Faculty Teaching Behaviors at Three State-Funded Universities

Christa Michelle Bryant

University of Southern Mississippi

Follow this and additional works at: https://aquila.usm.edu/dissertations

Part of the Disability and Equity in Education Commons, and the Higher Education Commons

Recommended Citation

Bryant, Christa Michelle, "Faculty Teaching Behaviors at Three State-Funded Universities" (2012). Dissertations. 537.

https://aquila.usm.edu/dissertations/537

This Dissertation is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in Dissertations by an authorized administrator of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.
FACULTY TEACHING BEHAVIORS AT THREE STATE-FUNDED UNIVERSITIES

by

Christa Michelle Bryant

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

May 2012
ABSTRACT

FACULTY TEACHING BEHAVIORS AT THREE STATE-FUNDED UNIVERSITIES

by Christa Michelle Bryant

May 2012

The purpose of this study was to determine if faculty teaching behaviors differed as a function of demographic variables including academic discipline, years of experience making accommodations, academic rank, and/or gender. College faculty from three universities completed and submitted the Faculty Inventory, a questionnaire containing seven subscales with ten statements per subscale. Faculty members rated the level at which they participate in the teaching behaviors represented by the statements. Results of the data analysis indicated that academic discipline and years of experience making accommodations for students with disabilities significantly influenced teaching behaviors. Academic rank and gender were examined only by descriptive statistics. Adjuncts had the highest mean scores on five of the seven subscales including cooperation among students, prompt feedback, time-on-task, high expectations, and diverse talents. Associate professors had the highest mean scores on the student/faculty contact and active learning subscales. Females engaged in all seven subscale behaviors more frequently than males.
The University of Southern Mississippi

FACULTY TEACHING BEHAVIORS AT THREE STATE-FUNDED UNIVERSITIES

by

Christa Michelle Bryant

A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved:

Dr. Elizabeth E. Hillman
Director

Dr. Hollie G. Filce

Dr. Rose M. Jones

Dr. Kyna Shelley

Dr. Francis A. Karnes

Dr. Susan A. Siltanen
Dean of the Graduate School

May 2012
ACKNOWLEDGMENTS

I would like to express my gratitude to the members of my dissertation committee for all the time and energy they invested in helping me through this process. Dr. Elgen Hillman, Dr. Rose Jones, Dr. Hollie Filce, Dr. Kyna Shelley, and Dr. Francis Karnes, thank you for your dedication and service. To Dr. Elgen Hillman and Dr. Rose Jones, I was humbled by your willingness to offer help during holiday breaks. I aspire to be a mentor and leader with that level of selflessness.

I would also like to thank my mother, Hazel, and my daughter, Samantha. Mom, this accomplishment may not have been possible without your support and confidence. You have gone the extra mile to help me through the discouraging times in this process and encourage me to meet each new challenge. While Samantha is only three years old, she has sat with me countless times diligently working on her “dissertation.” The joy she has brought has been a true motivator.

Two other major contributors to this dissertation were the Seven Principles Research Center at Winona State University and Tamara Meade. The Seven Principles Research Center graciously allowed me to disseminate the instrument they designed, The Seven Principles for Good Practice in Undergraduate Education: Faculty Inventory. Thank you for the opportunity to use your instrument. I would also like to thank Tamara Meade. Dr. Meade had previously used the Faculty Inventory, and was happy to share the reliability data she collected. You all have my deepest gratitude.
TABLE OF CONTENTS

ABSTRACT .............................................................................................................................. ii

ACKNOWLEDGMENTS ........................................................................................................ iii

LIST OF TABLES ................................................................................................................... vi

CHAPTER

I. PROBLEM ......................................................................................................................... 1
   Introduction
   Theoretical Frameworks
   Statement of the Problem
   Purpose of the Study
   Definition of Terms
   Summary

II. REVIEW OF THE LITERATURE .................................................................................. 14
   Disability Law Relevant to Postsecondary Education
   Barriers to Postsecondary Instruction
   Studies Examining Postsecondary Faculty and Disability Related Topics
   Universal Design, Universal Design for Learning, Universal Design of Instruction
   Future Direction of Universal Design of Instruction
   Conclusion

III. METHODOLOGY ......................................................................................................... 73
   Research Design
   Reliability and Validity
   Data Analysis

IV. RESULTS ....................................................................................................................... 84
   Data Analysis
   Presentation of Descriptive Characteristics of Respondents
   Test of Hypothesis
   Summary
V. SUMMARY .......................................................................................................................... 94

Summary of Study
Group Differences
Limitations, Delimitations, and Assumptions
Summary
Implications of this Study
Recommendations for Future Research

APPENDIXES............................................................................................................................. 105

REFERENCES........................................................................................................................... 121
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Participant Ratios from the Academic Disciplines</td>
<td>75-76</td>
</tr>
<tr>
<td>2.</td>
<td>Participant Ratios from Years of Experience Making Accommodation</td>
<td>76</td>
</tr>
<tr>
<td>3.</td>
<td>Participant Ratios for Academic Rank</td>
<td>77</td>
</tr>
<tr>
<td>4.</td>
<td>Participant Ratios for Gender</td>
<td>78</td>
</tr>
<tr>
<td>5.</td>
<td>Descriptive Statistics of Faculty Inventory</td>
<td>79-80</td>
</tr>
<tr>
<td>6.</td>
<td>Descriptive Statistics of Subscales</td>
<td>85</td>
</tr>
<tr>
<td>7.</td>
<td>Descriptive Statistics of Academic Discipline</td>
<td>86</td>
</tr>
<tr>
<td>8.</td>
<td>Descriptive Statistics of Years of Experience Making Accommodations</td>
<td>87</td>
</tr>
<tr>
<td>9.</td>
<td>Descriptive Statistics of Academic Rank</td>
<td>88</td>
</tr>
<tr>
<td>10.</td>
<td>Descriptive Statistics of Gender</td>
<td>89</td>
</tr>
<tr>
<td>11.</td>
<td>Univariate Analysis of Academic Discipline</td>
<td>91</td>
</tr>
<tr>
<td>12.</td>
<td>Univariate Analysis of Years of Experience Making Accommodations</td>
<td>92</td>
</tr>
</tbody>
</table>
CHAPTER I

PROBLEM

Introduction

The number of students with disabilities attending postsecondary institutions has more than tripled over the past couple decades (Sitlington, 2003; Thomas, 2000). According to the United States Department of Education’s (USDE) National Center for Educational Statistics (NCES), students with disabilities attending higher education programs increased from 2.3% in 1978 to 10.8% in 2008. Yet, of students with disabilities who seek higher education, the number of students who complete the degree program is significantly lower than their non-disabled peers (Higbee, 2003; Horn, Peter, & Rooney, 2002; Murray, Goldstein, Nourse, & Edgar, 2000).

The dramatic increase in number of students with disabilities who pursue a college education has been attributed primarily to disability laws designed to protect these students and ensure access to higher education programs (Dukes III & Shaw, 1999; Gamble, 2000; Rao, 2004; Vogel, Leyser, Wyland, & Brulle, 1999). Laws such as Section 504 of the Rehabilitation Act of 1973 (Section 504), Section 508 of the Rehabilitation Act of 1973 (Section 508), and the Americans with Disabilities Act of 1990 (ADA) have unlocked the doors of access that once prevented students with disabilities from pursuing higher education. Although these laws contain much of the same content, ADA received much greater attention among the media and has had a greater impact (Thomas, 2000).

Section 504, Section 508, and ADA mandate Institutions of Higher Learning (IHL) to provide access to services for qualified students with disabilities that is equal to or as effective as existing services (Gamble, 2000; Kincaid & Simon, 1994; Simon, 2000;
Thomas, 2000). This means college faculty must ensure students have access to class materials (including any online course materials) as well as physical access within the classroom (Gamble, 2000; Simon, 2000; Thomas, 2000). Further, Section 504 requires faculty to make academic adjustments for students with disabilities (Gamble, 2000; Kincaid & Simon, 1994; Madaus & Shaw, 2004; Simon, 2000). These adjustments include but are not limited to allowing extra time for assessment completion, providing copies of class notes and materials, allowing students to record lectures, and the use of auxiliary aids (Madaus & Shaw, 2004; Simon, 2000). Auxiliary aids are to be provided by the postsecondary institution and permitted to be used in or out of the classroom (Gamble, 2000). Some of the commonly requested auxiliary aids include taped texts, adapted classroom equipment, and interpreters (Gamble, 2000).

In order for students with disabilities to be successful at the postsecondary level, college faculty must understand their roles and responsibilities and the rights of these students (Pliner & Johnson, 2004). Pliner and Johnson (2004) state that IHL must completely reconfigure methods of admission, instruction, and career placement in order to become inclusive environments. Disability law requires faculty members to use certain teaching behaviors and strategies to ensure students with disabilities are receiving equal educational access (Madaus & Shaw, 2004; Simon, 2000). These teaching behaviors are also good teaching practices to implement in order to provide effective instruction for any student (Burgstahler, 2005; Pliner & Johnson, 2004; Scott, McGuire, & Foley, 2003b; Scott, McGuire, & Shaw, 2003c).
Theoretical Frameworks

This study was grounded in the theory of Universal Design of Instruction (UDI). UDI was derived from extensive research pertaining to the concept of Universal Design (UD), theories specific to education, and researched, best-practices in postsecondary instruction. (Scott et al., 2003b; Scott et al., 2003c). To provide an overall framework for UD, a description of the Seven Principles of Universal Design is provided. This is followed by a discussion of three educational theories which were developed based on UD: Seven Principles of Good Practice in Undergraduate Education, the Universal Access Principles for Developing Curriculum, and the Three Essential Qualities of Universal Design for Learning (Scott et al., 2003b). These three theories were intertwined with the Seven Principles for Universal Design as a framework in the development of the Nine Principles of Universal Design of Instruction (Scott et al., 2003b). This section concludes with an examination of the resulting theory of UDI, upon which the proposed study is based.

Seven Principles of Universal Design

Seven Principles of Universal Design were originally coined by Ronald Mace in the 1970’s and intended for the field of architecture (Burgstahler, 2005; McGuire, Scott, & Shaw, 2006; Pliner & Johnson, 2004; Scott et. al., 2003b). These principles were intended to ensure buildings and products are accessible to the broad needs of a diverse society (McGuire, et al., 2006; Scott, et al., 2003b). For example, by providing ramps and elevators, wheelchair users would be able to enter any establishment and move about within that establishment. The seven principles are: (1) equitable use; (2) flexibility in use; (3) simple and intuitive; (4) perceptible information; (5) tolerance for error; (6) low
physical effort; and (7) size and space for approach and use (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b). The first seven principles of UDI are derived directly from the Seven Principles of Universal Design.

