attitude question with the lowest mean ($\bar{x}$ = 5.06) and greatest standard deviation (*SD* = 1.90) was "I believe it is important to extend the due dates of assignments to accommodate the needs of students with documented disabilities." Accommodation action, however, showed the lowest mean ($\bar{x}$ = 3.05) and greatest standard deviation (*SD* = 1.75) in response to the question stating, "I allow flexible response options on exams (e.g., change from written to oral) for students with documented disabilities." The full break down of descriptive statistics for both accommodation attitude and action by question is provided in Table 7.

Table 7

Descriptive Statistics for Accommodation Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Accommodation Attitude				
1. I believe it is important to allow students with documented disabilities to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use by students without disabilities	1	7	5.57	1.47
2. I believe it is important to provide copies of my lecture notes or outlines to students with documented disabilities	1	7	5.46	1.78
3. I believe it is important to provide copies of my overhead and/or PowerPoint presentations to students with documented disabilities	1	7	6.18	1.19
4. I believe it is important to allow flexible response options on exams (e.g., change from written to oral for students with documented disabilities)	1	7	5.69	1.53
5. I believe it is important to allow students with documented disabilities to digitally record (audio or visual) class sessions	1	7	6.08	1.28
6. I believe it is important to make individual accommodations for students who have disclosed their disability to me	1	7	5.80	1.62
7. I believe it is important to arrange extended time on exams for students who have documented disabilities	1	7	6.21	1.13
8. I believe it is important to extend the due dates of assignments to accommodate the needs of students with documented disabilities	1	7	5.06	1.90
Accommodation Action				
33. I allow students with documented disabilities to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use by students without disabilities	1	5	3.65	1.56
34. I provide copies of my lecture notes or outlines to students with documented disabilities	1	5	3.89	1.37
35. I provide copies of my overhead and/or PowerPoint presentations to students with documented disabilities	1	5	4.35	1.20
36. I allow flexible response options on exams (e.g., change from written to oral) for students with documented disabilities	1	5	3.05	1.75
37. I allow students with documented disabilities to digitally record (audio or visual) class sessions	1	5	4.44	1.15
38. I make individual accommodations for students who have disclosed their disability to me	1	5	4.40	1.08
39. I arrange extended time on exams for students who have documented disabilities	1	5	4.67	.82
40. I extend the due date of assignments to accommodate the needs of students with documented disabilities	1	5	3.87	1.30

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Accessible Course Materials Attitude and Action

The accessible course materials attitude scale had a range of possible Likert-scale options from 1 *(strongly disagree)* to 7 (*strongly agree)* and the accessible course materials action scale from 1 *(no opportunity)* to 5 *(always).* The average overall accessible course materials attitude mean was 5.44 (*SD* = 1.70), while the average overall corresponding action mean was 4.13 (*SD* = 1.19). The subscale attitude question with the highest mean ($\bar{x}$ = 6.16) was "I believe it is important to use a course website (e.g., Blackboard or faculty web page)." It had the second lowest standard deviation (*SD* = 1.18). The lowest attitude mean for this subscale was for the statement, "I believe it is important to allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital Dropbox)" ($\bar{x}$ = 4.24, *SD* = 2.11).

For the accessible course materials action questions, the highest mean and lowest standard deviation was for the question that stated, "I use a course website (e.g., Blackboard or faculty web page)" ($\bar{x}$ = 4.89*, SD* = .44). The lowest action mean for this subscale matched that of the attitude, "I allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital Dropbox)" ($\bar{x}$ = 3.05, *SD* = 1.75). The full break down of descriptive statistics for both accessible course material attitude and action by question is provided in Table 8.

Table 8

Descriptive Statistics for Accessible Course Materials Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Accessible Course Materials Attitude				
9. I believe it is important to use a course website (e.g., Blackboard or faculty web page)	1	7	6.16	1.25
10. I believe it is important to put my lecture notes online for ALL students (on Blackboard or another website)	1	7	5.19	2.04
11. I believe it is important to post all electronic versions of course handouts for ALL students	1	7	6.15	1.18
12. I believe it is important to allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital Dropbox)	1	7	4.24	2.11
Accessible Course Materials Action				
41. I use a course website (e.g., Blackboard or faculty web page)	1	5	4.89	.44
42. I put my lecture notes online for ALL students (on Blackboard or another website)	1	5	4.03	1.27
43. I post electronic versions of course handouts for ALL students	1	5	4.56	.87
44. I allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital Dropbox)	1	5	3.05	1.75

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Course Modifications Attitude and Action

The course modification attitude scale has a range of possible Likert-style options from 1 *(strongly disagree)* to 7 *(strongly agree),* while the accompanying action scale has options that range from 1 *(no opportunity)* to 5 *(always)*. The overall course modification attitude score was 3.04 (*SD* = 1.81) and the overall action score was 2.55 (*SD* = 1.12). The subscale attitude question with the highest mean ($\bar{x}$ = 4.10) was "I believe it is important to allow ANY student to complete extra credit assignments in my course(s)." It also had the highest standard deviation within that subscale (*SD* = 2.35). The lowest mean and standard deviation ($\bar{x}$ = 2.34, *SD* = 1.37*)* was from the question "I believe it is important to reduce the overall course reading load for a

student with a documented disability even when I would not allow a reduced reading load for another student."

For the accompanying actions, the highest mean ($\bar{x}$ = 3.47, *SD* = 1.45) and second highest standard deviation was for the question that stated, "I allow ANY student to complete extra credit assignments in my course(s)." The lowest mean and standard deviation ($\bar{x}$ = 1.85, *SD* = .68) was for the question that stated, "I reduce the course reading load for ANY student who expresses a need." The full break down of descriptive statistics for course modification attitude and action by question is provided in Table 9.

Table 9

Descriptive Statistics for Course Modifications Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Course Modifications Attitude				
13. I believe it is important to allow a student with a documented disability to complete extra credit assignments	1	7	3.38	2.12
14. I believe it is important to reduce the overall course reading load for a student with a documented disability even when I would not allow a reduced reading load for another student	1	7	2.34	1.37
15. I believe it is important to reduce the course reading load for ANY student who expresses a need	1	7	2.35	1.38
16. I believe it is important to allow ANY student to complete extra credit assignments in my course(s)	1	7	4.10	2.35
Course Modifications Action				
45. I allow a student with a documented disability to complete extra credit assignments	1	5	3.00	1.53
46. I reduce the overall course reading load for a student with a documented disability even when I would not allow a reduced reading load for another student	1	5	1.87	.80
47. I reduce the course reading load for ANY student who expresses a need	1	5	1.85	.68
48. I allow ANY student to complete extra credit assignments in my course(s)	1	5	3.47	1.45

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Inclusive Lecture Strategies Attitude and Action

The inclusive lecture strategies attitude scale has a range of possible Likert-style options from 1 *(strongly disagree)* to 7 *(strongly agree)*, while the accompanying action scale has options that range from 1 *(no opportunity)* to 5 *(always)*. The overall inclusive lecture strategies attitude score was 5.88 (*SD* = 1.13) and the overall action score was 4.13 (*SD* = .77). The subscale attitude question with the highest mean ($\bar{x}$ = 6.28) was "I believe it is important to

connect key points with larger course objectives during class sessions." It had the second to lowest standard deviation within that subscale (*SD* = .86). The lowest mean with the highest standard deviation ($\bar{x}$ = 5.32*, SD* = 1.59*)* was from the question "I believe it is important to begin each class session with an outline/agenda of the topics that will be covered."

For the accompanying actions, the highest mean ($\bar{x}$ = 4.31, *SD* = .65) and second lowest standard deviation was for the corresponding question that stated, "I connect key points with larger course objectives during class sessions." The lowest mean and second highest standard deviation ($\bar{x}$ = 3.92, *SD* = .88) was for the question that stated, "I repeat the question back to the class before answering when a question is asked during a class session." The full break down of descriptive statistics for inclusive lecture strategies attitude and action by question is provided in Table 10.

Table 10

Descriptive Statistics for Inclusive Lecture Strategies Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Inclusive Lecture Strategies Attitude				
17. I believe it is important to repeat the question back to the class before answering when a question is asked during a class session	1	7	5.79	1.23
18. I believe it is important to begin each class session with an outline/agenda of the topics that will be covered	1	7	5.32	1.59
19. I believe it is important to summarize key points throughout each class session	1	7	6.11	.82
20. I believe it is important to connect key points with larger course objectives during class sessions	1	7	6.28	.86
Inclusive Lecture Strategies Action				
49. I repeat the question back to the class before answering when a question is asked during a class session	1	5	3.92	.88
50. I begin each class session with an outline/ agenda of the topics that will be covered	1	5	4.00	.90
51. I summarize key points throughout each class session	1	5	4.28	.64
52. I connect key points with larger course objectives during class sessions	1	5	4.31	.65

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Inclusive Classroom Attitude and Action

The inclusive classroom strategies attitude scale has a range of possible Likert-style options from 1*(strongly disagree)* to 7 *(strongly agree)*, and the accompanying action scale has options that range from 1 *(no opportunity)* to 5 *(always)*. The overall inclusive classroom attitude mean score was 5.91 (*SD* = 1.22) and the overall mean action score was 4.18 (*SD* = .91). The subscale attitude question with the highest mean and lowest standard deviation ($\bar{x}$ = 6.33, *SD* = .80) was "I believe it is important to create multiple opportunities for engagement." The lowest mean with the highest standard deviation ($\bar{x}$ = 5.30, *SD* = 1.80) was from the question, "I believe

it is important to make a verbal statement in class inviting students with disabilities to discuss their needs with me."

For the accompanying actions, the highest mean ($\bar{x}$ = 4.43, *SD* = .70) and third lowest standard deviation was for the corresponding question that stated, "I create multiple opportunities for engagement." The lowest mean and highest standard deviation ($\bar{x}$ = 3.89, *SD* = 1.28) was for the action question that stated, "I make a verbal statement in class inviting students with disabilities to discuss their needs with me." The full break down of descriptive statistics for inclusive classroom strategies attitude and action by question is provided in Table 11.

Table 11

Descriptive Statistics for Inclusive Classroom Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Inclusive Classroom Attitude				
21. I believe it is important to use technology so that my course material can be available in a variety of formats (e.g., podcast of lecture available for download, course readings available as mp3 files)	1	7	5.57	1.53
22. I believe it is important to use interactive technology to facilitate class communication and participation (e.g., discussion board)	1	7	5.31	1.65
23. I believe it is important to present course information in multiple formats (e.g., lecture, text, graphics, audio, video, hands-on exercises)	1	7	6.27	.88
24. I believe it is important to create multiple opportunities for engagement	1	7	6.33	.80
26. I believe it is important to make a verbal statement in class inviting students with disabilities to discuss their needs with me	1	7	5.30	1.80
27. I believe it is important to use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands on activities	1	7	6.28	.91
28. I believe it is important to supplement class sessions and reading assignments with visual aids (e.g., photographs, videos, diagrams, interactive simulations)	1	7	6.29	.98
Inclusive Classroom Action				
53. I use technology so that my course material can be available in a variety of formats (e.g., podcast of lecture available for download, course readings available as mp3 files)	1	5	4.00	1.11
54. I use interactive technology to facilitate class communication and participation (e.g., discussion board)	1	5	3.94	.96
55. I present course information in multiple formats (e.g., lecture, text, graphics, audio, video, hands-on exercises)	1	5	4.41	.70
56. I create multiple opportunities for engagement	1	5	4.43	.74
57. I make a verbal statement in class inviting students with disabilities to discuss their needs with me	1	5	3.89	1.28
58. I use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands on activities	1	5	4.25	.89
59. I supplement class sessions and reading assignments with visual aids (e.g., photographs, videos, diagrams, interactive simulations)	1	5	4.36	.72

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Inclusive Assessment Attitude and Action

The inclusive assessment attitude scale has a range of possible Likert-style options from 1 *(strongly disagree)* to 7 *(strongly agree)*, while the accompanying action scale has options that range from 1 *(no opportunity)* to 5 *(always)*. The overall inclusive assessment attitude mean score was 5.04 (*SD* = 1.58) and the overall mean action score was 3.43 (*SD* = 1.16). The subscale attitude question with the highest mean ($\bar{x}$ = 5.93*, SD* = 1.32) was "I believe it is important to allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)." The lowest mean score with the second highest standard deviation ($\bar{x}$ = 3.84*, SD* = 1.84*)* was from the question, "I believe it is important to allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need."

For the accompanying actions, the highest mean and second highest standard deviation ($\bar{x}$ = 3.89, *SD* = 1.22) was for the corresponding question that stated, "I allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)." The lowest mean and second highest standard deviation ($\bar{x}$ = 2.50, *SD* = 1.27) was for the action question that stated, "I allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need." The full break down of descriptive statistics for inclusive assessment attitude and action by question is provided in Table 12.

Table 12

Descriptive Statistics for Inclusive Assessment Attitude and Action Subscale

Scale and items	Min	Max	$\bar{x}$	*SD*
Inclusive Assessment Attitude				
29. I believe it is important to allow students to demonstrate the knowledge and skills in way other than traditional tests and exams (e.g., written essays, portfolios, journals)	1	7	5.93	1.32
30. I believe it is important to allow students to express comprehension in multiple ways (e.g., oral, written)	1	7	5.90	1.24
31. I believe it is important to be flexible with assignment deadlines in my course(s) for ANY student who expresses a need	1	7	4.49	1.93
32. I believe it is important to allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need	1	7	3.84	1.84
Inclusive Assessment Action				
61. I allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)	1	5	3.89	1.22
62. I allow students to express comprehension in multiple ways (e.g., oral, written)	1	5	3.81	1.16
63. I am flexible with assignment deadlines in my course(s) for ANY student who expresses a need	1	5	3.50	.99
64. I allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need	1	5	2.50	1.27

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Disability Law & Concepts Confidence

The disability law and concepts confidence scale included Likert-style options from 1 *(strongly disagree)* to 5 *(strongly agree)*. The overall confidence mean score was 3.98 (*SD* = 0.85). The subscale question with the highest mean and lowest standard deviation ($\bar{x}$ = 4.40, *SD* = .627) was "I am confident in my responsibilities as an instructor to provide or facilitate disability related accommodations." The lowest mean score with the highest standard

deviation ($\bar{x}$ = 3.54, *SD* = 1.08) was from the question, "I am confident in my understanding of Universal Design." The full break down of descriptive statistics for disability law and concepts by question is provided in Table 13.

Table 13

Descriptive Statistics for Disability Law and Concepts Confidence

Scale and items	Min	Max	$\bar{x}$	*SD*
Disability Law and Concepts Confidence				
65. I am confident in my understanding of the Americans with Disabilities Act (1990)	1	5	4.15	.63
66. I am confident in my responsibilities as an instructor to provide or facilitate disability related accommodations	1	5	4.40	.63
67. I am confident in my knowledge to make adequate accommodations for students with disabilities in my course(s)	1	5	4.29	.73
68. I am confident in my understanding of Section 504 of the Rehabilitation Act of 1973	1	5	3.64	1.01
69. I am confident in my understanding of Universal Design	1	5	3.54	1.08
70. I am confident in my understanding of the legal definition of disability	1	5	3.86	.91

Note. N = 107. *Min* = lowest Likert-scale value; *Max* = highest Likert-scale value; $\bar{x}$ = mean; *SD* = standard deviation.

Research Question 2: Statistically Significant Differences Between Faculty Attitudes and Actions

The second research question asks, "Is there a statistically significant difference between faculty attitudes and actions?" To answer this question, a paired *t*-test was conducted to determine statistically significant differences between faculty attitudes and actions. The assumptions of normality of variance were assessed using a Q-Q scatterplot, which plotted the quantiles of the model residuals against the quantiles of the Chi-square distribution (DeCarlo, 1997). The assumption of normality was met for each of the subscales with no strong deviations

from the theoretical quantiles. *T*-test results are reported below, along with accompanying Q-Q scatterplots (Figures 1-6) of each subscale by response category.

Homogeneity of variance was not assessed as the paired *t*-test does not operate under the assumption that the operations within each group are normal. Rather, the differences are normal. Furthermore, they do not assume that the groups are homoscedastic (McDonald, 2014).

Accommodation Attitude and Action Mean Scores

There was a statistically significant difference in the scores for accommodation attitude ($\bar{x}$ = 5.76, *SD* = .97) and accommodation action ($\bar{x}$ = 4.04, *SD* = .76); $t(106) = 18.87$, $p < .001$, reflecting higher reported attitudes than corresponding actions. Using the Normal Q-Q Plot, a straight line is drawn through the quantiles to help visually determine how similar the distributions are and whether the two data sets have similar distributions. Figure 1 shows the differences between expected values and observed values for both the accommodation attitude mean and the accommodation action mean. In both the accommodation attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

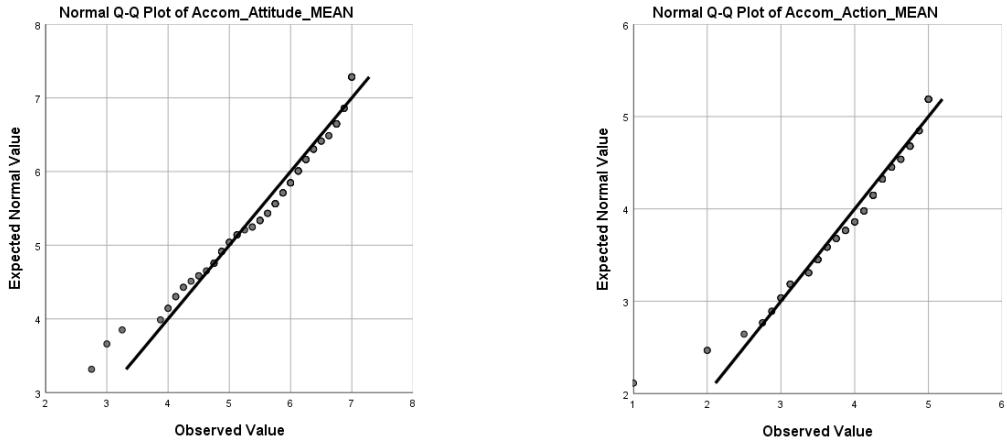

Figure 1
Normal Q-Q Plot of Accommodation Attitude and Action Mean Scores

Accessible Course Materials Attitude and Action Mean Scores

There was a statistically significant difference in the scores for accessible course materials attitude ($\bar{x}$ = 5.43, *SD* = 1.11) and accessible course materials action ($\bar{x}$ = 4.24, *SD* = .65); $t(106) = 14.62$, $p < .001$, reflecting higher reported attitudes than corresponding actions. Figure 2 shows the differences between expected values and observed values for both the accessible course materials attitude mean and the accessible course materials action mean. In both the accessible course materials attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

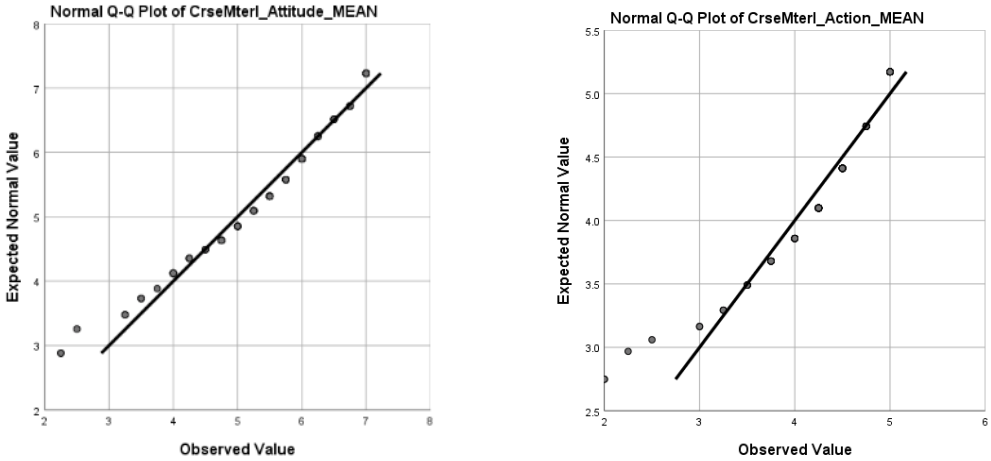

Figure 2
Normal Q-Q Plot of Accessible Course Materials Attitude and Action Mean Scores

Course Modifications Attitude and Action Mean Scores

This construct has the lowest paired difference mean of all the groups and the highest standard deviation ($\bar{x}$ = .50, *SD* = 1.11). There was a statistically significant difference in the scores for course modifications attitude ($\bar{x}$ = 3.04, *SD* = 1.33) and course modifications action ($\bar{x}$ = 2.55, *SD* = .72); $t(106) = 4.62$, $p < .001$, reflecting higher reported attitudes than corresponding actions. Figure 3 shows the differences between expected values and observed values for both the course modifications attitude mean and the course modifications action mean. In both the accessible course materials attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

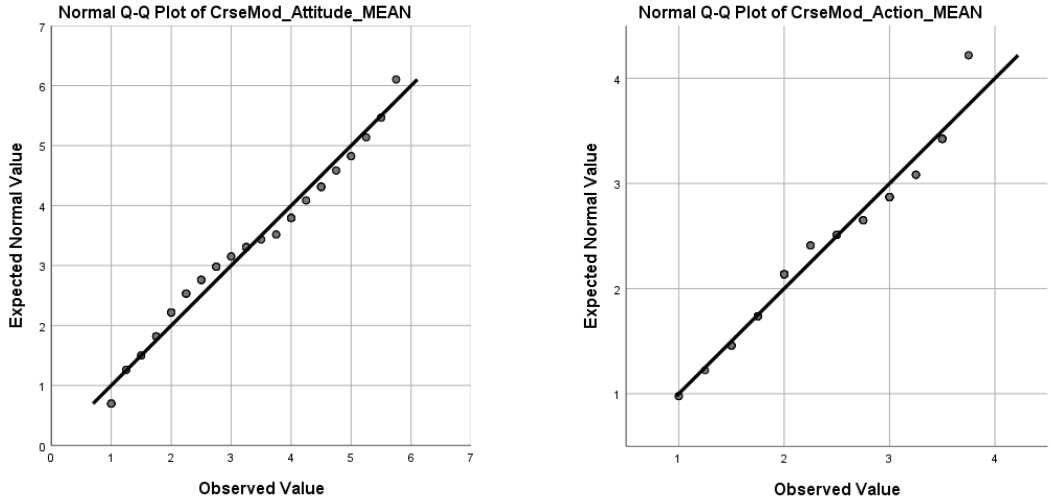

Figure 3
Normal Q-Q Plot of Course Modifications Attitude and Action Mean Scores

Inclusive Lecture Strategies Attitude and Action Mean Scores

This construct had the greatest paired different mean of all the groups ($\bar{x}$ = 1.75, *SD* = 63). There was a statistically significant difference in the scores for inclusive lecture strategies attitude ($\bar{x}$ = 5.88, *SD* = .83) and inclusive lecture strategies action ($\bar{x}$ = 4.13, *SD* = .59); $t(106) = 28.93$, $p < .001$, which reflected higher reported attitudes than corresponding actions. Figure 4 shows the differences between expected values and observed values for both the inclusive lecture strategies attitude mean and the inclusive lecture strategies action mean. In both the inclusive lecture strategies attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

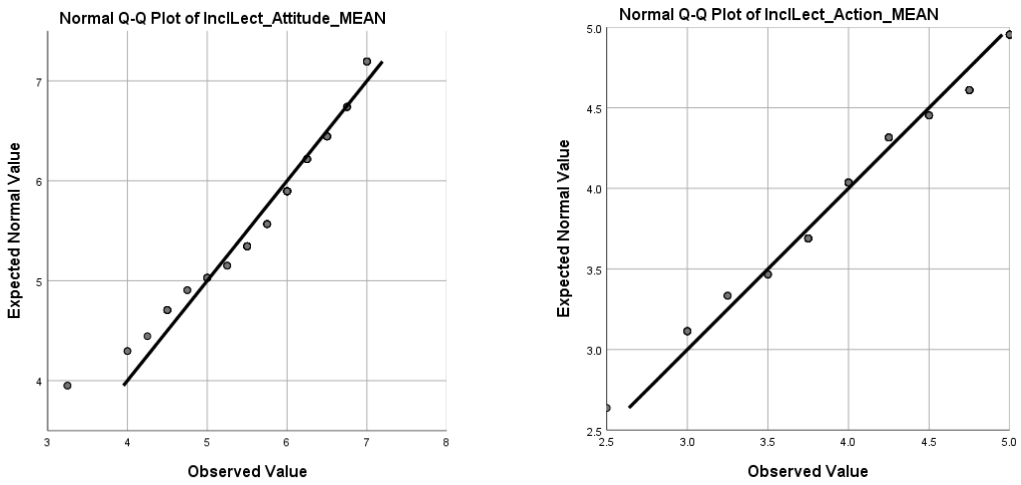

Figure 4
Normal Q-Q Plot of Inclusive Lecture Strategies Attitude and Action Mean Scores

Inclusive Classroom Attitude and Action Mean Scores

There was a statistically significant difference in the scores for inclusive classroom attitude ($\bar{x}$ = 5.91, *SD* = .84) and inclusive classroom action ($\bar{x}$ = 4.18, *SD* = .59); $t(106) = 30.40$, $p < .001$, reflecting higher reported attitudes than corresponding actions. Figure 5 shows the differences between expected values and observed values for both the inclusive classroom attitude mean and the inclusive classroom action mean. In both the inclusive classroom attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

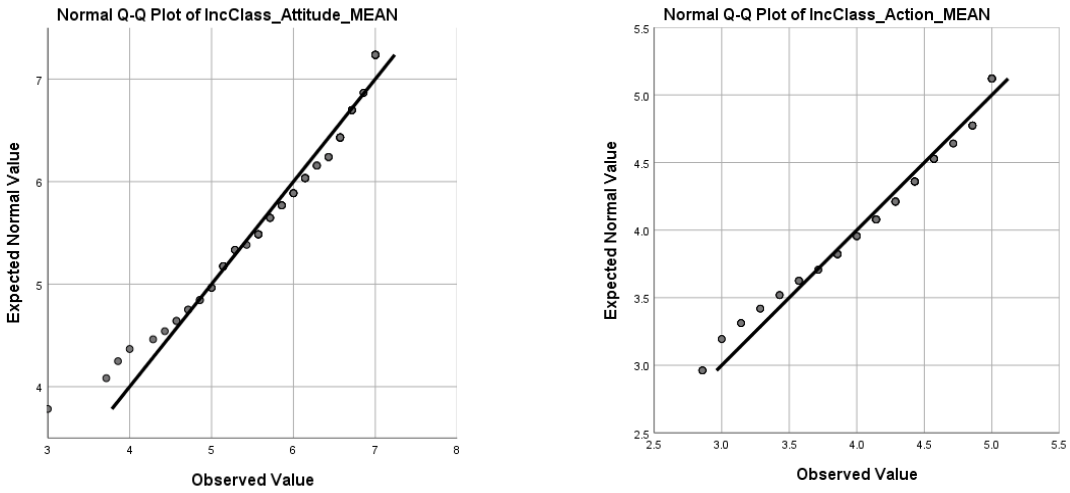

Figure 5
Normal Q-Q Plot of Inclusive Classroom Attitude and Action Mean Scores

Inclusive Assessment Attitude and Action Mean Scores

There was a statistically significant difference in the scores for inclusive assessment attitude ($\bar{x}$ = 5.04, *SD* = 1.19) and inclusive assessment action ($\bar{x}$ = 3.42, *SD* = .80); $t(106)$ = 18.74, $p < .001$, reflecting higher reported attitudes than corresponding actions. Figure 6 shows the differences between expected values and observed values for both the inclusive assessment attitude mean and the inclusive assessment action mean. In both the inclusive assessment attitude and action figures, the deviations from the straight line were minimal, indicating normal distribution and the assumption of normality being met.