*Seven Principles for Good Practice in Undergraduate Education*

The Seven Principles for Good Practice in Undergraduate Education is a set of principles derived from decades of research pertaining to the undergraduate experience. These principles are: (a) encourages student-faculty contact (student/faculty contact); (b) encourages cooperation amongst students (cooperation amongst students); (c) encourages active learning (active learning); (d) gives prompt feedback (prompt feedback); (e) emphasizes time on task (time on-task); (f) communicates high expectations (high expectations); and (g) respects diverse talents and ways of learning (diverse talents) (Chickering & Gamson, 1987). These seven principles and the teaching behaviors characteristic of each also guided the development of UDI.

*Universal Access Principles for Designing Curriculum*

Kameenui and Carnine (1998) developed the Universal Access Principles for Designing Curriculum at the National Center to Improve Tools for Educators (NCITE). The six principles and their descriptions, as provided by Kameenui and Carnine (1998) include: (a) big ideas - concepts, principles, or heuristics that facilitate the most efficient and broad acquisitions of knowledge; (b) conspicuous strategies - useful steps for accomplishing a goal or task; (c) mediated scaffolding - instructional guidance provided by teachers, peers, materials, or tasks; (d) strategies intervention - integrating knowledge as a means of promoting higher-level cognition; (e) judicious review - structured opportunities to recall or apply previously taught information; and (f) primed background knowledge -
preexisting information that affects new learning (Scott, et al., 2003b). These six principles were designed to promote access to the curriculum for all students. With the same goal at the postsecondary level, these principles were included in the development of UDI.

*Three Essential Qualities of Universal Design for Learning*

The third educational theory included in the development of UDI principles was the Three Essential Qualities of Universal Design for Learning. This educational theory was created by the Center for Applied Special Technology (CAST) (Center for Applied Technology, 2002). These qualities pertain to the development of curriculum that is accessible to all students. They include, curriculum provides multiple means of: (a) representation; (b) expression; and (c) engagement (Scott et al., 2003b). These qualities of UDL were based on providing access to the curriculum for all students. UDI is an extension of UDL to the postsecondary level. Thus, these qualities were included in the development of UDI.

*Universal Design of Instruction*

UDI includes nine principles that encompass multiple, research-based components of quality postsecondary instruction (Burgstahler, 2005; McGuire et al., 2006; Ouellet, 2004; Pliner & Johnson, 2004; Scott, Loewen, Funckes, & Kroeger, 2003a; Scott et al., 2003b; Scott et al., 2003c). These principles were designed to ensure postsecondary instruction is accessible to all learners (Burgstahler, 2005; McGuire et al., 2006; Ouellet, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). The nine principles of UDI include: (1) equitable use; (2) flexibility in use; (3) simple and intuitive instruction; (4) perceptible information; (5) tolerance for error; (6) low physical effort; (7) size and space for approach and use; (8) promoting a community of learners; and
A more specific description of the nine principles of UDI follows. Equitable use pertains to providing instruction that is useful and accessible to all students. Flexibility in use means designing instruction to promote a vast range of individual abilities and allowing students choices. Instruction that is simple and intuitive is presented in a predictable and straightforward manner to all students regardless of students’ knowledge, experiences, ability levels, or concentration levels. Providing perceptible information means that faculty members use several instructional modes to communicate effectively. Demonstrating a tolerance for error facilitates learning by using mistakes as teaching tools. Allowing for low physical effort means instruction is geared toward attention to learning and eliminates unnecessary physical effort. Size and space for approach and use refers to the physical accessibility of instruction and means instruction is accessible regardless of the students’ mobility, posture, or body size. Promoting a community of learners means the instructor provides instruction that is inclusive and mindful of diversity, encouraging students to communicate and work cooperatively. Finally, the instructional climate should be based on tolerance for diversity that is welcoming and inclusive (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c).

The culmination and combination of these theories, working together, provide the foundation upon which to base practice at the postsecondary level. This study specifically focused on the Seven Principles of Good Practice in Undergraduate Education. These principles pertain specifically to postsecondary education. They are based on specific
behaviors that are considered good practice at the postsecondary level. Thus, this study examined the reported implementation of these principles by faculty.

Statement of the Problem

Studies have shown that faculty members are not satisfied with training received related to providing accommodations to students with disabilities (Baggett, 1993; Cook, 2007; Salzberg, Peterson, Debrand, Blair, Carsey, & Johnson, 2002; Rao, 2002). In fact, when faculty in 49 states was surveyed, over 60% were not satisfied with the university’s efforts to provide training in this area (Salzberg et al., 2002). More specifically, faculty reported needing training in disability laws (91%), specific disabilities (89%), faculty’s rights and responsibilities (80%), and making accommodations (73%). In a similar study, Cook (2007) reported that most faculty considered UDI, disability laws, accommodations, and disability etiquette highly important, but not satisfactorily addressed by their institutions. Baggett (1993) interviewed faculty regarding their perceptions of postsecondary training programs on disabilities and found that all faculty agreed that no training or information had been offered. However, most of those faculty members also reported that they would be receptive to disability related training (Baggett, 1993). Thus, faculty members have indicated both the need and desire for training regarding students with disabilities (Baggett, 1993; Cook, 2007; Salzberg et al., 2002; Silver, Bourke, & Strehorn, 1998).

As a result of lack of training and understanding regarding disability laws, college faculty generally are not knowledgeable regarding these laws (Baggett, 1993; Benham, 1995; Campbell, 2002; Gamble, 2000; Hicks-Coolick & Kurtz, 1996; Rao, 2002; Salzberg et al., 2002; Vogel et al., 1999). Further, many faculty members are not familiar with
specific disabilities, including the characteristics of these disabilities or the instructional needs of students with disabilities (Benham, 1995; Campbell, 2002; Kleinsasser, 1999). Although many faculty report having generally positive attitudes toward students with disabilities, some faculty report having negative attitudes (Campbell, 2002; Gamble, 2000; Kleinsasser, 1999; Lewis, 1998; Williamson, 2000). Perhaps most problematic is that some faculty members report that they do not provide accommodations or allow auxiliary aids in the classroom (Dzeikan, 2003; Gamble, 2000; Hicks-Coolick & Kurtz, 1996; Lewis, 1998; Rao, 2002; Salzberg et al., 2002; Thomas, 2000; Vogel et al., 1999). Unless the student with a disability knows his or her rights and personally advocates for these rights, he or she will likely experience several barriers when pursuing postsecondary education (Sitlington, 2003). Overall, these barriers suggest that the laws designed to protect postsecondary students with disabilities are often not understood, taught, or applied at the postsecondary level, which can lead to these students receiving unequal services and an inaccessible educational experience (Gamble, 2000; Thomas, 2000).

The actual teaching behaviors of college faculty can prevent or contribute to the barriers experienced by college students with disabilities (Bigaj, Shaw, & McGuire, 1999; Stodden, 2000). College faculty members are traditionally more focused on content than pedagogy (Bigaj et al., 1999; Stodden, 2000). Further, faculty and students perceptions of the teaching strategies used by faculty often differ significantly. For example, faculty reported using active learning strategies 64% of the time, while students reported faculty only employed active learning strategies 9% of the time (August, Hurtado, Wimsatt, & Dey, 1992). Studies also indicate differences in teaching behaviors in relation to demographic factors. Barnes, Bull, Campbell, and Perry (1998) found that faculty in the
soft, applied, non-life disciplines place a significantly higher importance on fostering student development and personal growth than faculty from other disciplines. Meade (2003) reported that among part-time and full-time faculty, part-time faculty’s greatest area of strength was student/faculty contact, while student/faculty contact was the greatest area of weakness reported by full-time faculty. Lee (2004) found that female faculty members who taught only undergraduate courses were significantly more learner-centered than male faculty members or faculty members who taught graduate courses. Thus, studies indicate that while faculty teaching behaviors are crucial to the accessibility of college courses, these behaviors can vary greatly and are not always aligned with the needs of students with disabilities (August et al., 1992; Barnes et al., 1998). These issues constitute the need for additional research relevant to postsecondary teaching behaviors.

Purpose of the Study

Previous research pertaining to faculty attitudes regarding disability related topics and teaching behaviors are somewhat limited. Studies have been conducted that indicate that faculty attitudes toward students with disabilities and faculty willingness to provide accommodations for these students are significantly related to faculty members’ academic discipline and gender (Campbell, 2002; Lewis, 1998; Rao, 2002; Vogel et al., 1999; Williamson, 2000). While a promising start, the research regarding faculty teaching behaviors has not included previous experience making accommodations as a demographic variable (Keim & Bilentzky, 1999; Lee, 2004). The proposed study will expand upon previous research by examining faculty teaching behaviors in relation to an expanded set of demographic variables including academic discipline, years of experience making accommodations, academic rank, and gender.
Research Questions

This study seeks to examine the following research question:

1. Do faculty teaching behaviors differ as a function of faculty characteristics (academic discipline, experience making accommodations, academic rank, and gender)?

This study seeks to analyze the following hypotheses:

Research Hypotheses

1. Reported college teaching behaviors differ as a function of academic discipline.
2. Reported college teaching behaviors differ as a function of years of experience making accommodations.

In order to study these hypotheses, faculty members were surveyed regarding the specific teaching behaviors they use. These reported teaching behaviors were then analyzed by academic discipline, years of experience making accommodations, academic rank, and gender to determine if these variables influenced reported teaching behaviors.

Previous studies have indicated that academic discipline, academic rank, and gender significantly influence faculty reported attitudes toward students with disabilities and willingness to make accommodations. This study extended previous findings to determine if these variables significantly influence reported teaching behaviors. Further, this study added the variable of years of experience making accommodations.

The Faculty Inventory was used to determine the frequency in which faculty employ specific teaching behaviors. The Seven Principles of Good Practice in Undergraduate Education is one of the theories used to develop the principles of UDI
(Scott et al., 2003b). This theory focuses on the specific teaching behaviors of college faculty (Chickering & Gamson, 1987; Scott et al., 2003b). The purpose of the proposed study is to determine what teaching behaviors, as measured by the Faculty Inventory, faculty members report using in the classroom and whether these self-reported teaching behaviors differ as a function of academic discipline, years of experience making accommodations, academic rank, and gender.

Definition of Terms

*Academic Discipline* - The term ‘academic discipline’ refers to the sector of educational employment at the three Mississippi universities. The academic disciplines are the College of Arts and Letters, the College of Business, the College of Education and Psychology, the College of Health, and the College of Science and Technology.

*Adjunct* - Faculty teaching less than full-time.

*Assistant Professor* - Junior faculty, typically within five years of a faculty position, but not tenured or promoted to Associate professor.

*Associate Professor* - Faculty, typically having served more than five years and having been promoted and/or tenured.

*Full Professor* - Faculty, typically having served 10 or more years and having been promoted from associate to full professor.

*Instructor* - Faculty teaching full-time.

*Professional Rank* - Professional ranks of faculty will include full professor, associate professor, assistant professor, adjunct, instructor, and others.