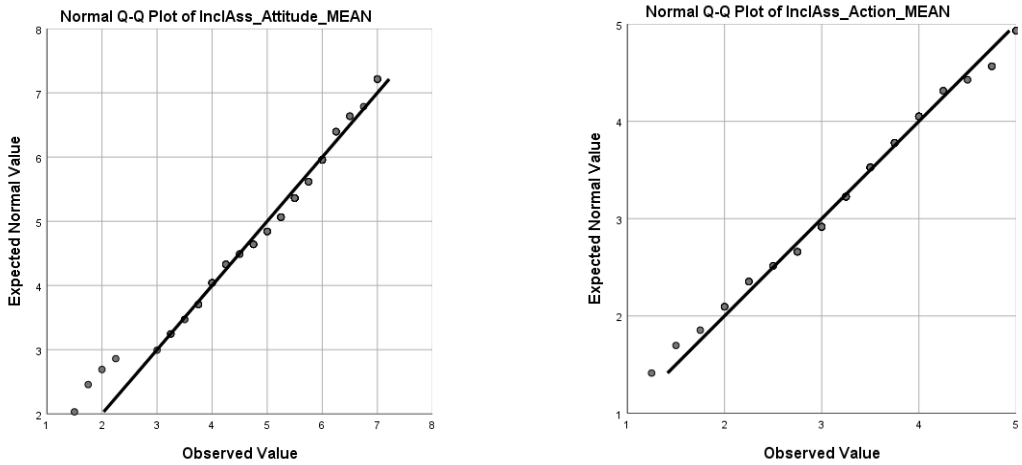

Figure 6
Normal Q-Q Plot of Inclusive Assessment Attitude and Action Mean Scores

Research Question 3: Differences in Faculty Self-Reported Attitudes and Actions by Select Demographics

The third research question asks, "What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty: gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training?" Prior to running the analysis of variance (ANOVA) test to determine differences in faculty attitudes and actions by faculty

demographics, the data were checked for violations of normality and homogeneity of variance. Findings showed that the variances were equal and determined that there was no difference in variances for any of the groups. As such, I proceeded with one-way ANOVAs and post hoc tests for academic department and years of teaching experience variables, as they are composed of multiple groups. For this study, alpha levels were set at $p < 0.05$.

Accommodation Attitude

A one-way ANOVA showed that there was no significant difference in mean accommodation attitude due to gender $F(28, 79)$, race/ethnicity $F(28, 79)$, department $F(28, 79)$, years of teaching experience $F(28, 79)$, full/part-time teaching status $F(28,79)$, prior disability training $F(28, 79)$, or type of disability training, if any $F(28, 79)$, as seen in Table 14.

Table 14
ANOVA Summary Table for Mean Accommodation Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	10.36	28	.37	1.57	.063
Race/Ethnicity	17.47	28	.62	1.06	.408
Department	32.25	28	1.15	.88	.633
Years of Experience	86.25	28	3.08	1.03	.445
Full/Part Time	5.76	28	.21	1.53	.075
Prior Training	2.57	28	.09	1.48	.090
Type of Training	16.92	78	.34	1.59	.058

*$p < .05$

Accommodation Action

A one-way ANOVA showed that there was no significant difference in mean accommodation action due to gender $F(20, 87)$, race/ethnicity $F(20, 87)$, department $F(20, 87)$, years of teaching experience $F(20, 87)$, full/part-time teaching status $F(20, 87)$, or type of disability training, if any $F(20, 87)$. However, a significant difference was found in whether a faculty member reporting having had prior disability training $F(20, 87)$, as seen in Table 15.

Table 15

ANOVA Summary Table for Mean Accommodation Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	3.88	20	.19	.67	.845
Race/Ethnicity	13.47	20	.67	1.16	.309
Department	29.18	20	1.46	1.20	.276
Years of Experience	84.67	20	4.23	1.55	.086
Full/Part Time	2.34	20	.12	.72	.793
Prior Training	2.23	20	.11	1.85	.027*
Type of Training	7.42	20	.37	1.67	.056

*$p < .05$

An independent-samples *t*-test was conducted post-hoc to further compare the mean accommodation action and prior training responses. There was a significant difference in the scores for having had prior training ($\bar{x}$ = 4.08, *SD* = .69) and no prior training ($\bar{x}$ = 3.50, *SD* = 1.38); $t(105) = 2.11$, $p < .005$. The results suggest that prior disability training has a positive effect on the actions of faculty on providing accommodations for students.

Course Material Attitude

A one-way ANOVA showed that there was no significant difference in mean course material attitude due to gender $F(17, 90)$, race/ethnicity $F(17, 90)$, department $F(17, 90)$, years of teaching experience $F(17, 90)$, full/part-time teaching status $F(17, 90)$, prior disability training $F(17, 90)$, or type of disability training, if any $F(17, 90)$, as seen in Table 16.

Table 16
ANOVA Summary Table for Mean Course Material Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	3.25	17	.19	.67	.828
Race/Ethnicity	9.50	17	.92	.92	.551
Department	11.40	17	.49	.49	.953
Years of Experience	49.72	17	.96	.96	.505
Full/Part Time	2.01	17	.74	.74	.756
Prior Training	1.14	17	.07	.95	.521
Type of Training	4.96	17	.29	1.20	.279

*$p < .05$

Accessible Course Material Action

A one-way ANOVA showed that that there was no significant difference in mean accessible course material due to gender $F(11, 96)$, race/ethnicity $F(11, 96)$, department $F(11, 96)$, years of teaching experience $F(11, 96)$, full/part-time teaching status $F(11, 96)$, prior disability training $F(11, 96)$, or type of disability training, if any $F(11, 96)$, as seen in Table 17.

Table 17
ANOVA Summary Table for Mean Course Material Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	3.40	11	.31	1.16	.327
Race/Ethnicity	10.98	11	1.00	1.81	.063
Department	8.08	11	.73	.56	.860
Years of Experience	37.00	11	3.36	1.13	.347
Full/Part Time	1.46	11	.13	.85	.587
Prior Training	.82	11	.07	1.07	.391
Type of Training	3.05	11	.28	1.12	.355

*$p < .05$

Course Modification Attitude

A one-way ANOVA showed that there was no significant difference in mean course modification attitude due to gender $F(11, 96)$, race/ethnicity $F(11, 96)$, years of teaching experience $F(11, 96)$, full/part-time teaching status $F(11, 96)$, prior disability training $F(11, 96)$, or type of disability training, if any $F(11, 96)$. However, there was a significant difference in mean course modification attitude due to department $F(11, 96)$, as seen in Table 18.

Table 18

ANOVA Summary Table for Mean Course Modification Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	5.46	19	.29	1.07	.393
Race/Ethnicity	2.28	19	.12	1.06	.409
Department	40.69	19	2.14	2.00	.016*
Years of Experience	62.29	19	3.28	1.11	.358
Full/Part Time	3.42	19	.18	1.22	.261
Prior Training	1.37	19	.07	1.04	.426
Type of Training	4.64	19	.24	.97	.504

*$p < .05$

Tests of the five a priori hypotheses were conducted using Bonferroni adjusted alpha levels of .01 per test (.05/5). Results suggest that the comparison among the different departments was non-significant. The average number of errors in all departments combined ($\bar{x}$ = .59, *SD* = .36) were not significant, $F(4, 102) = 3.02$, $p = .021$. These findings suggest that there is no statistically significant difference between departments regarding course modification action.

Course Modification Action

A one-way ANOVA showed that there was no significant difference in mean course modification action due to gender $F(11, 96)$, race/ethnicity $F(11, 96)$, department $F(11, 96)$, years of teaching experience $F(11, 96)$, full/part-time teaching status $F(11, 6)$, prior disability training $F(11, 96)$, or type of disability training, if any $F(11, 96)$, as seen in Table 19.

Table 19
ANOVA Summary Table for Mean Course Modification Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	1.65	11	.15	.53	.882
Race/Ethnicity	1.30	11	.12	1.03	.427
Department	21.62	11	1.97	1.66	.094
Years of Experience	25.57	11	2.32	.75	.688
Full/Part Time	1.60	11	.15	.94	.504
Prior Training	1.00	11	.09	1.35	.211
Type of Training	1.84	11	.17	.64	.786

*$p < .05$

Inclusive Lecture Strategies Attitude

A one-way ANOVA showed that that there was no significant difference in mean inclusive lecture strategies due in race/ethnicity $F(13, 94)$, department $F(20, 94)$, years of teaching experience $F(20, 94)$, full/part-time teaching status $F(20, 94)$, prior training $F(20, 94)$, or type of disability training, if any $F(20, 94)$. However, a significant difference was found in gender $F(20, 94)$, as seen in Table 20.

Table 20
ANOVA Table for Mean Inclusive Lecture Strategies Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	6.16	13	.47	1.95	.034*
Race/Ethnicity	1.68	13	.13	1.15	.332
Department	12.03	13	.93	.71	.753
Years of Experience	17.83	13	1.37	.42	.958
Full/Part Time	1.51	13	.12	.73	.725
Prior Training	1.31	13	.10	1.54	.119
Type of Training	4.38	13	.34	1.41	.168

*$p < .05$

An independent-samples *t*-test was conducted post-hoc to further compare the mean inclusive lecture series and gender responses. There was a significant difference in the scores for male respondents ($\bar{x} = 5.64$, $SD = .94$) and female respondents ($\bar{x} = 6.03$, $SD = .74$). The test

found this pattern to be $t(71.48) = -2.26$, $p > 0.05$. The results suggest that gender does not have a statistically significant impact on inclusive lecture strategies.

Inclusive Lecture Strategies Action

A one-way ANOVA showed that there was no significant difference in mean inclusive lecture strategies due to gender $F(9, 98)$, race/ethnicity $F(9, 98)$, years of teaching experience $F(9, 98)$, full/part-time teaching status $F(9, 98)$, prior training $F(9, 98)$, or type of disability training, if any $F(9, 98)$. However, a significant difference was found in department $F(9, 98)$, as seen in Table 21.

Table 21
ANOVA Table for Mean Inclusive Lecture Strategies Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	2.76	9	.31	1.14	.340
Race/Ethnicity	1.27	9	.14	1.26	.270
Department	23.95	9	2.66	2.35	.019*
Years of Experience	29.12	9	3.24	1.08	.385
Full/Part Time	1.76	9	.20	1.31	.242
Prior Training	.41	9	.05	.64	.762
Type of Training	1.41	9	.16	.60	.791

*$p <$. 05

Tests of five a priori hypotheses were assessed using a Bonferroni adjusted alpha level of .01 per test (.05/5). Results suggest that the comparison among the different departments was non-significant. The average number of errors in all departments combined ($\bar{x} = -.08$, $SD = .15$) were not significant, $F(4, 102) = .50$, $p = .739$. These findings suggest that there is no statistically significant difference between departments regarding inclusive lecture strategies action.

Inclusive Classroom Attitude

A one-way ANOVA showed that there was no significant difference in mean inclusive classroom attitude due to gender $F(23, 84)$, race/ethnicity $F(23, 84)$, department $F(23, 84)$, years

of teaching experience $F(23, 84)$, full/part-time teaching status $F(23, 84)$, prior disability training $F(23, 84)$, or type of disability training, if any $F(23, 84)$, as seen in Table 22.

Table 22
ANOVA Summary Table for Mean Inclusive Classroom Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	8.20	23	.36	1.44	.119
Race/Ethnicity	2.58	23	.11	.97	.508
Department	36.30	23	1.58	1.34	.167
Years of Experience	28.69	23	1.25	.36	.997
Full/Part Time	2.58	23	.11	.68	.851
Prior Training	1.58	23	.07	.98	.504
Type of Training	4.90	23	.21	.81	.705

$^*p < .05$

Inclusive Classroom Action

A one-way ANOVA showed that there was no significant difference in mean inclusive classroom action due to gender $F(15, 92)$, race/ethnicity $F(15, 92)$, department $F(15, 92)$, years of teaching experience $F(15, 92)$, full/part-time teaching status $F(15, 92)$, prior disability training $F(15, 92)$, or type of disability training, if any $F(15, 92)$, as seen in Table 23.

Table 23
ANOVA Summary Table for Mean Inclusive Classroom Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	4.58	15	.31	1.15	.326
Race/Ethnicity	.81	15	.05	.43	.966
Department	9.15	15	.61	.45	.961
Years of Experience	36.80	15	2.45	.79	.687
Full/Part Time	2.31	15	.15	1.00	.460
Prior Training	1.12	15	.08	1.08	.386
Type of Training	2.18	15	.15	.54	.910

$^*p < .05$

Inclusive Assessment Attitude

A one-way ANOVA showed that there was no significant difference in mean inclusive lecture strategies due to race/ethnicity $F(20, 87)$, department $F(20, 87)$, years of teaching

experience $F(20, 87)$, full/part-time teaching status $F(20, 87)$, prior training $F(20, 87)$, or type of disability training, if any $F(20, 87)$. However, there was a statistically significant score in gender $F(20, 87)$, as seen in Table 24.

Table 24
ANOVA Table for Mean Inclusive Assessment Attitude by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	9.26	20	.46	2.04	.013*
Race/Ethnicity	1.97	20	.10	.83	.669
Department	15.32	20	.77	.56	.932
Years of Experience	51.10	20	2.56	.82	.686
Full/Part Time	3.17	20	.16	1.04	.424
Prior Training	.68	20	.03	.44	.981
Type of Training	5.47	20	.27	1.12	.350

*$p < .05$

An independent-samples *t*-test was conducted post-hoc to further compare the mean inclusive assessment attitude and gender. Results showed that while female faculty had more positive attitudes toward inclusive assessment ($\bar{x} = 5.17$, $SD = 1.18$) than male faculty members ($\bar{x} = 4.96$, $SD = 1.10$), the test results were non-significant, $t(89.29) = -9.30$, $p = .355$.

Inclusive Assessment Action

A one-way ANOVA showed that there was no significant difference in mean inclusive assessment action due to gender $F(15, 92)$, race/ethnicity $F(15, 92)$, department $F(15, 92)$, years of teaching experience $F(15, 92)$, full/part-time teaching status $F(15, 92)$, prior disability training $F(15, 92)$, or type of disability training, if any $F(15, 92)$, as seen in Table 25.

Table 25
ANOVA Summary Table for Mean Inclusive Assessment Action by Independent Variables

	SS	*df*	*MS*	*F*	*p*
Gender	2.16	15	.14	.49	.939
Race/Ethnicity	1.21	15	.08	.67	.805
Department	10.27	15	.69	.50	.933
Years of Experience	38.50	15	2.57	.83	.643
Full/Part Time	1.29	15	.09	.52	.921
Prior Training	.63	15	.04	.56	.896
Type of Training	4.02	15	.27	1.08	.385

*$p < .05$

Chapter Summary

Faculty participants from three of the largest degree-granting 2-year institutions in a single state in the South-Central region of the United States completed the ITSI online survey for this cross-sectional descriptive non-experimental quantitative research study. Questions were designed to give faculty an opportunity to self-report attitudes and actions pertaining to inclusive instruction. Inclusive instruction was broken into seven constructs, which included: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law and concepts.

Participants included both full-time and part-time faculty, male and female faculty, and included all departments at each institution, excluding the Early College Education and Adult Education programs. Faculty were directed to reflect upon the last three years of teaching at the institution they worked at primarily during that time. Data were combined and studied in aggregate due to the limited sample size (n = 107).

Key trends showed that inclusive assessment action had the lowest overall mean next to course modification action. Inclusive assessment attitude had the lowest attitude score, next to course modification attitudes. Inclusive classroom attitude had the highest overall mean,

followed by inclusive lecture strategies attitude. Inclusive classroom action had the highest action mean, followed by accessible course materials action and inclusive lecture strategies action.

Faculty tended to report more allowance for flexibility toward students with disabilities (accommodation-centered) rather than flexibility with all students (reflective of inclusive instruction). There were also several areas where faculty attitudes and actions did not align. For example, for the questions regarding flexible response items on exams, the use of technology on exams for students with disabilities, and flexible classroom comprehension assessments, faculty reported more positive beliefs than actions. However, for exam items that included extension of due dates, general accommodation actions, and general inclusive lecture strategies, faculty reflected higher action than positive beliefs.

There were statistically significant findings in every inclusive instruction subscale between faculty attitudes and actions. Faculty members consistently reported higher overall attitudes toward inclusive instruction than their actions supported. When explored by demographics, there was also a statistically significant difference in accommodation action between faculty members who reported having disability training and those who had not participated in any previous disability-related training. None of the other demographic variables were found to play a significant role in any of the inclusive instruction constructs.

CHAPTER 5

Discussion and Conclusions

Today's college student comes from an increasingly diverse background, including a varied age group, socioeconomic status, ethnicity, proficiency with the English language, level of preparedness, work status, severity of disability, family dynamic, or combination of these factors (Boggs, 2010; Desai, 2012; Kuh et al., 2005; Perdigones et al., 2009; Trends, 2017). These changes have challenged both 2-year and 4-year colleges to become more welcoming and inclusive for the variety of students they serve (Bourke et al., 2000; Edyburn, 2010; Roberts et al., 2011; Zeff, 2007). This study focuses on students with disabilities in 2-year colleges and how those colleges can develop more inclusive instruction and accessible learning environments to help them succeed, given that this particular group shows an interest in attending college but a difficult time successfully completing their chosen programs (Bills & Spears, 2020; Schelly et al., 2011; Lombardi et al., 2013; McEwan & Downie, 2013; Newman et al., 2011; Roberts et al., 2011; Shepler & Woosley, 2012; Stodden et al., 2011).

It is believed that 19% of all undergraduate students in the United States have a disability and that up to 96% of all classrooms in higher education now have at least one student with a disability in them (Davies et al., 2013; NCES, 2019; Newman et al., 2009). Enrollment rates for students with disabilities, while climbing, have not kept pace with their peers without disabilities. Enrollment rates for students without disabilities is 20.6% at 2-year colleges and 40% at 4-year colleges. Those students with disabilities who do elect to attend college have shown a preference for starting their higher education journey at 2-year institutions versus 4-year institutions. By the numbers, 44.2% enroll at 2-year colleges, while only 18% enroll at 4-year institutions (ADA, 1990; Evans et al., 2017; Newman et al., 2011). Regardless of which option students with

disabilities choose, their successful completion rate has not kept pace (Bills & Spears, 2020; Schelly et al., 2011; Lombardi et al., 2013; McEwan & Downie, 2013; Roberts et al., 2011; Shepler & Woosley, 2012; Stodden et al., 2011). Compared to their non-disabled peers who have a 42% success rate, only 29% of students with disabilities are able to successfully graduate (Newman et al., 2011).

The lower success rate of students with disabilities suggests that they are facing barriers in higher education that traditional disability supports may not address (Banfield-Hardaway, 2010; Black et al., 2014; Mamiseishvili & Koch, 2011; Pliner & Johnson, 2004; Roberts et al., 2011; Smedema et al., 2015). Many researchers have suggested that attention should be turned toward providing a method of instruction that can support a greater number of more diverse learners, including those with disabilities (Black et al., 2014; Burgstahler, 2007; Cook et al., 2009; Gradel & Edson, 2010; Izzo et al., 2008; Lombardi et al., 2013).

One popular, low-cost, and high-impact solution is Universal Design for Instruction (UDI), also referred to as inclusive instruction. It stems from Universal Design (UD) and provides instructors a framework and guidance on how to increase their flexibility in instruction strategies and physical classroom space (Lombardi, Murray, & Gerdes, 2011; Rao et al., 2014; Roberts et al., 2011). Research has found that through inclusive instruction, faculty have been able to reduce barriers and sometimes even the need for traditional accommodations. This pedagogical method further increases overall classroom student participation and greater academic success for all students, with or without disability (Gawronski et al., 2016; McGuire & Scott, 2006; Meyer & Rose, 2005; Rose & Meyer, 2002).

UD was declared a “scientifically valid framework for guiding educational practice” in the 2008 Reauthorization of the Higher Education Opportunity Act legislation (SEC. 762 (G)

(SEC. 103(C)) and legislators encouraged colleges and teacher preparation programs to incorporate UD principles into their classrooms. However, the implementation of it has been very limited and disjointed. There remains limited empirical evidence to support its use and most of that has focused on areas outside of the South-Central portion of the United States and in 4-year institutions (Gawronski et al., 2016; McGuire, 2014; Roberts et al., 2011).

Overview of the Study

This study aims to meaningfully add to the existing literature using an established survey tool, the *Inclusive Teaching Strategies Inventory* (ITSI), which explores faculty self-reported attitudes and actions associated with inclusive instruction, as well as demographic factors that may also influence faculty and how they perceive students with disabilities in the classroom. This study focused on three of the largest 2-year, degree-granting institutions in a single state located in the South-Central region of the United States, a regional area that has not been well-represented in the current literature. An invitation to participate was sent electronically to all instructors, both part-time and full-time, at each institution.

This quantitative study utilized a cross-sectional descriptive non-experimental research design, allowing me to explore a phenomenon at a relatively short period of time without modifying the environment in any way (Cresswell, 2012; Cross-sectional and longitudinal studies, 2015; Johnson, 2001; Johnson & Christensen, 2000). Measurements were administered through the ITSI, which allowed for comparisons with previous studies. The ITSI has undergone several development phases and is specifically designed for faculty in higher education to report their attitudes and actions regarding inclusive teaching strategies (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013). It consists of 68 questions, 31 regarding faculty attitudes, 31 regarding faculty actions, and 6 regarding disability law and

concepts. Participants were asked to reflect on the last three academic years while answering the questions.

The ITSI is composed of seven subscales that focus on different areas of inclusive instruction in higher education: (a) accommodations; (b) accessible course materials; (c) course modifications; (d) inclusive lecture strategies; (e) inclusive classroom; (f) inclusive assessment; and (g) disability law concepts (Lombardi et al., 2013). In addition to those focus areas, faculty were asked to report demographic characteristics, including gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training (yes or no), and type of training (i.e., less intensive training or intensive training).

There were a total of 107 surveys used for data analysis (See Table 5), which included all completed surveys from each of the three colleges. Each participant was required to answer all the questions to submit the survey. There were 19 (15%) surveys started but not completed. An MCAR test suggested that this was not random, rather that the participants may have experienced a lack of motivation or survey fatigue (Dillman, 2011).

Three research questions guided this study and the type of data analysis for each question. All data were exported into SPSS version 26 for analysis and Cronbach's alphas were calculated to assess subscale overall reliability scores. The research questions for this study are as follows:

1. What are faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges?
2. Is there statistically significant difference between faculty attitudes and actions?

3. What are the differences in faculty self-reported attitudes and actions associated with inclusive instruction at 2-year colleges by faculty gender, racial/ethnic background, academic department, years of teaching experience, part-time or full-time teaching status, prior disability training, and type of training?

Initial findings from this study showed statistically significant differences between faculty attitudes and actions in each of the subscales, as faculty reported more positive beliefs toward inclusive instruction than actions. Results from the ITSI identified several trends through descriptive statistics in each of the seven dependent variable categories. It furthermore showed a statistically significant finding on the impact of training on accommodation action, suggesting that training has a positive effect on actions of faculty in this construct.

Discussion of the Findings and Conclusions

It is most consumable to explore the detailed findings of this study in context with earlier ITSI findings, as well as general research findings. Each research question will be discussed in context of current literature, potential application of the current study findings, and conclusions. This will be followed by overall study conclusions, limitations, recommendations for future research, recommendations for practice and policy, and a final summary.

Q1: Faculty Attitudes and Actions

The first research question was answered with descriptive statistics for each of the ITSI subscales. Overall accommodation attitude and action answers showed mostly consistent findings between the faculty reported attitudes and responding actions, with one exception. For example, faculty reported on the question, “I believe it is important to arrange extended time on exams for students who have documented disabilities,” a high belief that this was important

($\bar{x}$ = 6.21), with little standard deviation (*SD* = 1.11). Those beliefs were reflected in reported actions for the corresponding task, as a high number of faculty reported arranging extended time on exams for students with disabilities, with little deviation ($\bar{x}$ = 4.67, *SD* = .82).

However, questions 8 and 40, which assessed faculty beliefs of the importance to extend the due dates of assignments to accommodate the needs of students with documented disabilities ($\bar{x}$ = 5.06, *SD* = 1.90) and the accompanying action ($\bar{x}$ = 3.87, *SD* = 1.30), were irregular. While the attitude and actions line up for this question in general, question 36, "I allow flexible response options on exams (e.g., change from written to oral) for students with documented disabilities ($\bar{x}$ = 3.05, *SD* = 1.75), showed an unexpected lower agreement and higher deviation between answers. This pattern suggests that faculty at these three institutions, while reporting that flexible response options on exams are important, are not following through with that at the same pace.

Conclusively, these types of patterns can be helpful as they identify potential training needs at these institutions. In this case, faculty are reporting positive beliefs toward flexible response options on exams, yet low actions related to that. It suggests that they need some real-world guidance on how to implement flexible exam response options in their classrooms.

Faculty Attitudes and Actions: Accommodations

There was a statistically significant difference when comparing accommodation attitude to accommodation action in this study, meaning that faculty actions did not match with their stated beliefs. In addition to this, there were some interesting patterns of note. These included extra time and extensions, technology, training, and non-compliant faculty members.

Extensions. Faculty at these three colleges reported most positive attitudes and actions with providing extra time for exams for students with documented disabilities. This makes sense

as this is a common accommodation found in higher education and one that faculty would be very familiar with. Faculty reported the least amount of agreement with the extension of due dates for students with disabilities, but their actions showed compliance with this accommodation more frequently than those opinions would suggest. This could be because extended deadline is a common accommodation that students with disabilities are eligible for under disability law, which faculty are expected to observe. Explaining the "why" behind this accommodation may be of assistance to faculty who are allowing it under compulsion, rather than engaging with it with understanding and a shared ownership of the process.

Technology. Allowing students with disabilities to use technology and allowing flexible response items on exams surprisingly ranked lower on faculty reported actions in this study. In other words, faculty agreed more with the use of technology and flexible responses than actively provide those opportunities. This suggests an ideal training opportunity for institutions and DSOs, as faculty have already shown a belief that these items are important to them. It may be that they simply need guidance on how to implement these practices into their courses.

Training. General findings in the literature have shown that female faculty and faculty in colleges or departments of education have consistently come out with more favorable attitudes of accommodations (Bourke et al., 2000; Dallas et al., 2014; Lombardi & Murray, 2011; Lombardi et al., 2013; Murray et al., 2008; Rao, 2002; Skinner, 2007). That did not show to be true in this study, as gender never arose as a significant variable in any of the constructs of inclusive instruction. However, it is important to note that research has shown that this variable can be negated with training, making it irrelevant (Lombardi & Murray, 2011; Lombardi et al., 2011; Lombardi et al., 2013; Murray, Lombardi, Seeley, & Gerdes, 2014; Murray et al., 2011; Murray, Lombardi, Wren & Keys, 2009).

Non-Compliant Faculty. General literature has also shown that there remains a portion of faculty who continue to have negative feelings toward providing accommodations in the classroom and simply choose not to do so (Cook et al., 2009; Dowrick et al., 2005; Kurth & Mellard, 2007; Sniatecki et al., 2015; Wolanin & Steele, 2004). This is a trend that was also reflected in this study. There was a consistent, small group of faculty who reported negative attitudes and actions across the survey in each of the questions. It may be that without institutional pressure, these faculty members will continue to act outside of legal requirements. This should be of great concern to administrators as it puts institutions in a vulnerable position by exposing them to expensive lawsuits, as well as potentially putting student success at risk.