*Reasonable Accommodations* - The term reasonable accommodations means making existing facilities readily accessible and useable by individuals with disabilities.
and is the principle by which employment and public accommodations are made accessible to qualified individuals with disability (ADA, 42 U.S.C. 12102 (2)).

*Universal Design* - The design of products and environments to be usable by all people to the greatest extent possible without the need for adaptation or specialized design (Center for Universal Design, 2008).

*Universal Design of Instruction* - An approach to teaching that consists of the proactive design and use of inclusive instructional strategies that benefit a broad range of learners, including students with disabilities (McGuire et al., 2006).

*Universal Design for Learning* - UDL is a research-based framework for designing curricula—that is, educational goals, methods, materials, and assessments—that enable all individuals to gain knowledge, skills, and enthusiasm for learning. This is accomplished by simultaneously providing rich supports for learning and reducing barriers to the curriculum, while maintaining high achievement standards for all students (CAST, 2008).

**Summary**

Disability laws, Section 504 and ADA, have prohibited discrimination against individuals with disabilities either seeking to attend or attending postsecondary institutions. These laws also mandate colleges to provide educational access that is equivalent to the access for non-disabled students (Gamble, 2000; Madaus & Shaw, 2004). As a result, the number of individuals with disabilities attending postsecondary institutions rises each year, over tripling in the past few decades (Sitlington, 2003; Thomas, 2000). Unfortunately, many college faculty are unaware of the content of disability laws and thus do not recognize their roles and responsibilities as mandated (Baggett, 1993; Benham, 1995; Campbell, 2002; Gamble, 2000; Hicks-Coolick & Kurtz, 1996; Rao, 2002; Salzberg
et al., 2002; Vogel et al., 1999). The proposed study seeks to explore the teaching behaviors used by IHL faculty. The teaching behaviors explored in the proposed study include those identified by Chickering and Gamson (1987) and outlined in the Seven Principles of Good Practice in Undergraduate Education. These principles are accepted as effective practices for teaching students at the postsecondary level.

Chapter II will provide a complete review of the literature pertaining to postsecondary disability related topics. Disability law pertaining to postsecondary institutions is examined. Also, faculty attitudes, willingness to make accommodations, and teaching behaviors are also reviewed. Finally, UD, UDL, and UDI are explained.
CHAPTER II

LITERATURE REVIEW

Disability laws such as Section 504 of the Rehabilitation Act of 1973 (Section 504), Section 508 of the Rehabilitation Act of 1973 (Section 508), and the Americans with Disabilities Act of 1990 (ADA) were designed to protect the rights of individuals with disabilities, including those seeking postsecondary education. As a result, there has been a continuous growth in the number of individuals with disabilities who seek college degrees (Dukes III & Shaw, 1999; Gamble, 2000; Rao, 2004; Vogel et al., 1999). In fact, the number of individuals enrolling in postsecondary institutions has over tripled in the past few decades (NCES, 2011).

Despite these laws, students with disabilities still face barriers to succeeding in college including the perspectives and actions of faculty (Baggett, 1993; Gamble, 2000; Salzberg et al., 2002; Vogel et al., 1999; Williamson, 2000). Faculty members are frequently unaware of postsecondary disability laws (Baggett, 1993; Campbell, 2002; Rao, 2002). Also, while the laws can protect these students from discrimination, they cannot ensure that college faculty demonstrate positive attitudes toward students with disabilities (Campbell, 2002; Kleinsasser, 1999; Lewis, 1998; Williamson, 2000). Studies indicate that while faculty members generally hold positive attitudes toward this population of students, some still hold negative attitudes (Campbell, 2002; Kleinsasser, 1999; Lewis, 1998; Williamson, 2000). Further, studies indicate that some faculty members are unwilling to make accommodations necessary for the success of students with disabilities (Dzeikan, 2003; Gamble, 2000; Hicks-Coolick & Kurtz, 1996; Lewis, 1998; Rao, 2002; Salzberg et al., 2002; Vogel et al., 1999).
Leaders in the area of postsecondary education for individuals with disabilities have sought to understand the challenges facing this population and eliminate the barriers that can hinder students’ success. Research has been conducted on teaching behaviors and principles of postsecondary teaching that maximise accessibility of instruction (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a; Scott et al, 2003c). Through this research strategies have been identified that proactively address the instructional methodology necessary for diverse learners at the postsecondary level (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003b; Scott et al, 2003c).

This chapter presents an overview of disability laws relevant to postsecondary education including Section 504, Section 508, and the ADA. Also, a review of the literature pertaining to faculty perceptions and teaching behaviors is provided. The chapter concludes with an in-depth presentation of the literature pertaining to Universal Design (UD), Universal Design for Learning (UDL), and Universal Design of Instruction (UDI).

Disability Law Relevant to Postsecondary Education

This section presents summaries of Section 504, Section 508, ADA, and the Individuals with Disabilities Education Improvement Act as they apply to elementary, secondary, and postsecondary education. Differences in the protections provided in the laws are reviewed. The laws are presented in chronological order according to date of enactment.

Disability laws enacted to protect the rights of postsecondary students are vastly different from laws addressing disability services for elementary and secondary students (Madaus & Shaw, 2004; Scott et al., 2003c; Simon, 2000). Students with disabilities in elementary and secondary school are protected by the IDEIA. This federal legislation
requires K-12 schools to identify students in need of special services. Once a student has been identified as having a disability, schools must provide a free and appropriate education (FAPE) to these students, develop an Individualized Education Plan (IEP), and provide any assistive technology or staff the student may need (IDEA, 2000; Madaus & Shaw, 2004).

While many students with disabilities transitioning from services at the elementary and secondary levels have benefited from the mandates of IDEIA, these mandates do not apply to postsecondary education. With postsecondary education, the student must prove they have a disability before disability service providers are required to assist (Madaus & Shaw, 2004; Scott et al., 2003c; Thomas, 2000; USDE, 2002). After the student has provided documentation identifying the disability, he or she must request accommodations and assistive technology (Madaus & Shaw, 2004; Scott et al., 2003c). Section 504 and the ADA require postsecondary institutions to guarantee students with disabilities an equal educational opportunity (Scott et al., 2003c).

Section 504

Section 504 addresses the foundational issue of discrimination against postsecondary students with disabilities. This law prohibits any federal program or activity that receives federal financial assistance from excluding, denying benefits to, or discriminating against individuals with disabilities. Section 504 specifies the forms of discrimination prohibited. The list is comprised of the following: (a) denying the opportunity for qualified students with disabilities to participate in activities or programs; (b) failing to provide services that are equal to or as effective as existing services; (c) failing to provide meaningful access to programs or services; (d) applying administrative
methods that result in discrimination; (e) using eligibility criteria that screen out or tend to screen out individuals with disabilities; and (f) failing to provide reasonable accommodations (Simon, 2000).

Section 504 is a civil rights law comprised of seven subparts. Subpart E addresses the legal requirements placed on postsecondary programs and activities which receive federal funding. Once a student is identified as a qualified individual with a disability, the mandates of Section 504 Subpart E must be upheld by the postsecondary institution for that individual. Subpart E contains seven sections including: (a) application of this subpart; (b) admissions and recruitment; (c) treatment of students general; (d) academic adjustments; (e) housing; (f) financial and employment assistance to students; and (g) non-academic services. The application of this subpart section affirms that Subpart E was designed to apply to postsecondary programs receiving federal funding (Section 504).

Section 2 (Admissions and recruitment) prohibits many types of discrimination that can occur when a student with a disability seeks to be admitted into a postsecondary institution. These institutions are prohibited from establishing a limit in the number of students with disabilities they serve. Further, they may not select or implement testing criteria that would have an adverse effect on an individual with disabilities. Testing criteria used must be valid in measuring what it is intended to measure. Thus, admissions tests must be designed for persons with such impairments, administered in the same timing as are administered to others, and be accessible (Section 504).

Section 3 (Treatment of students: General) prohibits discrimination or exclusion by basis of disability from any of the following: (a) academic; (b) research; (c) occupational training; (d) housing; (e) health insurance; (f) counseling; (g) financial aid; (h) physical
education; (i) athletics; (j) recreation; (k) transportation; (l) other extracurricular; or (m) other postsecondary educational aid, benefits, or service. In situations where the student cannot fully participate, an alternative that is equivalent to, must be provided that ensures “an equal opportunity for participation” (Section 504).

Section 4 mandates faculty to make academic adjustments for students with disabilities. Some of the most common adjustments include allowing extra time to complete degree programs, allotting extra time for assessments, providing copies of notes, and allowing students to record lectures. Academic adjustments often may include the need for auxiliary aids. Postsecondary institutions must provide such aids including but not limited to taped text, interpreters, and adapted classroom equipment (Section 504).

Sections 5-7 do not pertain to academics. Section 5 mandates that postsecondary institutions provide housing for students with disabilities that is comparable, convenient, and accessible. Section 6 addresses financial and employment assistance to students with disabilities. This section prohibits institutions of higher education from providing less financial aid to students on the basis of disability, limiting eligibility assistance or any other discriminatory means of distributing financial assistance, or discriminating decisions, based on disability, in hiring or assisting students in locating employment. The final section pertains to nonacademic services. This section prohibits discrimination against students with disabilities seeking personal, academic, or vocational counseling, guidance, placement services, or social organizations (Section 504).

Application of Section 504. This legislation applies to all recipients of U. S. Department of Education funding and includes universities, colleges, postsecondary vocational education services, and adult education programs. Individuals protected by
Section 504 must be identified as a qualified individual with a disability. Subpart A of Section 504 refers to people with disabilities as disabled and provides this definition: Individuals with disabilities means any person who: (a) has a physical or mental impairment which substantially limits one or more major life activities; (b) has a record of such impairment; or (c) is regarded as having such an impairment (Section 504).

While elementary and secondary students are eligible for services as a result of having a disability under Section 504, prospective postsecondary students with disabilities must be considered a “qualified individual with a disability” to attend the institution. To be qualified, these students must be able to meet the technical standards of the program they seek to attend. Students who qualify for postsecondary disability services may have an array of disabilities including, but not limited to learning disabilities, speech disorders, hearing impairments, visual impairments, cerebral palsy, traumatic brain injury, orthopedic impairment, epilepsy, and chronic illness (Section 504).

*Section 508*

In 1986, Section 508 was added to the Rehabilitation Act of 1973. Under Section 508, it is the obligation of federal agencies that procure, develop, maintain, or use informational technologies to ensure these technologies are accessible to individuals with disabilities. In 1998, the amendment to Section 508 required the U.S. Architectural and Transportation Barriers Compliance Board to create standards for information and technology accessibility. Section 508 contains four subparts (Section 508).

Subpart A is the general section. This section provides a description of the types of technology covered by the law and explains the minimum level of accessibility required. The technology covered includes equipment, interconnected equipment systems, or
equipment subsystems used to create, convert, or duplicate data or information. These technologies must provide accessibility for individuals with disabilities that are comparable to that for non-disabled individuals (Section 508).