Red Flag. Of all the constructs assessed in this study, accommodation action had a relatively lower mean score, just under course modifications and inclusive assessment action. This is a red flag for college administrators because it may mean that not all students with disabilities are being properly accommodated. What is encouraging is that attitudes toward accommodations overall are favorable. It is up to the institutions and DSOs to provide the necessary trainings to help faculty bridge these gaps in a meaningful way.

In conclusion, when it comes to accommodations at any institution across the U.S., training can be instrumental in assisting faculty in developing more positive opinions and behaviors toward accommodations, regardless of gender. For the specific colleges in this study, it is my recommendation, based on the findings, that these institutions continue to be clear about expectations of faculty regarding disability law compliance to ensure students are given equitable access, as well as limiting the amount of legal exposure for the college. Ongoing training opportunities for faculty members is key and should specifically include: (a) instruction on how faculty can implement more technology into their classes; (b) how to incorporate flexible

responses into the classroom; and (c) the "why" of extra time on assignment accommodation, and how faculty have input on determining what is reasonable. These are three areas that these colleges already know faculty are interested in, or currently struggling with, and would be receptive of.

Faculty Attitudes and Actions: Accessible Course Materials

In the current study, there was a statistically significant finding between attitudes and actions for this subscale, as faculty reported more positive beliefs than actions. However, there was no statistically significant finding regarding course material attitude or action when explored by independent variables. This is irregular when compared to general findings in the literature (Dallas et al., 2014; Lombardi et al., 2013; Lombardi & Murray, 2011; Murray et al., 2008).

Select Demographics. In the overall literature, there have been three statistically significant independent variables found to influence faculty attitude and action in this construct: gender, training, and department. As seen in some of the other subscales, female faculty tend to be more responsive to this, in general, although training helped improve faculty attitude regardless of gender (Dallas et al., 2014; Lombardi et al., 2013). Similarly, faculty in the colleges or departments of education tended to hold more favorable opinions of accessible course materials, as they often do in other constructs (Dallas et al., 2014; Lombardi & Murray, 2011; Murray et al., 2008). None of those patterns arose in this study.

In conclusion, while there were significant findings between faculty attitudes and action in this subscale, independent variables did not arise as influencing factors. However, the overall body of literature suggests that gender and department may influence faculty opinions and behaviors toward accessible course materials. Of course, as we have learned with the other

constructs, training can be influential in faculty attitudes and actions, regardless of other demographic variables.

There are also some takeaway notes about training for accessible course materials. The questions asked in this construct are very similar to those asked about accommodations and can easily be combined and discussed together in trainings. For example, a question regarding accommodations states, “I believe it is important to provide copies of my lecture notes or outlines to students with disabilities.” For course materials, the variation of that question asks, “I believe it is important to put my lecture notes online for ALL students.” It would be prudent for institutions, as they train faculty about accommodation strategies for students with disabilities, to use that opportunity to have a greater discussion of how those practices can be leveraged for the benefit of all learners. Afterall, inclusive instruction is also founded in best teaching practices.

Faculty Attitudes and Actions: Course Modifications

There was a statistically significant difference in self-reported attitudes and actions regarding course modifications, as faculty supported greater attitudes than actions for this construct. In addition to that, attitude and action scores were lower when compared to all other constructs, suggesting there was less overall faculty support and implementation for this subscale. This makes sense as course modifications are not a normal part of supporting students with disabilities in college. Faculty are also normally hesitant to do this out of instinctive concern that it will negatively impact the intellectual rigor of their courses (West et al., 2016). Having said that, faculty who reported they would provide extra credit assignments or reduce overall reading loads, were more likely to do so for all students, not just students with disabilities. This was a finding for this study that is also reflected across the literature.

It can be concluded that faculty should be trained in the differences between the IDEA laws that govern K-12 and ADA (as amended in 2010) and Section 504 of the Rehabilitation Act of 1973 laws of higher education. Furthermore, it would be my recommendation that this construct be entirely removed from the ITSI survey, as it has never resulted in any significant findings. Modifications are not legally mandated in higher education, and if anything, I believe including it on a survey about inclusive instruction may further confuse or turn off faculty who instinctively balk at modifications, and who may not realize that they are not related to inclusive instruction.

Faculty Attitudes and Actions: Inclusive Lecture Strategies

There was a statistically significant finding for faculty attitudes and actions regarding inclusive lecture strategies in this study. While most faculty reported positive attitudes and behaviors on connecting key points with larger course objectives, they showed less positive attitudes with greater standard deviations on other construct questions. These questions included concepts of beginning class with an agenda of topics to be covered and repeating questions back to the class before answering the question. I would recommend that these topics, usually considered general good teaching practices, be included in training at the three colleges. Each can be easily implemented in the classroom and complement the good inclusive strategies that faculty are already practicing, like connecting key points with course objectives.

Inconsistent findings in this construct have been reported across many studies, such as faculty supporting favorable attitudes with a lack of action, and vice versa. While inconsistent, researchers have been reliable in suggesting that training could be highly impactful for all faculty members. Female faculty tend to naturally be more positive toward inclusive lecture strategies,

but as research has shown, training makes a significant contribution to attitude scores regardless of gender (Hartsoe & Barclay, 2017; Lombardi, Gerdes, & Murray, 2011; Lombardi et al., 2013).

From these collective findings, we can conclude that faculty who are practicing inclusive lecture strategies without knowingly supporting them will benefit from training to help understand how their practices are already supporting student with disabilities and why. For faculty who report having favorable attitudes toward this construct but report a lack of action, real-world guidance and examples will be instrumental in helping them incorporate inclusive lecture strategies into the classroom.

For the colleges surveyed in this study, training on how to improve upon techniques faculty are already using in the classroom would be my recommendation. Help them keep strengthening and growing in strong teaching practices to make their lectures even more powerful and connect with a greater number of students, with and without disabilities. This includes topics such as repeating a question back to the class before answering it, beginning each class with an outline/agenda, and summarizing key points throughout each class session.

Faculty Attitudes and Actions: Inclusive Classroom

There was a statistically significant finding in the current study regarding inclusive classroom concepts. Faculty reported the highest agreement with creating multiple opportunities for engagement, which also matched their reported actions. The lowest positive attitude, as well as greatest standard deviation among respondents, focused on the importance of making a verbal statement inviting students with disabilities to discuss needs with them. That ranked lowest in both attitude and action among faculty. Given the importance of what we know about the impact faculty make on a student's decision to disclose or not disclose disability, this is a very important

piece of creating a space where students feel comfortable enough to reach out for needed accommodations.

Training and Quick Supports. As with most other subscales, training appears to be key in helping facilitate better understanding and eventually positive support for this aspect of inclusive instruction (Lombardi et al., 2013). General findings further highlight that there may be a variety of quick supports for faculty that go past traditional training, such as an email reminder to check their classrooms for physical accessibility before each term (Hartsoe & Barclay, 2017; West et al., 2016). For other aspects of creating an inclusive classroom, such as interactive technology, more intensive training may be called for.

With all of that in mind, it can be concluded that additional training about inclusive classroom supports is helpful for faculty. These should be offered in a variety of training vehicles to accommodate various faculty needs, topics, and schedules. There are several easy, low-effort adjustments faculty can make that have the potential to make a large impact on students with disabilities, such as the verbal announcement at the beginning of class. Other changes toward a fully inclusive classroom, such as interactive technology, will be more time consuming, but will support an even greater number of students, moving beyond just those with disabilities.

Faculty Attitudes and Actions: Inclusive Assessment

This study found a statistically significant difference between attitudes and actions for inclusive assessment, as well as some interesting findings of note. In general, faculty participants expressed positive attitudes and actions in allowing students to demonstrate knowledge and skills in new ways, other than traditional tests and exams. They also agreed that it is important to allow

students to express comprehension in multiple ways. These questions were not specified toward students with disabilities, but rather students in general.

However, when asked if they believe it is important to be flexible with response options on exams for ANY student who expressed a need, they were more hesitant to agree. They also expressed lower positive feelings toward flexible response options on exams for ANY student who expressed a need. These answers seem to be in contradiction to the first two questions. There was also a greater spread in standard deviation for the latter questions, suggesting that while more may agree with flexible exam options and comprehension assessments in general, there is a greater spread in faculty who are actively making those opportunities available. This trend was also seen in another study where faculty disclosed more positive endorsements than their actions suggested (Lombardi, Gerdes, & Murray, 2011).

From this we can conclude that faculty in this study are not acting in a way that supports inclusive assessment at the same level they are positively endorsing it. This supports the need for faculty training to help better close the gap between attitudes and actions. A variety of training opportunities, specifically less-intensive trainings, may work best for this construct (Hartsoe & Barclay, 2017; Lombardi, Gerdes, & Murray, 2011; Lombardi et al., 2013). In fact, faculty may benefit from less-intensive trainings, such as emails or short workshops, to help bridge the gap of what they say is important and the steps they are taking to ensure those opportunities are available for students. At the same time, trainers can help faculty understand what practices they are already supporting and how impactful they are for students of all types.

Faculty Confidence: Disability Law & Concepts

Researchers hypothesized that there would be a strong relationship between understanding of disability laws and actions, which has been borne out in several studies (Leyser

& Greenberger, 2008; Lombardi et al., 2013; NCES, 2009; Nelson et al., 1990; Rao & Gartin, 2003; West et al., 2016). Conclusive findings from this study show that faculty are more confident and comfortable with practices they are accustomed to in the classroom, and less confident in an overall understanding of inclusive instruction. This shows a need for training in disability law and concepts to help faculty help better understand the "why" behind the implementation of inclusive instruction in the classroom. That knowledge will, in turn, help faculty to proactively implement inclusive practices in their classroom and feel confident in how to handle unique accommodation requests that come to them through the DSO (Burgstahler et al., 2000; Leyser & Greenberger, 2008; Rao, 2002; Villarreal, 2002; Vasek, 2005; Wilson et al., 2000).

Q2: Statistically Significant Differences Between Faculty Attitudes and Actions

In several previous 4-year studies, researchers found that university faculty tended to positively endorse inclusive instruction yet scored lower on the actual implementation of those practices (Cook & Tankersley, 2009; Gawronski et al., 2016; Lombardi et al., 2011; Raue & Lewis, 2011). No one knows for certain why this is the case, but there has been some evidence that it may be connected to lack of institutional support, time, and available resources (Raue & Lewis, 2011; Zhang et al., 2010). This study was no different, finding statistically significant differences between faculty attitudes and actions in every one of the subscales.

It can be concluded that the phenomenon of faculty positively endorsing inclusive instruction, without their actions reflecting that belief, may happen uniquely in some institutions, both 2-year and 4-year, but not always. In most individual subscales where this happened, it reflected a general support for inclusive instruction, but a lack of knowledge of how to

implement it in the classroom. This highlights how the ITSI can be used to identify training opportunities that are unique to each institution.

Q3: Differences in Faculty Self-Reported Attitudes and Actions By Select Demographics

Results from this study are explored in combination with the overall current body of literature. They are organized by independent variables for the purposes of a more focused exploration of the impact each variable makes on faculty self-reported attitudes and actions. Real world applications of the findings are also included in each construct section.

Attitudes and Actions Associated with Gender

Of all the independent variables in this study, gender has consistently been shown to be a statistically significant finding in the literature. Female faculty tend to report more positive attitudes in multiple constructs, including: disability law and concepts (Lombardi et al., 2013); inclusive classroom (Lombardi et al., 2013); inclusive assessment (Lombardi, Murray, & Gerdes, 2011); inclusive lecture strategies (Hartsoe & Barclay, 2017; Lombardi et al., 2013; Lombardi, Murray, & Gerdes, 2011); accessible course materials (Bourke et al., 2000; Lombardi & Murray, 2011; Lombardi et al., 2013; Murray et al., 2008; Rao, 2002; Skinner, 2007); and accommodations (Lombardi & Murray, 2011). However, this is not always true, as seen in this study, where gender did not make a statistically significant impact. There are other studies that similarly show no difference in gender, or even male faculty as more responsive to inclusive instruction (Bourke et al., 2000; Kraska, 2003; Lombardi et al., 2013; Rao, 2004; Schoen et al., 1987).

From these comprehensive findings, it can be concluded that female faculty tend to report being more positive toward inclusive instruction overall. However, regardless of gender, all faculty show more favorable attitudes after receiving training across all the subscales, which has

the power to neutralize the gender variable (Bourke et al., 2000; Block et al., 2006; Lombardi & Murray, 2011; Murray, Lombardi et al., 2009; Murray et al., 2008; Vogel et al., 2008).

Attitudes and Actions Associated with Racial/Ethnic Background

While the independent variable of racial/ethnic background has been included in many studies, (Lombardi et al., 2013; Lombardi, Murray, & Gerdes, 2011; Lombardi & Murray, 2011), only one has shown any significant statistical impact. In Gawronski et al. (2016) researchers found in their single-institution community college study that Caucasian/White (non-Hispanic) faculty members between the ages of 35-44 had more positive overall inclusive instruction action scores. Other studies, including this one, have not found any impact between the various racial/ethnic backgrounds and positive attitudes and actions toward inclusive instruction.

Conclusive findings for this variable are two pronged. As this study is one of only two community college studies using the ITSI, the other being Gawronski et al. (2016), it may be too early to determine whether racial/ethnic background plays a role in inclusive instruction attitudes and actions, as there were conflicting findings. However, findings in 4-year colleges suggest that this variable does not necessarily play an important part in influencing faculty opinions and actions regarding inclusive instruction one way or another.

Attitudes and Actions Associated with Academic Department

The most common statistically significant finding regarding academic department is that faculty housed in colleges or departments of education tend to be the most accommodating and open to adopting inclusive instruction principles (Dallas et al., 2014; Fonosch & Schwab, 1981; Leyser et al., 1998; Lombardi & Murray, 2011; Murray, Wren & Keys, 2008; Skinner, 2007). Faculty in science, commerce, engineering, and industry have shown to have the least positive views of students with disabilities (Kraska, 2003; Rao, 2002; Schoen et al., 1987). This study

found no significant findings regarding academic department. That was also the case in the only other community college study (Gawronski et al., 2016). .

When reviewed in context of the larger body of literature, it can be concluded that faculty in the college of education will likely be the most accommodating and open to adopting inclusive principles in 4-year colleges, making them a potentially strong resource and ally as institutions transition to inclusive instruction practices. However, academic department has not yet shown to be an influencing factor in 2-year colleges.

Attitudes and Actions Associated with Years of Teaching Experience

While several studies have explored faculty perceptions and actions based on years of teaching experience, none have ever found any statistically significant differences among the groups (Dallas et al., 2014; Gawronski et al., 2016; Kraska, 2003; Lombardi, Gerdes, & Murray, 2011). The current study was no exception, as no statistically significant differences among the amount of teaching experience were found. Based on the collective findings it can be concluded that years of teaching experience may not be a good predictor for faculty perception and actions of inclusive instruction in higher education at either the 2-year or 4-year level.

Attitudes and Actions Associated with Part-Time and Full-Time Teaching Status

There have been a couple studies that explored the potential impact of part-time and full-time teaching status on faculty perceptions and actions toward inclusive instruction with no significant findings (Dallas et al., 2014; Gawronski et al., 2016). One study focused on full-time teaching only, as the researchers believed full-time faculty likely had the greatest impact on campus climate (Lombardi & Murray, 2011). A few studies found inconsistent results (Bourke et al., 2000; Nelson et al., 1990; Vogel et al., 1999). Other studies explored the differences in

tenure-line faculty, where there were also very inconsistent findings (Rao, 2004; Murray, Wren et al., 2009).

The current study did explore the impact of part-time and full-time teaching status on inclusive instruction but found no statistically significant results. However, this study also had 81% participation from full-time faculty. This is unusual, as community colleges tend to hire more part-time faculty than full-time faculty and the potentially skewed response rate may have influenced the results of this construct. Regardless, with such inconsistent findings across the board, it is difficult to determine if this variable is truly impactful or not.

Attitudes and Actions of Faculty Who Reported Previous Disability Training

Disability training has consistently shown itself as a leading variable of faculty perception and action toward inclusive instruction. It is not uncommon for faculty to have concerns of maintaining academic freedom or to express a lack of full understanding of disability laws, two factors which impede implementation of inclusive instruction within college classrooms. Research has shown that training can address both of those concerns with great success, simultaneously increasing positive attitudes of faculty toward students with disabilities, as well as toward inclusive instruction practices (Bourke et al., 2000; Block et al., 2006; Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011; Lombardi et al., 2013; Murray, Lombardi et al., 2009; Murray, Wren et al., 2009; Park et al., 2012; Sowers & Smith, 2004).

In the current study, a statistically significant difference was found in prior disability training for accommodation action. When combined with overall literature, it can be concluded that inclusive instruction training for faculty is likely to improve faculty personal beliefs toward inclusive instruction and students with disabilities. That change in perception will, in turn,

enhance supports for those students in the classroom and help support greater success (Zhang et al., 2010).

Attitudes and Actions by Type of Faculty Training

While studies are consistent in showing that inclusive instruction training is impactful for faculty supporting students with disabilities, the findings vary in terms of the type, length, and duration of training (Burgstahler & Doe, 2006; Cook et al., 2006; Dallas et al., 2014; Lombardi, Gerdes, & Murray, 2011; Lombardi & Murray, 2011; Lombardi et al., 2013; Murray et al., 2009; Murray et al., 2011; Murry, Wren et al., 2009). The current study found nothing statistically significant to suggest that less-intensive or more-intensive training had any influence on faculty perceptions or actions regarding inclusive instruction. Without further research to understand more about the influence of various types and durations of trainings, we can only conclude at this point that training of any type in inclusive instruction is positive and impactful for faculty.

Limitations

This is a preliminary study that serves to add to the initial research exploring faculty attitudes and actions of inclusive instruction in 2-year colleges. As it is exploratory and broad in nature, several limitations have been identified and detailed throughout the next section. These include the selection of participants, sample size, and data collection method.

Selection of Participants

This study is limited to three of the largest degree-granting 2-year colleges in a single state within the South-Central region of the United States. While the geography and populations served by each college vary, all three institutions are large when compared to other, more rural, and smaller colleges throughout the state. As such, findings from this study may not be reflective

of all institutions in the state or even the regional area. The three largest institutions were selected in an effort to recruit a meaningful number of participants.

Complicating the participant selection was the unique position of the faculty at each location. All three colleges offer both credit courses and non-credit courses. Student demographics for these two different types of classes may result in a large variance of types of faculty experiences in the classroom. Those varieties may then influence faculty reporting and ultimately the results of the study. For example, a faculty member who teaches a credit Honors English course and a non-credit beginning HVAC course may come into a variety of different challenges and potential frustrations that may influence how that faculty member responds to the survey. Perhaps that instructor feels very confident with traditional classroom accommodations but has had a challenging experience in how to best support a variety of disabilities in the HVAC lab. The complexity of inclusive instruction is such that the faculty member may choose to answer keeping one experience in mind, while leaving out the other. Thus, there is the chance that only a small portion of the faculty member's experience is being captured through the survey.

Sample Size

Even with the selection of three of the largest degree-granting 2-year institutions in the state, the vast majority of faculty at each of the colleges did not participate in the study. Therefore, findings cannot be generalized to other institutions beyond the three in this study. Further constricting the generalizability of the study is the limitation of the sample to the same state and region of the United States. That relatively small geographic area prohibits the findings from being generalized to other institutions and areas of the country.

Data Collection Method

There are a limited number of measures available to explore the topic of inclusive instruction. The ITSI, used in this study, is a self-report survey that allows for user bias. Even with efforts to eliminate bias with two response categories, it cannot be controlled. Also, while the internal consistency was within acceptable limits and the alphas were like those in previous studies, social desirability can influence how faculty choose to answer questions. The current study did not connect faculty with student learning or student experiences, which would have helped to verify those responses.

Recommendations for Future Research

Hopefully this study will meaningfully contribute to the current body of literature concerning faculty perceptions and actions surrounding inclusive instruction, specifically in 2-year colleges. Due to a lack of research utilizing the ITSI in community colleges, it is recommended that this study be replicated in a variety of 2-year institutions around the United States (i.e., rural, suburban, various regions of the U.S.). Because the ITSI is a self-report tool, future research should combine qualitative observational methods and interviews to help ensure more reliable, well-rounded data of faculty attitudes and actions.

Another opportunity of future research is to match faculty with the students they are currently teaching. A student version, the ITSI-S, was created by Gawronski (2014) and can be used by researchers to measure and compare with faculty reports. While Gawronski's (2014) study surveyed students, those students were not matched with the faculty members also surveyed. To do so would be the first ITSI study of its kind and another opportunity for future research.

This study had an unusually high number of full-time faculty respond. It is unclear whether that influenced the results. As community colleges tend to have a higher number of part-time faculty than full-time faculty, having a more reflective population sample will be highly beneficial in understanding the unique dynamics of faculty and inclusive instruction at 2-year colleges. It may be that this study sample engaged more faculty who are already more invested in student success and inclusive instruction, rather than a truly reflective population sample.

Through the process of research for this project, it became clear that there is a great deal of confusion and a variety of designs and definitions of UD principles. Thus, it is recommended that research serve to differentiate between UD, UDI, and UDL more accurately. The terms are currently used interchangeably in higher education, and it can cause great challenges for establishing reliability and validity in the research and updates to pedagogy.

Along that same vein, it is recommended that there be an effort to operationalize UD, UDI, and UDL principles accordingly, to ensure more consistent data collection and analysis in future research. As UDI was designed specifically for use in higher education, a specific measurement based on UDI framework is highly recommended to help build a strong literature base for inclusive instruction in higher education.

While the ITSI does ask faculty about whether they have had previous disability training, future research is recommended to develop a better understanding of the specific features of training faculty are reporting. This would allow for a more complete analysis of the relationship between unique training experiences and faculty attitudes and actions on inclusive instruction. Similarly, additional research is needed to determine which disability law trainings are impacting faculty confidence and willingness to provide accommodations.

Consistently low response rates are reported in the literature when it comes to the topic of faculty perceptions of inclusive instruction in higher education. Recommendations for future research would include an abbreviated survey, as the ITSI can possibly cause survey fatigue. Incentives for surveys may also be helpful. Once a literature base has been established, it is recommended that researchers focus and drill down into the significant findings to help better understand nuances that are not picked up in the ITSI, so that more targeted and specific findings can be used by community colleges and universities alike.

Recommendations for Practice and Policy

There is enough data from this study and the general literature base to start seeing patterns emerge. Recommendations for practice and policy for the institutions included in this study are highlighted, followed by best-practice recommendations that are more generalizable based on the collective literature. There remains a painful lack of information regarding inclusive instruction in 2-year colleges, so general recommendations for many constructs will have to continue to combine findings from both 2-year and 4-year studies.

It should also be mentioned that community colleges are known for having more flexible, if any, admission standards, which make them an attractive option for students with disabilities who are looking for smaller, more affordable options with lower admissions standards. However, these 2-year colleges also have far fewer resources than their 4-year counterparts. It is important to acknowledge that these colleges are supporting a hugely variable student base with very limited resources. For the same reasons, those challenges should make a system-wide implementation of inclusive instruction more attractive.

Recommendations for Current Study Participants

If there is one takeaway from this study, as well as the combined literature out there, it is that there is a greater need for faculty training regarding the provision of accommodations and inclusive instruction. How that looks at each unique college campus will vary. It is important to remember that accommodating students with disabilities is a legal requirement, thus I recommend first ensuring faculty are well-versed enough to ensure they are doing that aspect well. Faculty participants in this study showed positive attitudes toward every construct of inclusive instruction than their behaviors reflected. This is an important finding, as it highlights the need for faculty training in areas of: accommodations, accessible course materials, inclusive lecture strategies, inclusive classrooms, inclusive assessment, and disability law and concepts.

Fortunately, there are some natural, small jumping points from providing accommodations and using best teaching practices to creating an environment that supports inclusive instruction. It is possible to start building the foundation for inclusive instruction while continuing training on the basics of providing accommodations and best teaching practices. Start with the low-hanging fruit, where faculty are already doing things right. For example, this study showed that most faculty participants are very intentional about connecting key lecture points with course objectives. Explore why they do this as a practice and show how it improves student learning. Jump off from that point with other, similar techniques that can also have a measurable impact on learning, introducing elements of inclusive instruction and explaining the benefit to all students.

Collective results from this survey have shown that, overall, faculty members are more comfortable with the idea of traditional accommodations than with inclusive instruction, although their actions suggest they are practicing some inclusive instruction techniques without realizing it. It will be important during trainings for traditional accommodations and best

teaching practices that trainers draw a line to how existing and new techniques make the classroom more accessible to all students. Having a fundamental understanding of disability law will also be helpful, as disability law, and the accompanying best practices, are constantly evolving. There is no hard, fast unmoving set of rules. Understanding what drives inclusive instruction and how to be flexible in the classroom without compromising standards is crucial for faculty buy-in.

Specific Recommendations for Training Based on ITSI Findings

The ITSI was able to identify several different areas of needed training for the three institutions that participated in this study. The first items are those where faculty reported positive attitudes with low corresponding action. This is where I would recommend starting, as the dirt will be softest here. Faculty are reporting what they believe is important and it follows that with the right tools in their toolkit, they will ensure that these actions are taken in their classrooms. These topics include: (a) the implementation of flexible exam response items and use on exams; (b) use of technology on exams; (c) implementing general accommodations; and (d) creating flexible classroom comprehension assessments.

There were a few areas where faculty reported negative attitudes, but action, nonetheless. This would be an area to address more delicately, and after there is trust and respect built between the trainer, DSO, and the faculty members. An example of this is the accommodation of extended deadlines for students with disabilities. For this accommodation, faculty reported more negative attitudes, but a higher compliance. It may be an important opportunity to step in and explain the "why" of this accommodation and how faculty can play a pivotal role in working with the student in a way that satisfies all parties.

Another area for training is the verbal statement inviting students with disabilities to discuss needs with them at the beginning of each class. Creating an inviting experience for students with disabilities is crucial so that they can get the help that they need to have an equitable educational experience. Helping faculty understand that concept more fully and the significant role they play will be helpful in creating a healthy, inclusive culture for all students.

General Recommendations

There are several best-practice recommendations that come directly from the literature that need to be mentioned as we explore inclusive instruction from multiple vantage points. Making institution-wide culture changes require a holistic approach and the full support of campus leadership. As such, it is important to look at change that needs to happen at the institutional. This section will also offer other areas of potential influence that may happen off campus but will affect it all the same.

Utilization of the ITSI

It is a reality that college administrators will always have to make tough decisions that are ruled by budget constraints. Using the ITSI can help focus on the right training for the right faculty and help make practical, budget-conscious decisions. Through collaboration, DSOs and departments can work together to target training needs and curate quality faculty development experiences. The ITSI can identify areas where faculty or departments may feel are important but lack the knowledge or support to implement them. It can also be used for discipline-specific reviews of course content to help better support faculty in establishing learning outcomes (Lombardi, Murray, & Gerdes, 2011).

Not only does this data-based opportunity help drive appropriate use of time and resources for faculty training, but it can also be used as a post-test to assess the effectiveness of

training efforts. The ITSI provides immediate feedback so trainers can create timely training to target areas of need. The ITSI can also be designed to allow faculty to take the assessment and receive immediate feedback that will allow them a timely, deeper understanding of how they might adjust their course for optimal accessibility. In that respect, using the ITSI during course planning or between terms may be ideal.