Subpart B is the technical standards section. This section includes technical specifications and performance requirements. Thus, it applies to the actual functional capabilities of the technology. Also, addressed in this section is the ever-changing nature of technological capacities. Subpart B includes provisions to ensure technologies are compatible with the adaptive equipment used by individuals with disabilities (Section 508).

Subpart C is the functional performance criteria section. To further ensure accessibility to individuals with physical or sensory disabilities, this section covers requirements of the technologies or technological components which are not addressed in Subpart B. This includes operation functions such as input and control, mechanical mechanisms, and visual and audible information (Section 508).

Subpart D is the information, documentation, and support section. This section ensures access to information such as users and installation guides and consumer and technical supports. Thus, alternative formats such as large print, electronic text, or recordings must be available at no additional charge (Section 508).

Application of Section 508. Federal agencies must comply with these standards. Thus, federally funded postsecondary institutions must comply. Section 508 also applies to any states which receive federal funds under the Technology Related Assistance for Individuals with Disabilities Act of 1988. This law ensures technological access to all
individuals with disabilities without these individuals being required to prove the existence of the disability.

*Americans with Disabilities Act*

While the ADA is very similar to Section 504, it has served as the major catalyst for reform from discrimination against individuals with disabilities (Thomas, 2000). ADA adopted the same criteria for eligibility and prohibited discrimination (Gamble, 2000). ADA is comprised of five titles. Of these titles, Title II, Title III, and Title IV apply to postsecondary education.

Title II prohibits state and local educational institutions from discriminating against individuals with disabilities in their programs and activities. Thus, Title II extends the mandate of Section 504 from federally funded institutions to state and local institutions. This is the major difference between ADA and Section 504.

Title III and IV are the public accommodations and other provisions sections of ADA. Title III prohibits privately operated businesses from discriminating against individuals with disabilities. As a result, any federally funded, state, local, or private postsecondary institution must comply with ADA. Title IV addresses accessibility issues for individuals with disabilities. In order to ensure equal access, Title IV mandates postsecondary institutions to comply with the accessibility standards provided by the Architectural and Transportation Barriers Compliance Board.

*Application of the Americans with Disabilities Act.* All federally funded, state, or private institutions must comply with ADA. The eligibility criteria for postsecondary students with disabilities were adopted from that provided by Section 504. Thus, ADA applies to the same students eligible under the criteria established by Section 504.
Barriers to Postsecondary Instruction

Although postsecondary disability law has helped dramatically increase the number of students with disabilities attending college, the success rate of college students with disabilities is much lower than that of their peers (Salzberg et al., 2002; Sitlington, 2003). In a study of postsecondary success rates students with LD compared to their non-disabled peers, ten years after completing high school only 14.3% of the students with LD had completed a community or four-year college program (Murray et al., 2000). Conversely, among the non-disabled participants, 55.9% had completed a community or four-year college program within 10 years of graduating (Murray et al., 2000).

There are several key factors that contribute to the lower success rate of students with disabilities attending postsecondary institutions. Disability services provided in elementary and secondary settings are student-centered and monitored. Local education agencies are mandated by law to identify and serve all students with disabilities (IDEIA, 2004; Madaus & Shaw, 2004). However, at the postsecondary level students must prove they have a disability and seek disability services independently. Once they are identified as having a disability, students are responsible for informing disability service personnel of the accommodations they need and request those accommodations (Gamble, 2000; Madaus & Shaw, 2004; Sitlington, 2003).

Other barriers students with disabilities face at the postsecondary level are barriers to access within the classroom. While many faculty members report the need and desire for training regarding disability related issues, this training is often not available (Baggett, 1993; Cook, 2007; Salzberg et al., 2002). Without a clear understanding of disability law and specific disabilities, some faculty resist providing accommodations or allowing
auxiliary aids in an effort to maintain academic standards (Gamble, 2000; Hicks-Coolick & Kurtz, 1996; Salzberg et al., 2002). Faculty has also reported the need to learn more about disability support services (Thomas 2000). And, while many studies indicate that faculty generally report having more positive attitudes toward students with disabilities (Baggett, 1993), some faculty members hold negative attitudes toward students with disabilities (Benham, 1995; Campbell, 2002; Lewis, 1998; Rao, 2002; Williamson, 2000).

Studies Examining Postsecondary Faculty and Disability Related Topics

This literature review examined the studies pertaining to postsecondary faculty and disability related topics. Of these studies, specific themes emerged. Three studies examined faculty perceptions regarding disability related training. Faculty knowledge regarding disability law was examined in four studies, and three studies examined faculty knowledge regarding specific disabilities. Seven studies were found that examined faculty attitudes toward students with disabilities. Faculty willingness to make accommodations for students with disabilities was analyzed in four studies. The final theme reviewed were studies examining faculty behaviors. This section provides a review the studies relevant to these themes. Studies will be reviewed by theme in chronological order by year of publication. Many studies examined more than one theme; however, the themes will be described separately. Further, only studies conducted after the 1990 passing of ADA will be reviewed.

Faculty Perceptions of Training Relevant to Postsecondary Disability Related Issues

Three studies examining faculty perceptions of training related to postsecondary disability issues were found through a review of the literature. Analysis of these studies indicated faculty members were generally concerned about disability related issues.
However, they often reported having little to no training relevant to disability issues. The methodology and results of these studies are presented and followed by a summary of the collective findings.

Baggett (1993) surveyed faculty regarding their perceptions of disability related training at the University of Massachusetts at Amherst. Of the 422 faculty respondents, most indicated that no information or training had been provided regarding students with disabilities. However, the specific percentage of faculty respondents who indicated that no information or training had been provided was not included in the document (Baggett, 1993).

Salzberg et al., (2002) surveyed disability service office directors/ coordinators who were members of the Association on Higher Education and Disabilities (AHEAD) and faculty members regarding disability training for faculty. Faculty members were also surveyed regarding their perceptions of disability related training. Participants of this study represented every state except Utah, the state in which the survey instrument was piloted. Of the 508 people surveyed, 214 responded.

The survey contained eleven questions. Of the questions, some had three possible answers, yes, no, and other. If a respondent checked other, he or she was instructed to explain why. The “other” questions were open-ended. The survey included questions regarding faculty’s satisfaction with disability support services efforts to provide training on accommodating students with disabilities, the general areas of concern for faculty, and important topics to include in faculty training sessions (Salzberg et al., 2002).

Study results indicated that 61% of faculty members surveyed were not satisfied with the efforts of the institution to teach faculty to make accommodations for students
with disabilities. When asked what faculty members are most concerned about regarding serving students with disabilities, 93% reported being concerned about maintaining academic standards, 80% wanted to know their rights and responsibilities, and 74% were concerned about making course modifications. Surprisingly, only 45% were concerned about the rights and responsibilities of students. Of the topics to be covered in training sessions, 98% reported the need for training regarding campus disability services, 96% reported needing disability support service contact information, 91% reported the need for training on postsecondary disability law, 89% reported needing training regarding specific disabilities, and 73% reported needing training in designing accommodations for students with disabilities (Salzberg et al., 2002).

Cook (2007) conducted a study to determine what factors faculty members reported viewing as the most and least important issues related to students with disabilities attending postsecondary institutions and what highly important issues are being addressed satisfactorily and unsatisfactorily. Faculty responses were also examined in relation to demographic factors including academic discipline, academic rank, academic status, gender, and race. Two thousand one hundred sixty-eight faculty members from eight Midwestern universities in the United States were surveyed. Three hundred seven surveys were returned and used in this study.

The survey included six areas for faculty to rate by level of importance including: (a) legal issues; (b) UDI; c) characteristics of specific disabilities; (d) willingness of faculty to accommodate; (e) policy regarding accommodations and; (f) disability etiquette. These areas were included because they were considered to influence experiences and
outcomes for students with disabilities and had either not been studied or needed further research.

Study results indicated that 75% of the faculty surveyed found almost all, 89%, of the areas either important or very important. The areas faculty reported most important were disability etiquette and willingness of faculty to accommodate. Faculty reported policy regarding accommodations least important. However, although considered least important, 59% of faculty ranked policy regarding accommodations either important or very important. The remaining areas were reported to be important or very important by 67% to 97% of the respondents.

To be considered a high importance area that is being addressed satisfactorily, 75% or more of the faculty must report the area as being important or very important and addressed satisfactorily. Results indicated that the following areas were being addressed satisfactorily, 7 out of 10 of the policy regarding accommodation, 4 out of 5 disability etiquette, 2 out of 5 willingness to accommodate, 2 out of 7 UDI, and 1 out of 4 legal issues items.

Items which were considered unsatisfactorily addressed were those items that were considered important or very important by 75% or more of faculty, but below 75% reported as being addressed satisfactorily. Those items that were reported as highly important but not addressed satisfactorily included all seven disability characteristics, 5 out of 7 UDI categories, 3 out of 4 legal issues, 2 out of 5 policies regarding accommodations, and 1 out of 5 disability etiquette items. Demographic factors did not significantly relate to either faculty ratings of importance or satisfactorily addressed levels.
Analysis of findings. Collectively, these studies show faculty felt the need for disability related training, but were not receiving this training (Baggett, 1993; Cook, 2007; Salzberg et al., 2002). Salzberg and colleagues surveyed faculty across America regarding their perceptions of disability related training at their institutions, and 61% were not satisfied with their institution’s efforts to provide such training. Almost all faculty participants reported the need for training on disability laws and specific disabilities. Further, most faculty participants were concerned about maintaining academic standards, knowing their rights and responsibilities, and making course modifications.

Similarly, Cook (2007) found that of the 75% of the faculty participants found topics such as characteristics of specific disabilities, legal issues, and policies regarding accommodations either important or very important. In addition, Cook (2007) found faculty willingness to make accommodations, UDI, and disability etiquette important or very important. However, most faculty participants from this study did not report feeling these issues were being addressed satisfactorily at their postsecondary institutions (Cook, 2007). Baggett (1993) reported that almost all the faculty respondents indicated that no disability related training or information had been provided at their institution of higher learning. Additional research is needed to determine the effects of disability related training on faculty teaching behaviors.

Faculty Knowledge of Postsecondary Disability Law

A review of the literature yielded four studies examining faculty knowledge of disability laws (Baggett, 1993; Benham, 1995; Campbell, 2002; Rao, 2002). The two studies that included faculty knowledge of Section 504 showed that faculty was generally unfamiliar with Section 504 (Baggett, 1993; Rao, 2002). However, reported results
regarding faculty knowledge of ADA were split. Two studies reported faculty knowledge of ADA was generally low (Baggett, 1993; Campbell, 2002) and two reported faculty knowledge of ADA was generally high (Benham, 1995; Rao, 2002). The methodology and results of these studies are presented and followed by a summary of the collective findings.