Training Initiatives

It is always a challenge to know what type of faculty trainings are needed and how much time to allocate for them. For colleges that are ready to jump in or need only a few, targeted training sessions, Lombardi, Murray, and Dallas (2013) suggest that DSOs and collaborators plan for a single large training event to last from 2 to 4 days when first implementing a campus-wide inclusive instruction initiative, then organize that content so that it can be shared in small online modules or via print materials going forward. This allows for consistent messaging to be shared across multiple channels without the need to duplicate efforts. The materials are also helpful as a follow up resource for faculty who participated in the training. There are published examples of how lunchtime "brown bag" trainings have been used at other institutions (Murray et al., 2009; Murray et al., 2014).

With the challenges that community colleges face unique to those institutions, such as budget constraints and a diverse body of students with a wide range of abilities, how an institution implements these changes will be important to the overall success of the endeavor. While some may advocate for a call to inspire the hearts of faculty at these institutions to make the change from the ground up, it is my recommendation that skills be introduced in phases. Faculty should be introduced first to a toolbox of skills that emphasize the importance of inclusive techniques already being used on campus and introduce related ones to build a

foundational skillset. Over time, a new toolkit should be introduced, building on that foundation and the collective experience. Once faculty have built up the necessary skills and supports, a formal initiative by college leadership to move toward a goal of inclusive instruction can be successfully launched.

One great way to model inclusive instruction to faculty is by ensuring that the training itself is provided in a variety of vehicles. It is important to differentiate between quick, timely opportunities to send out reminder emails, and other times where a full workshop may be warranted. There are many different types of trainings, including newsletters, videos, fliers, and brown bag sessions. Do not make the mistake of thinking that one size will always fit all. Create a variety of opportunities for faculty to engage in what works best for them, and ensure you are keeping training materials and using it in multiple ways. For instance, if you provide an extended orientation to a specific group of faculty by request, videotape it. Not only can you follow up with the faculty members with a reference copy of the video, you can also use it to supplement other trainings around campus. Give faculty the resources they need to be successful, even when you cannot spend time with them in person. Collect and make all your resources available via the website so that faculty have a rich bevy of resources to select from.

A common criticism of the UDI framework is the challenge of transferability over to real-life instructional planning. As many of the faculty are uncertain about how to incorporate inclusive instructional practices into their courses, it is highly recommended that trainers use a variety of scenarios where faculty can visualize these techniques in their own classrooms (Lombardi et al., 2013; Murray et al., 2014; Murray, Lombardi et al., 2009). Anticipating these needs and using a more pro-active approach to training is in keeping with the concept of

inclusion and sets a good example of where faculty need to be thinking proactively instead of where they are reactively making accommodations for students.

Shift in DSO Model

To help support inclusive instruction initiatives on campus, leadership is advised to shift campus culture to a proactive use of inclusive instructions, which would then adjust DSO focus from making traditional accommodations for students, a service provision theoretical approach, to a resource model where DSOs are better equipped to assist with the expansion of inclusive instruction on campus. With the implementation of inclusive instruction in all courses, the DSO and instructor responsibility of implementing reactive accommodations would be reduced.

However, many DSOs are understaffed and should not be expected to carry out all of the inclusive instruction professional development initiatives alone (Dowrick et al., 2005). In addition to that challenge, many DSO staff do not have teaching experience, which puts them at a disadvantage when working with faculty who may feel that the DSO staff do not understand their unique challenges. As such, DSO staff may find it advisable to partner with faculty in special education or a teaching excellence department in order to help support the initiative.

Trainings. There are multiple ways a college can offer training opportunities, such as summer workshops, special courses, on-campus workshops, online self-paced courses, webinars, video tutorials, local or national conferences, and an expansion of DSO and teaching excellence center website materials. It can also be beneficial to leverage existing events, such as new staff orientations, department meetings, and college-wide events. Train-the-trainer programs have also been recommended, focusing on training a select group of faculty and staff who can then train their own departments and units and serve as an ongoing resource.

Top-Down Support

Institutional and departmental support are both crucial to implementing campus-wide initiatives. Institution-wide support is one of the most important elements to transitioning to inclusive instruction and supporting faculty through the transition. Types of support should include resources, time, and help with a shift in traditional thinking toward disability accommodations. There is no question that students with disabilities and students with diverse backgrounds will continue to enroll in classes at an increased pace. Helping to empower DSOs and faculty to successfully address the needs of these students should be a priority.

Graduate Programs

One of the greatest challenges in faculty understanding of inclusive instruction is that they often do not go through formal pedagogy training before becoming an active faculty member. However, there are many students who elect to take a teaching course in college in anticipation of working in higher education, and those students need exposure on how to implement inclusive instruction principles in their classes. Similarly, it would be helpful for students studying to become administrators in higher education to be familiar with the concepts and potential impacts of inclusive instruction on the learning community.

There are also a variety of other advocates and support professionals who work with students with disabilities in higher education, such as rehabilitation and transition counselors, who should also be trained on the nuances of disability law in higher education. They need a foundational understanding of how inclusive instruction principles are implemented in the classroom so that they can better prepare their clients for the expectations of higher education and all of its unique challenges. Disability counselors who also work on teaching students how to independently navigate higher education would also benefit from knowing more about what

students are likely to bump into on their own and how they might advocate for their needs more effectively, or not at all in some cases. For example, if a student only has a notetaker accommodation, yet the instructor provides class notes for every class, then there is no need for the student to disclose disability. In this instance, the instructor has made this part of the class accessible for this student, negating the need for the accommodation.

Summary

As the body of students with disabilities in higher education continues to increase, the number of them who graduate remains stagnant (Boggs, 2010; Carnevale & Fry, 2000; Desai, 2012; Flannery et al., 2008; Izzo et al., 2008; Raue & Lewis, 2011; Roberts et al., 2011; Sanford et al., 2011; Shepler & Woosley, 2012). There is evidence that inclusive instruction can make a low-cost, positive impact on the success of these students, along with their non-disabled peers (Lombardi, Murray, & Gerdes, 2011; Schelly et al., 2011). With many demands on limited resources, the use of the ITSI can help institutions quickly and effectively address the barriers these students face and proactively address them.

Support of inclusive instruction from the top-down is key and should start with the tools that faculty will need to be successful. After time, it will require a concentrated shift from the responsive DSO traditional accommodation model to a proactive service model. This transition will provide additional support to faculty as they work to better meet the needs of students from a growing variety of age groups, socioeconomic statuses, ethnicities, proficiencies with the English language, levels of preparedness, work statuses, severities of disability, family dynamics, or combination of these factors (Boggs, 2010; Chen, 2005; Desai, 2012; Kuh et al., 2005; Lombardi, Murray & Gerdes, 2011; McGuire & Scott, 2006; McGuire et al., 2006; Perdigones et al., 2009; Strayhorn, 2006; Trends, 2017).

Inclusive instruction, at its heart, is about getting information to students in a way that makes sense to them, letting them engage with it in a variety of meaningful ways, then finding ways for them to show you that they understand what they have been taught. It looks to breaks down the barriers that get in the way of that simple mission. Traditional teaching practices make the goal of meeting the instructional needs of all students increasingly difficult to achieve with the growing diversity of students in higher education. However, inclusive instruction can address this gap. It is a realistic and viable option for colleges that are working to meet students where they are, celebrating differences and creating a welcoming learning environment for all.

Higher education should not only be available to those who naturally excel at traditional classroom learning. It should be available to everyone – students from disadvantaged socioeconomic backgrounds, the hands-on learner, learners without the ability to hear spoken word, auditory learners, ESL students, and everyone in between. All who seek knowledge and put in the work should have an opportunity to learn and live a fuller, richer life through higher education. It is our job as educators and administrators to help break down the barriers that are getting in the way. As Dr. Seuss once wrote, "The more that you read, the more things you will know. The more that you learn, the more places you'll go."

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Appendix

Appendix A

Permission to use ITSI Survey Instrument

From: Karen O'Donohoe
Sent: December 18, 2017 9:31 PM
To: Allison Lombardi
Subject: Permission to use Instruments

Good morning, Dr. Lombardi.

My name is Karen O'Donohoe and I'm currently pursuing a doctorate in Higher Education at the University of Arkansas at Fayetteville. My Master's degree is in Rehabilitation Counseling, and I began my career in higher education serving students with disabilities at NorthWest Arkansas Community College. I now serve as the NWACC Foundation's Annual Giving Officer, supporting student success through scholarships, grants, and other College initiatives.

I still have a passion for serving students with disabilities, so for my dissertation topic I have chosen to replicate a study completed by Michael Gawronski for his dissertation in 2014, *Universal Design for Learning: Perceptions of Faculty and Students at a Northeastern Community College*. You are no doubt very familiar with this study as you served on the doctoral committee as an advisor. I am requesting your permission to use the Inclusive Teaching Strategies Inventory (ITSI) to administer to participating community colleges across Arkansas. I would also like permission to use the Inclusive Teaching Strategies Inventory – Students (ITSI-S) in this study. If it would be more appropriate for me to seek permission for that particular instrument from Dr. Gawronski, please let me know.

Thank you for your time and consideration.

Karen

On Tuesday, December 19, 2017 at 6:15 AM, Allison Lombardi wrote:

Hi Karen,

Thanks for your interest in my research. Yes, you have my permission to use the ITSI. I attached an article that describes one of the more recent studies in which I used it, and the items are listed in the Appendix. I also copied Michael, as you will need to ask his permission to use the ITSI-S.

Best Wishes,

Allison

Appendix B

Inclusive Teaching Strategies Inventory Survey (ITSI)

Directions: Please rate the following statements about your <u>beliefs:</u>

(1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = I have not thought about this; 5 = somewhat agree; 6 = agree; 7 = strongly agree)

1. I believe it is important to allow students with documented disabilities to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use by students without disabilities

   1 2 3 4 5 6 7

2. I believe it is important to provide copies of my lecture notes or outlines to students with documented disabilities

   1 2 3 4 5 6 7

3. I believe it is important to provide copies of my overhead and/or PowerPoint presentations to students with documented disabilities

   1 2 3 4 5 6 7

4. I believe it is important to allow flexible response options on exams (e.g., change from written to oral) for students with documented disabilities

   1 2 3 4 5 6 7

5. I believe it is important to allow students with documented disabilities to digitally record (audio or visual) class sessions

   1 2 3 4 5 6 7

6. I believe it is important to make individual accommodations for students who have disclosed their disability to me

   1 2 3 4 5 6 7

7. I believe it is important to arrange extended time on exams for students who have documented disabilities
   1 2 3 4 5 6 7

8. I believe it is important to extend the due dates of assignments to accommodate the needs of students with documented disabilities

   1 2 3 4 5 6 7

9. I believe it is important to use a course website (e.g., Blackboard or faculty web page)

   1 2 3 4 5 6 7

10. I believe it is important to put my lecture notes online for ALL students (on Blackboard or another website)

    1 2 3 4 5 6 7

11. I believe it is important to post electronic versions of course handouts

    1 2 3 4 5 6 7

12. I believe it is important to allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital drop box)

    1 2 3 4 5 6 7

13. I believe it is important to allow a student with a documented disability to complete extra credit assignments

    1 2 3 4 5 6 7

14. I believe it is important to reduce the overall course reading loud for a student with a documented disability even when I would not allow a reduced reading load for another student

    1 2 3 4 5 6 7

15. I believe it is important to reduce the course reading load for ANY student who expresses a need

    1 2 3 4 5 6 7

16. I believe it is important to allow ANY student to complete extra credit assignments in my course(s)

    1 2 3 4 5 6 7

17. I believe it is important to repeat the question back to the class before answering when a question is asked during a class session

    1 2 3 4 5 6 7

18. I believe it is important to begin each class session with an outline/agenda of the topics that will be covered

    1 2 3 4 5 6 7

19. I believe it is important to summarize key points throughout each class session

    1 2 3 4 5 6 7

20. I believe it is important to connect key points with larger course objectives during class sessions

    1 2 3 4 5 6 7

21. I believe it is important to use technology so that my course material can be available in a variety of formats (e.g., podcast of lecture available for download, course readings available as mp3 files)

    1 2 3 4 5 6 7

22. I believe it is important to use interactive technology to facilitate class communication and participation (e.g., Discussion Board)

    1 2 3 4 5 6 7

23. I believe it is important to present course information in multiple formats (e.g., lecture, text, graphics, audio, video, hands-on exercises)

    1 2 3 4 5 6 7

24. I believe it is important to create multiple opportunities for engagement

    1 2 3 4 5 6 7

25. I believe it is important to survey my classroom in advance to anticipate any physical barriers include a statement in my syllabus inviting students with disabilities to discuss their needs with me

    1 2 3 4 5 6 7

26. I believe it is important to make a verbal statement in class inviting students with disabilities to discuss their needs with me

    1 2 3 4 5 6 7

27. I believe it is important to use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands on activities

    1 2 3 4 5 6 7

28. I believe it is important to supplement class sessions and reading assignments with visual aids (e.g., photographs, videos, diagrams, interactive simulations)

    1 2 3 4 5 6 7

29. I believe it is important to allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)

    1 2 3 4 5 6 7

30. I believe it is important to allow students to express comprehension in multiple ways (e.g., oral, written)

    1 2 3 4 5 6 7

31. I believe it is important to be flexible with assignments deadlines in my course(s) for ANY student who expresses a need

    1 2 3 4 5 6 7

32. I believe it is important to allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need

    1 2 3 4 5 6 7

Directions: Please rate the following statements about your actions in the classroom, reflecting on the last three academic years.

(1 = no opportunity; 2 = never; 3 = sometimes; 4 = most of the time; 5 = always)

33. I do allow students with documented disabilities to use technology (e.g., laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use by students without disabilities

    1 2 3 4 5

34. I do provide copies of my lecture notes or outlines to students with documented disabilities

    1 2 3 4 5

35. I do provide copies of my overhead and/or PowerPoint presentations to students with documented disabilities

    1 2 3 4 5

36. I do allow flexible response options on exams (e.g., change from written to oral) for students with documented disabilities

    1 2 3 4 5

37. I do allow students with documented disabilities to digitally record (audio or visual) class sessions

    1 2 3 4 5

38. I do make individual accommodations for students who have disclosed their disability to me

    1 2 3 4 5

39. I do arrange extended time on exams for students who have documented disabilities
    1 2 3 4 5

40. I do extend the due dates of assignments to accommodate the needs of students with documented disabilities

    1 2 3 4 5

41. I do use a course website (e.g., Blackboard or faculty web page)

    1 2 3 4 5

42. I do put my lecture notes online for ALL students (on Blackboard or another website)

1 2 3 4 5

43. I do post electronic versions of course handouts

1 2 3 4 5

44. I do allow students flexibility in submitting assignments electronically (e.g., mail attachment, digital drop box)

1 2 3 4 5

45. I do allow a student with a documented disability to complete extra credit assignments

1 2 3 4 5

46. I do reduce the overall course reading loud for a student with a documented disability even when I would not allow a reduced reading load for another student

1 2 3 4 5

47. I do reduce the course reading load for ANY student who expresses a need

1 2 3 4 5

48. I do allow ANY student to complete extra credit assignments in my course(s)

1 2 3 4 5

49. I do repeat the question back to the class before answering when a question is asked during a class session

1 2 3 4 5

50. I do begin each class session with an outline/agenda of the topics that will be covered

1 2 3 4 5

51. I do summarize key points throughout each class session

1 2 3 4 5

52. I do connect key points with larger course objectives during class sessions

1 2 3 4 5

53. I do use technology so that my course material can be available in a variety of formats (e.g., podcast of lecture available for download, course readings available as mp3 files)

1 2 3 4 5

54. I do use interactive technology to facilitate class communication and participation (e.g., Discussion Board)

1 2 3 4 5

55. I do present course information in multiple formats (e.g., lecture, text, graphics, audio, video, hands-on exercises)

1 2 3 4 5

56. I do create multiple opportunities for engagement

1 2 3 4 5

57. I do survey my classroom in advance to anticipate any physical barriers include a statement in my syllabus inviting students with disabilities to discuss their needs with me

1 2 3 4 5

58. I do make a verbal statement in class inviting students with disabilities to discuss their needs with me

1 2 3 4 5

59. I do use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands on activities

1 2 3 4 5

60. I do supplement class sessions and reading assignments with visual aids (e.g., photographs, videos, diagrams, interactive simulations)

1 2 3 4 5

61. I do allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)

1 2 3 4 5

62. I do allow students to express comprehension in multiple ways (e.g., oral, written)

1 2 3 4 5

63. I am flexible with assignments deadlines in my course(s) for ANY student who expresses a need

1 2 3 4 5

64. I do allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need

1 2 3 4 5

Directions: Please rate the following statements about your <u>confidence</u>:

(1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree)

65. I am confident in my understanding of the Americans with Disabilities Act (1990)

1 2 3 4 5

66. I am confident in my responsibilities as an instructor to provide or facilitate disability related accommodations

    1 2 3 4 5

67. I am confident in my knowledge to make adequate accommodations for students with disabilities in my course(s)

    1 2 3 4 5

68. I am confident in my understanding of Section 504 of the Rehabilitation Act of 1973

    1 2 3 4 5

69. I am confident in my understanding of Universal Design

    1 2 3 4 5

70. I am confident in my understanding of the legal definition of disability

    1 2 3 4 5

Please answer the following questions about your background:

Are you:

- Male
- Female
- Other

Please indicate your racial/ethnic background:

- African American or Black
- Asian/Pacific Islander
- Caucasian/White (non-Hispanic)
- Hispanic or Latino
- Two or More Races
- Other

What academic department do you <u>primarily</u> teach in at this institution?

- Agriculture, Food and Life Sciences *(Ex: Agricultural business, education and equipment technology, animal science and plant science.)*

- Arts and Communication *(Ex: Art, art history, behavioral sciences, religion, English composition, foreign languages, history, humanities, literature, political science, fine arts, integrated design, music, and theatre.)*
- Automotive Technology *(Ex: Alternative fuels, auto body, auto painting, body and frame alignment, collision repair, damage analysis and estimation, power sports technology and tire center operator.)*
- Aviation Technology
- Business and Computer Information *(Ex: Accounting, coding, programming, machining technology, cybersecurity, retail, economics, entrepreneurship, finance, leadership studies, logistics, CAD, and marketing.)*
- Certified Retail Analyst and Space Planning
- Construction Technology *(Ex: Integrated design, electrical apprentice, HVAC, refrigeration, plumbing and electrical.)*
- Cosmetology
- Criminal Justice *(Ex: Corrections, crime prevention, crime scene investigations, law enforcement, justice study, forensic science and wildlife enforcement, corporate and public safety.)*
- Culinary and Hospitality *(Ex: Artisanal foods, baking and pastry arts, beverage arts, dietary management, food purchasing and inventory, restaurant, or bar operations, tourism, and resort management.)*
- Diesel Technology
- Education *(Ex: Early childhood, elementary, special education, curriculum development, principal certification, GT and creative teacher certification and dyslexia certificate.)*
- Environmental Sciences *(Ex: Management and regulatory science, management/GIS technician, and safety and health.)*
- Fire Science
- Funeral Science
- Graphic Design and Digital Media *(Ex: Audio engineering, digital media, and video production.)*
- Health Professions *(Ex: Nursing, EMS, HIM, nurse's aide, occupational therapy assistant, physical therapy assistant, dental assisting, radiography, respiratory therapy, and surgical technology.)*
- Industrial Technologies *(Ex: Automated manufacturing, electrical systems, mechanical systems, machine tool technology, computerized numerical controlled, machine tool technology, robotics, and manufacturing systems.)*
- Legal *(Ex: Paralegal studies.)*

- Mathematics, Science and Engineering *(Ex: Chemistry, pre-algebra, finite math, astronomy, physics, microbiology, geography, and intro to engineering.)*
- Military Technologies
- Office Supervision, Management and Technology
- Professional Truck Driving
- Welding Technology
- Other [type answer]

Number of years of teaching experience:

- 0-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-24 years
- 25 or more years

Are you employed part-time or full-time at this institution?

- Full-time
- Part-time

Do you have any prior disability training of any kind (formal or informal, including reading articles, looking at websites, watching videos, attending workshops or classes)?

- Yes
- No

If you answered 'Yes' to having prior disability training, please indicate the *type* of training:

- Less intensive (i.e., reading articles, books or reviewing websites)
- Intensive (i.e., workshops or classes)

Thank you for your participation! It is my hope that the information from this survey will be used to support faculty in community colleges in the South-Central region!

Appendix C

University of Arkansas - IRB Exemption Granted

UNIVERSITY OF ARKANSAS

To:	Karen Renee' O'Donohoe
From:	Douglas J Adams, Chair IRB Expedited Review
Date:	02/26/2021
Action:	**Exemption Granted**
Action Date:	02/26/2021
Protocol #:	2102312788
Study Title:	Faculty Perception of Inclusive Instruction at Three South Central Community Colleges

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

Correspondence Notes:

- Please note: As you are not collecting any identifying information in the survey, and therefore cannot know which faculty members have completed the survey and which cannot, you may wish to add a sentence near the beginning of the reminder email thanking them if they have already completed the survey.

cc: John W Murry, Investigator
Ketevan Mamiseishvili, Investigator

Appendix D

IRB Approval from College 1

April 1, 2021

Karen O'Donohoe

Faculty Perception of Inclusive Instruction at Three South Central Community Colleges

Dear Karen,

This letter is to inform you that I have reviewed the documentation you submitted regarding your project Faculty Perception of Inclusive Instruction at Three South Central Community Colleges and have determined that the University of Arkansas IRB will serve as the IRB of record for your project.

This letter constitutes approval of the request you submitted to [redacted]

Please contact me via e-mail at [redacted] if you have any additional questions or concerns regarding your request.

[redacted]

Appendix E

IRB Approval from College 3

[redacted]
Thu 4/15/2021 12:21 PM

To: Karen O'Donohoe

Hello Ms. O'Donohoe,

I am pleased to inform you that your faculty survey proposal has been approved. Thank you, and good luck in your research.

Appendix F

Prenotice Email Template

Dear Faculty,

My name is Karen O'Donohoe and I am a doctoral candidate in higher education at the College of Education and Health Professions at the University of Arkansas in Fayetteville, AR.

I would like to ask you to participate in a research study about faculty perceptions regarding instructional techniques based on principles of Universal Design for Instruction (UDI). UDI principles are designed to create learning tools and environments that maximize learning for all students in postsecondary educational settings. You are being asked to participate in this study because you are a faculty member during the Spring 2021 semester at (*institution name goes here*).

In the next few days, you will receive an email with a link to the survey. Please read the email, click the survey link, and complete the survey. It will take approximately 15 minutes to complete. Your input will contribute to improving teaching and learning for all students.

If you have any questions about the survey, please feel free to contact me by email or by phone.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

What is the purpose of this research study?
The purpose of this study is to measure faculty understanding and support of implementing Universal Design for Instruction (UDI) in the classroom. UDI principles are designed to create learning tools and environments that maximize learning for all students in postsecondary educational settings.

Who will participate in this study?
This survey is being distributed to all faculty members teaching in the Spring 2021 semester at three degree-granting two-year institutions of higher education in Arkansas, including (*insert institution name here*).

What am I being asked to do?
Your participation will require the following:
Completing an electronic survey: *Inclusive Teaching Strategies Inventory (ITSI)*

What are the possible risks or discomforts?
There are no anticipated risks to participating in this study.

What are the possible benefits of this study?
Your responses may help contribute to the existing knowledge of faculty perceptions and actions toward inclusive teaching strategies in higher education, specifically in the community college setting.

How long will the study last?
Your participation should take approximately 15 minutes.

Will I receive compensation for my time and inconvenience if I choose to participate in this study?
You will receive no direct benefits from participating in this research study.

Will I have to pay for anything?
No, there will be no cost associated with your participation.

What are the options if I do not want to be in the study?
If you do not want to be in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your relationship with your employer or the University of Arkansas in Fayetteville will not be affected in any way if you refuse to participate.

How will my confidentiality be protected?
All information will be kept confidential to the extent allowed by applicable State laws. No personally identifiable information will be collected, and the data will only be reviewed and presented in the aggregate and not by the institution.

Will I know the results of the study?
At the conclusion of the study, you will have the right to request feedback about the results. You may contact the faculty advisor, Dr. John Murry or Principal Researcher, Karen O'Donohoe.

What do I do if I have questions about the research study?
You have the right to contact the Principal Researcher or Faculty Advisor as listed below for any concerns that you may have.

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Appendix G

Invitation to Participate Email Template with Survey Link

Dear Faculty,

Recently I sent you a request to participate in an important survey about faculty perceptions regarding instructional techniques based on principles of Universal Design for Instruction (UDI). This research study is being conducted to satisfy requirements for my doctoral dissertation in the College of Education and Health Professions at the University of Arkansas. It should take approximately 15 minutes to complete.

By clicking "Survey Link" below you acknowledge that you have read and understand the consent statement at the end of this email:

Survey Link:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Please consider adding your opinions and experiences to this important research project. The title of the study is: *Faculty Perception of Inclusive Instruction at Three South Central Community Colleges.* The purpose of this study is to measure faculty understanding and support of implementing UDI in the classroom. UDI principles are designed to create learning tools and environments that maximize learning for all students in postsecondary educational settings. Your participation is *vital* in order to understand faculty understanding and support of these tools in the classroom within community colleges.

You were selected to be a part of this study because you are a faculty member at [*insert college name here*]. This survey is being distributed to all faculty at the college. Your participation is completely voluntary, but I hope you will set aside a few minutes to share your experiences and opinions. You may refuse to take part in the research or exit the survey at any time without penalty. You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about faculty perceptions and actions toward inclusive teaching strategies in higher education, specifically in a community college setting. There are no foreseeable risks involved in participating in this research study, other than those encountered in day-to-day life.

All information will be kept confidential to the extent allowed by applicable State laws. The survey will not request a personally identifiable information. Results will only be reported in aggregate form, preventing any respondent from being identified by their answers.

By clicking “Survey Link” above you acknowledge that you have read and understand the following:

I have read the above statements and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

Appendix H

Thank you / Follow Up Email Template

Dear Faculty,

Last week you received a request to participate in an important survey about faculty perceptions regarding instructional techniques based on principles of Universal Design for Instruction (UDI).

If you have already taken the survey – THANK YOU!

If you have not yet taken the survey, please click on the link below. It should take approximately 15 minutes to complete. The survey will close at [*enter survey close time and date*].

By clicking "Survey Link" below you acknowledge that you have read and understand the consent statement at the end of this email:

Survey Link:
${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:
${l://SurveyURL}

Please consider adding your opinions and experiences to this important research project. The title of the study is: *Faculty Perception of Inclusive Instruction at Three South Central Community Colleges.* The purpose of this study is to measure faculty understanding and support of implementing UDI in the classroom. UDI principles are designed to create learning tools and environments that maximize learning for all students in postsecondary educational settings. Your participation is *vital* in order to understand faculty understanding and support of these tools in the classroom within community colleges.

You were selected to be a part of this study because you are a faculty member at [*enter college name here*]. This survey is being distributed to all faculty at the college. Your participation is completely voluntary, but I hope you will set aside a few minutes to share your experiences and opinions. You may refuse to take part in the research or exit the survey at any time without penalty. You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about faculty perceptions and actions toward inclusive teaching strategies in higher education, specifically in a community college setting.

There are no foreseeable risks involved in participating in this research study, other than those encountered in day-to-day life. It is not possible to identify all potential risks in research procedures, but the researcher has taken reasonable safeguards to minimize any known and potential risks.

Your responses will remain anonymous, and no one will know whether or not you participated in the study. Results will only be reported in aggregate form, preventing any respondent from being identified by his or her answers. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty.

By clicking the "Survey Link" above you acknowledge that you have read and understand the following:

I have read the above statements and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

Thank you for participating!

Sincerely,

Karen O'Donohoe