Baggett (1993) examined faculty familiarity with disability laws including Section 504 and ADA. The study was conducted at the University Massachusetts at Amherst. Of the 1,149 faculty members surveyed, 422 surveys were returned and used in this study. To determine how familiar faculty member were with postsecondary disability laws, the Disability Law Inventory, Sections I and II were included in the survey. Results indicated that 89% of the participants were unfamiliar with Section 504. Further, 74% were unfamiliar with ADA (Baggett, 1993).

In Benham’s (1995) study, faculty participants were surveyed regarding their knowledge of ADA. Results indicated that faculty respondents were generally knowledgeable regarding 4 of the 6 questions pertaining to ADA. More specifically, 96% knew that ADA does not just apply to large businesses, 88% knew that note-takers and tape recorders should be allowed in any classroom, 93% knew that ADA protects the rights of people with disabilities, and 71% knew that ADA does not just apply to institutions receiving federal funds. Sixty-four percent of the respondents did not know that recovering alcoholics are covered under ADA, and 58% did not know that Title II is not the primary portion of ADA that addresses students with disabilities.

Using the instrument Benham (1995) developed, Campbell (2002) analyzed faculty knowledge of ADA at a non-disclosed university. The study examined faculty knowledge of ADA in relation to demographic factors including academic discipline, age, gender,
years of higher education teaching experience, experience accommodating students with
disabilities, and rank. Campbell (2002) reported that overall faculty knowledge of ADA
was generally low. Faculty from the School of Liberal Arts had the highest knowledge of
ADA.

Similar to Baggett (1993), Rao (2002) examined faculty members’ overall
familiarity with Section 504, ADA, and the term reasonable accommodations. Five
hundred faculty members from the University of Arkansas were surveyed to obtain the
data. Two hundred forty-five were returned and used in this study. The participants were
generally unfamiliar with Section 504, but familiar with ADA and the term reasonable
accommodations. More specifically, results indicated that 64% of the participants were
unfamiliar with Section 504, while about 74% of the participants were familiar with ADA.
Sixty-nine percent were familiar with the term reasonable accommodations.

Analysis of findings. Collectively these studies indicate that faculty needs
opportunities for disability related training. Faculty knowledge of Section 504 was
included in the studies conducted by Baggett (1993) and Rao (2002). Eighty-nine percent
of the participants in Baggett’s study and 69% of the participants in Rao’s study were
unfamiliar with Section 504. All four studies included faculty knowledge of ADA. Baggett
(1993) reported that 74% of the faculty participants were unfamiliar with ADA, Campbell
(2002) reported that knowledge of ADA was generally low among faculty, Rao (2002)
reported that 74% of the participants were familiar with ADA, and Benham (1995)
reported that faculty were generally knowledgeable regarding 4 of the 6 questions
pertaining to ADA. Additional research exploring the effects of postsecondary disability
law related training on faculty teaching behaviors is needed.
Faculty Knowledge of Specific Disabilities

Three studies were found in the literature exploring faculty knowledge of specific disabilities (Benham, 1995; Campbell, 2002; Kleinsasser, 1999). Two of the studies examined faculty knowledge regarding specific disability categories and found that faculty knowledge was generally high in each category except LD (Benham, 1995; Campbell, 2002). Conversely, one study only examined faculty knowledge of LD and reported that knowledge was generally high (Kleinsasser, 1999). The methodology and results of these studies are presented and followed by a summary of the collective findings.

Benham (1995) conducted a study to determine faculty knowledge of specific disability categories including learning disabled (LD), hearing impaired, visually impaired, and orthopedically impaired. Two hundred faculty members at the University of Southern Mississippi were surveyed. Of those surveyed, 91 were returned and used in this study. Results of the study indicated that faculty had sufficient knowledge of all disability categories except LD.

Kleinsasser (1999) conducted a study to determine faculty knowledge regarding LD and whether this knowledge was significantly influenced by demographic variables. The demographic variables included gender, experience instructing students with LD, personal familiarity with individuals with LD, and prior training regarding LD. Kleinsasser surveyed 1,032 faculty members and disability service staff members from three Eastern South Dakota universities. Of these surveys, 498 were returned and used in the survey.

Results indicated that faculty and disability service staff members were generally knowledgeable regarding individuals with LD. Further, four demographic variables were significantly related to faculty and disability service staff members’ knowledge regarding
individuals with LD. Faculty and disability service staff members who were female, had more training regarding LD, had more years of experience teaching higher education, and had more experience teaching students with LD had more knowledge regarding LD (Kleinsasser, 1999).

Using the instrument Benham (1995) developed, Campbell (2002) conducted a study to determine faculty knowledge of specific disability categories. The disability categories included were learning disabilities, hearing impaired, visually impaired, and orthopedically impaired. The study examined faculty knowledge of specific disability categories in relation to demographic factors including academic area, age, gender, years of higher education teaching experience, experience accommodating students with disabilities, and rank. One hundred sixteen faculty members from a non-disclosed university were surveyed. Sixty-eight surveys were returned and used in the study. Just as Benham (1995) reported, results indicated that while faculty members did have sufficient knowledge of most disability categories, knowledge of LD was minimal (Campbell, 2002).

Analysis of findings. Collectively these studies show that faculty needs opportunities for training regarding specific disabilities (Benham, 1995; Campbell, 2002; Kleinsasser, 1999). Kleinsasser’s study focused exclusively on faculty knowledge of LD and found that faculty members were generally knowledgeable regarding LD. However, Benham (1995) and Campbell (2002) examined faculty knowledge of several disability categories and both concluded that faculty members had sufficient knowledge of all disability categories except LD. Additional research is needed to determine faculty knowledge of specific disabilities and how this knowledge affects faculty attitudes and teaching behaviors.
Faculty Attitudes Regarding Students with Disabilities

There were seven studies conducted regarding faculty attitudes towards students with disabilities identified in the review of the literature (Baggett, 1993; Benham, 1995; Campbell, 2002; Kliensasser, 1999; Lewis, 1998; Rao, 2002; Williamson, 2000). Generally, the studies examined faculty attitudes as they related to demographic factors such but not limited to age, gender, academic discipline, and academic rank. The studies show that like faculty willingness to make accommodations, faculty attitudes toward students with disabilities were significantly influenced by demographic factors. The methodology and results of these studies are presented and followed by a summary of the collective findings.

Baggett (1993) conducted a study to determine faculty attitudes toward students with disabilities. Faculty attitudes toward students with disabilities were examined in relation to knowledge regarding disability laws and disability services provided at the university. Demographic factors were also analyzed in relation to faculty attitudes. They included academic discipline, gender, and years of experience teaching students with disabilities. The entire faculty of 1,149 at the University of Massachusetts at Amherst were surveyed. Of these surveys, 422 surveys were returned and usable for the study (Baggett, 1993).

Although faculty members reported having very limited knowledge of disability laws and disability services, these factors did not significantly influence faculty attitudes toward serving students with disabilities. Academic discipline and years of teaching experience with students with disabilities also did not significantly impact attitudes. The only area which had a significant relationship to faculty attitudes towards serving students
with disabilities was gender. Females were significantly more positive than males regarding serving students with disabilities (Baggett, 1993).

Like Baggett (1993), Benham (1995) conducted a study of faculty attitudes toward students with disabilities in relation to demographic variables. These demographic variables included academic discipline, age, gender, instructional experience prior to higher education, years of experience teaching higher education, experience accommodating students with disabilities, and types of accommodations used. Two hundred faculty members from the University of Southern Mississippi were surveyed and 91 surveys were returned and used in the study.

In Benham’s study, only two demographic factors significantly influenced faculty attitudes toward students with disabilities. Females had more positive attitudes toward students with disabilities than males. Also, faculty with 11-20 years of experience teaching higher education had more negative attitudes than faculty with less or more experience (Benham, 1995).

Lewis (1998) also conducted a study to determine faculty attitudes toward students with disabilities. This study only compared faculty attitudes to one demographic factor, academic discipline. The academic disciplines were Arts and Sciences, Computer/Engineering, Business, Education, and Health Sciences. The study was conducted at the University of South Alabama. Six hundred eighty-nine faculty members were surveyed and 262 surveys were returned and used in the study (Lewis, 1998).

Study results indicated that faculty attitudes toward students with disabilities were significantly influenced by academic discipline. The attitudes of faculty members in the Arts and Sciences, Education, and Health Sciences were significantly more positive than
faculty in the Computer/Engineering department. The study also analyzed faculty attitudes in relation to faculty willingness to make accommodations. However, no significant relationship was found between the two (Lewis, 1998).

Unlike the other studies relevant to faculty attitudes toward students with disabilities, Kleinssaser (1999) conducted a study including both faculty members and disability service staff. Faculty and disability service staff members’ attitudes were analyzed in relation to demographic factors including gender, experience instructing students with LD, personal familiarity with individuals with LD, and prior training relating to LD. One thousand thirty-two faculty and disability service staff members from three Eastern South Dakota universities were surveyed. Four hundred ninety-eight surveys were returned and used in the study.

Results of the study indicated that faculty and disability service staff members had generally positive attitudes regarding individuals with LD. Three demographic variables had a significant relationship with the attitudes held by those surveyed. Faculty and disability services staff that were female, more familiar with students with LD, and had received more training regarding LD had more positive attitudes toward individuals with LD (Kleinssaser, 1999).

Williamson (2000) conducted a study to determine if significant relationships existed between faculty attitudes toward serving students with disabilities and demographic factors. The demographic factors analyzed in this study were age, gender, academic discipline, extent of contact with students with disabilities, rank, and years of teaching experience. One hundred six faculty members from Troy State University Dothan were surveyed with 71 surveys returned and used in the study.
Study results indicated that faculty in all demographic categories had generally positive attitudes toward serving students with disabilities. Only two demographic factors significantly affected faculty attitudes. These factors were academic discipline and faculty rank. Academic disciplines included in this study were the College of Arts and Sciences, School of Education, and School of Business. The College of Arts and Sciences had the most positive attitudes and faculty from the School of Business had the least positive attitudes. Faculty with the lowest ranks, instructor and adjunct faculty, had more positive attitudes toward serving students with disabilities than professors, associate professors, and assistant professors (Williamson, 2000).

Like Williamson (2000), Campbell (2002) conducted a study to determine faculty attitudes toward students with disabilities in relation to demographic factors. The demographic factors included in this study were academic discipline, age, gender, years of higher education teaching experience, experience accommodating students with disabilities, and rank. One hundred sixteen faculty members were surveyed and 68 surveys were returned and used in this study.

Results indicated that three demographic variables had a significant relationship with faculty attitudes toward students with disabilities. Faculty from the School of Liberal Arts and faculty who were 60 years of age or older had the most positive attitudes toward students with disabilities. Another demographic factor that affected faculty attitudes toward students with disabilities was rank. Associate professors had the most positive attitudes toward students with disabilities (Campbell, 2002).

Rao (2002) also conducted a study to determine faculty attitudes toward students with disabilities. Faculty demographic variables and knowledge of Section 504, ADA, and
the term reasonable accommodations were examined to determine if these variables significantly influenced attitudes. Demographic variables included gender, academic discipline, experience teaching students with disabilities, personal experience with individuals with disabilities, and professional rank. Five hundred surveys were administered to faculty members at the University of Arkansas. Two hundred forty-five were received and used in this study.

Results of the study indicated that three demographic variables had significant relationships with faculty attitudes toward students with disabilities including gender, academic discipline, and personal contact with individuals with disabilities. Female faculty members had significantly more positive attitudes than males. The College of Education and Health Professions had significantly more positive attitudes toward students with disabilities than any other academic discipline. Further, faculty members from the College of Engineering had more negative attitudes toward these students than all other academic disciplines combined. Faculty who reported having more personal contact with individuals with disabilities had more positive attitudes than other faculty (Rao, 2002).

Regarding faculty knowledge of Section 504, ADA, and the term reasonable accommodations and its influence on faculty attitudes toward students with disabilities, the following results were found. Results indicated that 64% of the participants were unfamiliar with Section 504. Faculty members who were familiar with Section 504 had more positive attitudes. About 74% of the participants were familiar with ADA and 69% were familiar with the term reasonable accommodations, but this familiarity had no significant effect on faculty attitudes (Rao, 2002).
Analysis of findings. Collectively, these studies indicate that demographic factors like academic discipline, academic rank, and gender significantly affect faculty attitudes toward students with disabilities (Baggett, 1993; Benham, 1995; Campbell, 2002; Kleinssaser, 1999; Lewis, 1998; Rao, 2002; Williamson, 2000). Specifically, these studies examined faculty attitudes regarding students or individuals with disabilities in relation to demographic factors including academic discipline, instructional experience teaching students with disabilities, experience accommodating students with disabilities, academic rank, gender, age, years of teaching experience, knowledge or familiarity with Section 504, knowledge or familiarity with ADA, and familiarity with the term reasonable accommodations. An analysis is provided examining the specific demographic factors and their significance related to faculty attitudes toward students with disabilities.

Academic discipline as a demographic factor was explored in six of the seven studies regarding faculty attitudes toward students with disabilities (Baggett, 1993; Benham, 1995; Campbell, 2000; Lewis, 1998; Rao, 2002; Williamson, 2000). Four of the six studies analyzing academic discipline rendered significant results (Campbell, 2002; Lewis, 1998; Rao, 2002; Williamson, 2000). The School of Liberal Arts had the most positive attitudes in the study conducted by Campbell (2000). Results of Lewis’ (1998) study indicated that faculty members from the Arts and Sciences, Education, and Health Sciences had the most positive attitudes, while faculty members from the Computer/Engineering department had the least positive attitudes. Rao’s (2002) study results indicated that faculty from College of Education and Health Sciences had more positive attitudes, while the College of Engineering and School of Law had more negative attitudes. Williamson’s (2000) study results indicated that faculty from the Arts and
Sciences department had the most positive attitudes and faculty members from the School of Business had the least positive attitudes.

Level of experience making accommodations was only examined as a demographic variable in two of the seven studies (Benham, 1995; Campbell, 2002). The level of experience faculty had making accommodations did not significantly influence faculty attitudes in either study.

Academic rank as a demographic factor was examined in three of the seven studies pertaining to faculty attitudes toward students with disabilities (Campbell, 2002; Rao, 2002; Williamson, 2000). Two of the three studies including academic rank rendered significant results (Campbell, 2002; Williamson, 2000). Associate professors reported having more positive attitudes than other faculty ranks (Campbell, 2002). Faculty members with the lowest ranks, instructor and adjunct faculty, reported having significantly more positive attitudes than those faculty members with higher ranks, professor, associate professor, and assistant professor (Williamson, 2000).

Gender was included as a demographic factor in six of the studies examining faculty attitudes toward students with disabilities (Baggett, 1993; Benham, 1995; Campbell, 2002; Kleinsasser, 1999; Rao, 2002; Williamson, 2000). Four of the six studies examining gender reported females have a more positive attitude (Baggett, 1993; Benham, 1995; Kleinsasser, 1999; Rao, 2002). Campbell (2002) and Williamson (2000) did not indicate a significant relationship between faculty attitudes toward students or individuals with disabilities and gender.

While each of the seven studies examining faculty attitudes toward individuals or students with disabilities included their own list of demographic factors to be analyzed,
only three other demographic factors produced significant results. Other demographic factors studied included instructional experience teaching students with disabilities, experience accommodating students with disabilities, age, extent of contact with students with disabilities, knowledge of or familiarity with Section 504, knowledge of or familiarity with ADA, familiarity with the term reasonable accommodations, and years of teaching experience. Study results of Benham (1995) indicated that years of experience teaching higher education significantly influenced faculty attitudes. Those faculty members with 11-20 years of experience teaching higher education had less positive attitudes than faculty with less or more than 11-20 years of experience teaching higher education (Benham, 1995). Rao (2002) found both familiarity with Section 504 and the term reasonable accommodations produced more positive attitudes among faculty participants.

These studies show that faculty attitudes toward individuals with disabilities vary as a function of many different several demographic variables including academic discipline, years of experience teaching higher education, academic rank, knowledge of disability law, and gender. Rao (2002) made the connection between knowledge regarding disability laws and faculty attitudes toward students with disabilities by concluding that faculty who were familiar with disability law had more positive attitudes toward students with disabilities. These results indicate that while faculty members generally have positive attitudes toward students with disabilities, some still harbor negative attitudes toward this population of students.

Faculty Reported Frequencies of Making Accommodations and Willingness to Make Accommodations for Students with Disabilities
Four studies were found in the literature examining faculty willingness and the frequency in which faculty make accommodations for students with disabilities (Dziekan, 2003; Lewis, 1998; Rao, 2002; Vogel et al., 1999). These studies show that academic discipline, experience with individuals with disabilities, academic rank, gender, and age all significantly affect both willingness and the amount of accommodations faculty provide for students with disabilities. The methodology and results of these studies are presented and followed by a summary of the collective findings.

Lewis (1998) conducted a study to determine faculty frequencies making specified accommodations for students with LD. Provision of accommodations was examined in relation to academic discipline. The academic disciplines were Arts and Sciences, Computer/Engineering, Business, Education, and Health Sciences. Four areas of accommodations were analyzed including instructional, assignment, examination, and special assistance. Six hundred eighty-nine faculty members at the University of South Alabama were surveyed. Two hundred sixty-two surveys were completed and used in this study.

The frequency in which faculty made accommodations was significantly related to academic discipline in two areas. Faculty members from Health Sciences made more instructional accommodations than faculty members from Arts and Sciences or Computer/Engineering. Faculty members from Education and Arts and Sciences made more examination accommodations than faculty members from Computer/Engineering. No significant results were found between academic discipline and assignment or special assistance accommodations (Lewis, 1998).
Vogel et al. (1999) conducted a study to determine faculty willingness to make accommodations for students with LD. Their study was an in-depth study of specific instructional and examination accommodations. The researchers also analyzed demographic factors to determine if these factors significantly influenced faculty willingness to provide accommodations. Demographic factors analyzed included age, gender, academic discipline, experience teaching students with LD, years of college teaching experience, and professional rank. The survey was sent to 1,050 faculty members at a large, Midwestern university. Of the returned surveys, 420 were used as data for the study.

Faculty indicated the degree to which they were willing to employ several specific accommodations. Overall results show over 90% of the respondents were willing to allow students to tape-record lectures and provide one-on-one assistance to those students who attended classes and needed further clarification of lecture components or assignment requirements. Between 80% and 90% of the respondents were willing to provide comments on papers and assist students with examination preparation. Other teaching accommodations included providing copies of overheads, outlines of lectures, and alternate assignment formats. Seventy-six percent were willing to provide copies of overheads, 69% were willing to provide lecture outlines, and 68% were willing to provide assignments in alternate formats (Vogel et al., 1999).

Examination accommodations included in the survey were allowing examinations to be taken in different environments, extra-time for examination completion, technological assistance, partial credit, and alternate examination formats. Ninety-four percent of respondents would allow exams to be taken in alternate environments and 93%
would allow extra time for examination completion. Regarding the use of technology, 89% would allow calculators, 86% would allow word processors, and 81% would allow spell checkers. Seventy-three percent of the respondents reported to be willing to provide partial credit for partially correct responses. Faculty members were least willing to change examination formats. Sixty-nine percent would tape-record questions, 56% would paraphrase questions, and 43% would provide objective rather than essay questions (Vogel et al., 1999).

The researchers then analyzed demographic factors to determine if any demographic factors significantly influenced faculty willingness to provide teaching or examination accommodations. Significant results were found from all demographic categories except years of college teaching experience. Age significantly influenced willingness to provide accommodations in three areas. Younger faculty were more willing to provide lecture outlines and meet with students to provide clarification of lecture components or assignment requirements, while older faculty were more willing to provide alternate formats of examinations. Gender significantly influenced willingness to provide one accommodation. Females were more willing to allow disability services to tape-record examinations. Academic discipline accounted for three significant findings. Faculty members from the College of Education were more willing to provide assignments in alternative formats, comment on drafts of papers, and provide examinations in alternative formats. Experience teaching students with LD accounted for several significant findings. Faculty with more experience teaching students with LD were more aware of students from different disability categories, had more skills providing accommodations to students from different disability categories, spent more time making accommodations,
communicated more frequently with disability service providers, and were more willing to allow extra time for examination completion. Finally, academic rank also resulted in significant findings. Faculty with lower ranks, instructors and assistant professors were significantly more willing to provide overhead copies, lecture outlines, and paraphrasing of examination questions (Vogel et al., 1999).

Rao (2002) conducted a study to determine faculty willingness to make accommodations for students with disabilities in relation to demographic variables and knowledge of Section 504, ADA, and the term reasonable accommodations. Demographic variables included gender, academic discipline, experience teaching students with disabilities, personal experience with individuals with disabilities, and professional rank. Five hundred surveys were administered to faculty members at the University of Arkansas. Two hundred forty-five were completed and used in this study.

Faculty willingness to make accommodations for students with disabilities was significantly related to two demographic variables. First, faculty members from the academic disciplines College of Education and Health Sciences were more willing to make accommodations than all other colleges combined, while faculty members from the College of Engineering and School of Law were less willing to make accommodations than all other colleges combined. Second, faculty members with experience teaching students with disabilities were less willing to make accommodations than faculty without this experience (Rao, 2002).

Faculty knowledge of Section 504, ADA, and the term reasonable accommodations was analyzed to determine if these factors significantly affected faculty willingness to make accommodations. Sixty-four percent of the participants were unfamiliar with Section
Faculty who were more familiar with Section 504 were significantly more willing to make accommodations. About seventy-four percent of the participants were familiar with ADA and 69% were familiar with the term reasonable accommodations, but this familiarity had no significant effect on their willingness to make accommodations (Rao, 2002).

Dziekan (2003) conducted a study to determine the accommodations faculty felt comfortable making, had actually provided, and found difficult to provide. Faculty comfort providing accommodations and the accommodations faculty had actually provided were then compared to demographic factors to determine if a significant relationship existed between the two. Demographic factors included in this study were gender, rank, and experience teaching students with LD. The study was conducted at two major universities in Northeastern United States. One thousand one hundred and fifty-five faculty members were surveyed and 387 surveys were completed and used in the study.

Twenty-one accommodations were listed for faculty to report comfort levels and actual use. Of the accommodations listed, faculty were most comfortable with the following:

a) encouraging students to use auxiliary aids and services (e.g. volunteer note-takers, tape recorders, and computers/calculators),
b) encouraging students to reduce their own course loads,
c) using alternative instructional methods (e.g. class information in more than one mode), and
d) modifying evaluation procedures (e.g. like extending time for tests). (Dziekan, 2003, p.75)

Faculty participants were most uncomfortable making evaluation alternatives. This type of accommodation requires faculty to change examination formats (Dziekan, 2003).
Two demographic factors significantly influenced faculty comfort levels making specific accommodations. They were gender and academic rank. Female and associate professor faculty members were more comfortable providing extra time for examination completion than male and professor or full professor faculty members (Dzeikan, 2003).

Regarding academic accommodations faculty had actually provided, faculty had most often provided extra time to complete examinations, recommending reduced course loads, allowing auxiliary aids, and using more than one mode to provide class materials. The academic accommodations faculty had used the least were examination accommodations including allowing oral responses to examinations, allowing examinations to be read aloud or providing taped versions, and providing alternative examination formats. All three demographic factors significantly influenced the actual provision of academic accommodations. First, female faculty members were more likely to allow students to have written assignments proofread or edited. Second, faculty members who were full professors were more likely to suggest students reduce their course loads. Third, faculty members with the most experience teaching students with LD were more likely to allow auxiliary aids and services and modify evaluation methods (Dzeikan, 2003).

Analysis of findings. Collectively, these studies show that demographic factors significantly influence faculty willingness to make accommodations for postsecondary students with disabilities and the frequency in which faculty make these accommodations (Dzeikan, 2003; Lewis, 1998, Rao, 2002; Vogel et al., 1999). Three of the studies were exclusive to willingness to make accommodations or frequencies of making accommodations for students with LD (Dzeikan, 2003; Lewis, 1998; Vogel et al., 1999). Rao (2002) examined faculty willingness to make accommodations for students from any
disability category. Each of these studies analyzed demographic factors in relation to either faculty willingness to provide accommodations or faculty comfort levels and actual provision of accommodations (Dzeikan, 2003; Lewis, 1998; Rao, 2002; Vogel et al., 1999). An analysis is provided examining the specific demographic factors and their significance related to faculty willingness to provide accommodations.

Academic discipline was analyzed in three studies (Lewis, 1998; Rao, 2002; Vogel et al., 1999). All three studies found significant results relating academic discipline to faculty willingness to provide accommodations. Lewis (1998) reported faculty members from the academic disciplines of Education and Arts and Sciences made more examination accommodations than faculty members from Computer/Engineering. Similarly, faculty members from Health Sciences made more instructional accommodations than faculty members from Arts and Sciences or Computer/Engineering. Both findings indicated faculty members from Computer/Engineering made fewer instructional and examination accommodations. Vogel et al. (1999) found that faculty members from the College of Education were more willing to provide assignments in alternative formats, comment on drafts of papers, and provide examinations in alternative formats. Rao (2002) found faculty members from the College of Education and Health Sciences more willing to make accommodations than all other academic disciplines combined. Further, faculty members from the College of Engineering and the School of Law were less willing to make accommodations than all other academic disciplines combined (Rao, 2002). All three studies reported faculty members from the College of Education more willing to provide accommodations. Also, in two of the three studies faculty members from the Health Sciences were more willing to provide accommodations.
Faculty experience with students with disabilities was included in three studies. In two of these studies, experience with students with disabilities produced significant results (Dzeikan, 2003; Rao, 2002; Vogel et al., 1999). Both Dzeikan (2003) and Vogel, et al. (1999) studied faculty accommodations exclusively related to students with LD. Dzeikan (2003) found that faculty with the most experience teaching students with LD were more likely to allow auxiliary aids and services and modify evaluation methods. Vogel, et al. (1999) found that faculty with more experience teaching students with LD were more aware of students from various disability categories, had more skills providing accommodations to students from various disability categories, spent more time making accommodations, communicated more frequently with disability service providers, and were more willing to allow extra time for examination completion. Surprisingly, Rao (2002) found faculty with experience teaching students with disabilities were less willing to make accommodations than faculty without this experience.

Academic rank was examined in three of the studies regarding faculty willingness to provide accommodations. In two of the three studies, academic rank produced significant results (Dzeikan, 2003; Vogel et al., 1999). The study conducted by Dzeikan (2003) found significant results regarding academic rank in two areas, comfort providing accommodations and actual accommodations faculty had provided. First, associate professors were more comfortable allowing extra time for examination completion than professors or full professors. Second, faculty members who were full professors were more likely to suggest students reduce their course load (Dzeikan, 2003). Faculty with lower ranks, instructors and assistant professors, were more willing to provide lecture outlines, overhead copies, and paraphrasing of examination questions (Vogel et al., 1999).
Gender was examined in three of the studies regarding faculty willingness to provide accommodations. Two of the three studies examining gender produced significant results (Dzeikan, 2003; Vogel et al., 1999). In Dzeikan’s (2003) study, females were more willing to allow students to have written assignments proofread and/or edited and were more comfortable providing extra time for examination completion. Females were more willing to allow disability service providers to tape-record examinations in the study conducted by Vogel, et al. (1999).

Only three other demographic factors were examined in relation to faculty willingness to make accommodations for students with disabilities. They were years of college teaching experience (Vogel et al., 1999), personal experience with individuals with disabilities (Rao, 2002), and age (Vogel et al., 1999). Years of college teaching experience and personal experience with individuals with disabilities did not produce significant results. However, age did account for significant results. Younger faculty members were more willing to provide lecture outlines and meet with students to provide clarification of lecture components or assignment requirements, while older faculty were more willing to provide alternate formats of examinations (Vogel et al., 1999).

These studies indicate that demographic variables like academic discipline, academic rank, gender, and age can significantly affect faculty members’ willingness to make accommodations for students. These variables can also significantly affect the specific accommodations faculty members use. Given the requirements of postsecondary disability laws and the needs of postsecondary students with disabilities, these studies indicate that those requirements are not always implemented. Thus, the needs of students with disabilities at the postsecondary level are not always met.
Faculty Teaching Behaviors

There were six studies reviewed that examined faculty teaching behaviors (Arce, 1997; August et al., 1992; Barnes et al., 1998; Keim & Biletzky, 1999; Lee, 2004; Meade, 2003). Analysis of these studies showed the self-reported teaching behaviors of faculty were significantly influenced by demographic factors like gender and academic discipline. The methodology and results of these studies are presented and followed by a summary of the collective findings.

The specific teaching methods college professors use is a major determinant of the equality and accessibility of postsecondary education for students with disabilities (Arce, 1997; Keim & Biletzky, 1999). Studies regarding faculty teaching behaviors have focused on different aspects of sound teaching practices. For example, studies examine whether teaching behaviors are teacher-centered or learner centered, or to what extent faculty members employ aspects of research-based quality instruction. The studies examined in this section examine faculty teaching behaviors in relation to demographic factors such as but not limited to gender, rank, and academic discipline. They are presented in chronological order of publication date.

Arce (1997) conducted a study to determine faculty teaching behaviors and their affect on student success. Faculty teaching behaviors were examined in relation to demographic factors including gender, years of teaching experience, age, and level of educational preparation. Two hundred thirty faculty members at the American River College in California were surveyed. Of the two hundred, thirty surveys disseminated, one hundred, fifty-three were completed and used in this study.
The Faculty Teaching Behaviors Questionnaire (FTBQ) was administered to determine faculty teaching behaviors. The development of the FTBQ was highly influenced by the Seven Principles for Good Practice in Undergraduate Education: Faculty Inventory (Chickering & Gamson, 1987) and the Teaching Goals Inventory (TGI) (Angelo & Cross, 1993). The FTBQ contains seven subcategories including: (a) critical thinking skills; (b) evaluation and feedback; (c) high expectations; (d) learning skills; (e) student-faculty contact; (f) student participation; and (g) cooperative learning. For each of the subcategory components, faculty members were instructed to indicate if they either yes used the instructional method or no did not. Student success was determined by grade point average. Students with an A, B, or C were categorized as successful, while students with a D or F were categorized as unsuccessful (Arce, 1997).

Results of the study indicated that no significant relationship existed between faculty scores on the FTBQ and student success. Similarly, demographic factors did not significantly influence faculty scores on the FTBQ. The general mean score on the overall FTBQ was 89.33 out of 108. This score indicates that faculty reported using most of the instructional methods included on the survey (Arce, 1997).

Like Arce (1997), Barnes et al., (1998) conducted a study to determine faculty beliefs about teaching goals. Also using the TGI, this study analyzed faculty teaching goals in relation to academic disciplines including: (a) soft, pure non-life disciplines such as English and History; (b) soft, applied non-life disciplines such as Accounting and Economics; (c) hard, pure non-life disciplines such as Chemistry and Mathematics; (d) hard, applied non-life disciplines such as Computer Science and Engineering; (e) soft, pure life disciplines such as Psychology and Geography; (f) soft, applied life disciplines such as
Fine Arts and Education; (g) hard, pure life disciplines such as Biology and Ecology; and (h) hard, applied life disciplines such as Agriculture and Forestry. One thousand two hundred faculty members from a national faculty data base were surveyed. Of those surveys, four hundred forty-two were completed and used in this study. The study was limited to faculty teaching undergraduate classes (Barnes et al., 1998).

General results indicated that faculty placed highest importance on higher-order thinking skills and discipline specific skills and knowledge. The categories faculty reported placing the lowest importance included liberal arts and academic values, and work/career planning and personal development. However, faculty from the soft, applied life disciplines reported their most important goal is helping students with personal development. This emphasis on personal development was significantly higher than all other disciplines. Further, faculty members from the soft, applied non-life disciplines reported their most important teaching goal is preparing students for jobs and careers. This emphasis on job and career placement was significantly higher than the hard, pure disciplines. Thus, the soft, applied life and non-life disciplines perceived their teaching role as fostering student development and personal growth (Barnes et al., 1998).

Keim and Biletzky (1999) conducted a survey to determine the specific teaching behaviors of part-time faculty at community colleges. These behaviors were analyzed in relation to demographic variables including previous teaching experience, participation in professional development; desire to become full-time, teaching load, and faculty evaluations. Two hundred forty faculty members from four community colleges in Southern Illinois were surveyed. One hundred, thirty-eight were completed and used in the study.
To obtain data regarding the teaching methods participants used and how often, the survey instrument consisted of twenty-one teaching methods. These teaching methods were rated from one to five indicating the frequency of use. One indicated *never* and five indicated *always*. The mean scores of each teaching strategy were then compared to demographic variables using a MANOVA (Keim & Biletzky, 1999).

Of the five demographic factors analyzed in relation to the frequency of teaching strategies reported, four produced significant findings. First, previous experience accounted for three significant findings. Faculty with previous experience teaching at four-year colleges reported using case-studies and instructional methods that encourage multiculturalism more than faculty with previous experience teaching kindergarten through twelfth grade. Also, faculty with previous experience teaching at four-year colleges reported using demonstrations more often than faculty from community colleges. Second, the professional development activities factor produced three significant findings. Faculty who had participated in professional development activities more frequently used small group discussions, demonstrations, and instructional methods to encourage critical thinking. Third, faculty who desired to become full-time reported using seven teaching methods more often. They were (a) overhead transparencies; (b) class discussions; (c) writing activities; (d) computer-aided instruction; (e) written feedback on tests and assignments; (f) instructional methods that encourage multiculturalism; and (g) instructional methods that encourage critical thinking. Fourth, faculty evaluations influenced teaching strategies in one area. Those faculty participants who had experienced previous evaluations reported using videotapes/films more often (Keim & Biletzky, 1999).
August et al., (2002) conducted a study to determine the attitudes and experiences of postsecondary faculty and students regarding active learning, collaborative and cooperative learning, and student involvement with learning. The researchers also compared the frequency of use of the teaching methods reported by faculty and students. Faculty teaching undergraduate courses in English, Chemistry, Math, and Psychology at seven postsecondary institutions were surveyed. The location was not disclosed. One hundred, thirty-six responded and were included in the study. Six hundred, seventy-six student surveys were completed and used in the study.

Both the faculty and student surveys were conducted through the National Center for Postsecondary Improvement (NCPI). The two surveys contain much of the same content. Faculty participants completed the Faculty Survey on Teaching, Learning, and Assessment (FSTLA). This survey contains six subcategories including: (a) use of active learning techniques; (b) encouragement of student involvement in the classroom; (c) beneficial aspects of peer learning; (d) encourage student collaboration; (e) challenging independent learning environment; and (f) assistance with learning (August, et al., 2002). The student survey, Student Experiences with Teaching, Learning, and Assessment (SETLA), included an additional subcategory called students’ level of satisfaction with academic relationships.

Results of the study indicated that while both faculty and students placed a similar level of importance on active learning and participation in the learning process, they reported significant differences in the frequency faculty implemented the teaching strategies. Faculty reported 93% and students reported 91% importance on active learning. However, when compared, faculty reported that they implement active learning 64% of the
time and students reported that faculty implements active learning only 9% of the time. Regarding the importance of collaborative and cooperative learning, 85% of faculty and 80% of students reported it enhances learning. Again, faculty reported using this strategy quite frequently (76% of the time) and students reported faculty rarely used the strategy (21%). Other significant differences included 90% of faculty and 17% of students report feedback is frequently provided and 87% of faculty and 7% of students reported faculty meet with students frequently during office hours (August et al., 2002).

Meade (2003) conducted a study to determine the difference, if any, between part-time and full-time faculty’s reported teaching behaviors. This study analyzed teaching behaviors in relation to demographic factors including teaching experience, job satisfaction, highest level of education, weekly time used for class preparation, and weekly time used for participation in extracurricular activities. To obtain data, the researcher surveyed two hundred four faculty members at a Southwest Virginia Community College. One hundred twenty-four surveys were returned and used in the study.

To determine faculty teaching behaviors, the Faculty Inventory was used. This survey instrument contains seven subcategories including: (a) student-faculty contact; (b) cooperation among students; (c) active learning; (d) gives prompt feedback; (e) emphasizes time on-task; (f) communicates high expectations; and (g) respects diverse talents and ways of learning. This survey was designed to help faculty members determine areas of strength and weakness in their existing teaching practices. High scores in a subcategory indicate that the teaching behaviors in that subcategory are being implemented frequently (Meade, 2003).
Overall, results indicated that part-time scored higher in six of the seven categories. The only statistically significant difference between the scores of full-time and part-time faculty was in the area of student-faculty contact. Student-faculty contact was the only category in which full-time faculty had a higher mean score. For full-time faculty, student-faculty contact was the highest ranked subcategory of all seven. Conversely, student-faculty contact was the lowest ranked subcategory among part-time faculty. Part-time faculty ranked communicates high expectation the highest (Meade, 2003).

Lee (2004) conducted a study to determine if faculty members provided postsecondary instruction that is teacher-centered or learner-centered. They analyzed instructional style in relation to demographic factors including gender, years of teaching experience, taught level of courses, and educational background in adult education. The years of teaching experience were divided into 0-10, 11-20, 21-30, and more than 30. Levels of courses taught included undergraduate, graduate, and both. Four hundred, thirty-nine full-time faculty members from the six Council for Christian Colleges and Universities, located in Kansas and Missouri were surveyed. Of those surveys, one hundred ninety were useable and included in this study.

To determine the faculty participants teaching styles, the Principles of Adult Learning Scale (PALS) (Conti, 1979) was used. PALS contains seven sections including: (a) learner-centered activities; (b) personalizing instruction; (c) relating to experience; (d) assessing student needs; (e) climate building; (f) participation in the learning process; and (g) flexibility for personal development. This survey instrument was designed to determine whether instruction is teacher-centered or learner-centered (Lee, 2004).
Results of the study indicated three of the four demographic factors significantly influenced reported teaching behaviors. They were gender, level of courses taught, and years of teaching experience. Females who taught strictly undergraduate courses encouraged student-teacher interactions and student participation in determining methods for evaluating student performance. Faculty who taught undergraduate courses only implemented significantly more climate building. Faculty who taught graduate students only did not accept mistakes as a natural component of the learning process. Faculty who taught 11-20 and 21-30 years were more collaborative than those who taught 30 or more years. Thus, results indicated that female faculty who taught undergraduate students, faculty who taught undergraduate students, and faculty with 11-30 years of teaching experience was generally more learner-centered (Lee, 2004).

Analysis of findings. Like previous studies regarding faculty attitudes, willingness to accommodate, and knowledge regarding disabilities, the general purpose of the studies regarding faculty teaching behaviors was to compare the faculty responses to demographic factors. However, while these studies compared reported behaviors to demographic variables, the research questions and goals varied greatly among the studies. The following is a summary of the findings.

Four of the six studies regarding faculty teaching behaviors were conducted at universities (Arce, 1997; August et al., 2002; Barnes et al., 1998; Lee, 2004). Academic discipline accounted for two significant results (Barnes et al. 1998). Faculty from the soft, applied, life and non-life disciplines perceived their teaching role as fostering student development and growth (Barnes et al., 1998). Lee found that gender, level of courses taught, and years of experience significantly influenced faculty reported teaching behaviors.
in the following ways: female faculty who taught undergraduate courses, faculty who taught undergraduate courses, and faculty with 11-30 years of teaching experience were generally more learner-centered than teacher-centered. Arce (1997) did not report any significant findings. August and colleagues examined the reported frequencies of teaching behaviors as perceived by faculty and students and found some significant discrepancies. In each of the comparisons, faculty reported implementing teaching strategies like active learning much more frequently than students reported faculty implemented the strategies (August et al., 2002).

Two of the six studies regarding faculty teaching behaviors were conducted at community colleges. Meade (2003) compared the reported teaching behaviors of part-time and full-time faculty. Results indicated that part-time faculty was significantly more likely to implement six of the seven teaching categories than full-time faculty (Meade, 2003). Keim and Bilentsky (1999) examined part-time faculty teaching behaviors in relation to previous teaching experience, participation in professional development, desire to become full-time, teaching load, and evaluations received. Study results indicated that lecture is the most frequently used teaching strategy among those surveyed. Of the demographic factors only teaching load did not produce significant results. Faculty with previous experience teaching at four-year universities reported using more teaching strategies than faculty with experience teaching kindergarten through twelfth grade. Further, faculty who had participated in professional development and were seeking to become full-time used more teaching strategies than those who had not.

Collectively, these studies show that demographic factors including academic discipline, previous teaching experience, gender, and level of courses taught significantly
influence faculty reported teaching behaviors. Further, lecture remains the most frequently used teaching method among faculty. More research is needed to determine if disability related training or faculty attitudes effect faculty teaching behaviors.

Universal Design, Universal Design for Learning, Universal Design of Instruction

In order to ensure college students with disabilities receive equal postsecondary opportunities as their non-disabled peers, researchers in education have been extending the concept of UD to the field of education (McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c; Silver et al., 1998). Originally conceived in the 1970s in the field of architecture, UD was a set of principles to guide the design of places and products (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). These seven principles were created to ensure places and products are equally accessible for individuals with disabilities (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). For example, public institutions provide ramps to ensure equal access for wheelchair users (Scott et al., 2003b; Scott et al., 2003c).

UD was later extended to the field of elementary and secondary education, and coined Universal Design for Learning (UDL) by the Center for Applied Special Technology (CAST). The purpose of CAST is to provide an accessible curriculum to all students. In 1998, Silver and colleagues introduced the concept of UD to postsecondary education. At the postsecondary level, the term given to UD is Universal Design of Instruction (UDI). With guiding principles of accessibility for all and an avid focus on preventing educational barriers through proactive planning, millions of dollars in federal grants have been disseminated to dozens of universities in support of UDI.
Universal Design

The term UD was coined by Ronald Mace in the field of Architecture (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). UD is a set of principles he designed as a means of ensuring places and products are accessible to the diverse population (Burgstahler, 2005; McGuire et al., 2006; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). As a wheelchair user, he realized that people with diverse needs like being confounded to a wheelchair faced innumerable boundaries in daily life due to the architectural design of buildings and products (Scott et al., 2003b). He proposed the innovative idea that the architectural design of buildings and products should be based on the broad needs of a diverse society. This included design fields such as product development, landscape, and interior design (Scott et al., 2003b).

Thus, Ronald Mace and his colleagues at the Center for Universal Design at North Carolina State University defined UD as the design of products and environments to be usable by all people to the greatest extent possible without the need for adaptation or specialized design (Center for Universal Design, 2008). The concept of UD is guided by seven principles. They are (1) equitable use; (2) flexibility in use; (3) simple and intuitive; (4) perceptible information; (5) tolerance for error; (6) low physical effort; and (7) size and space for approach and use (Center for Universal Design, 2008). Examples of the application of the principles of UD are using large print signs, positioning of elevator buttons, and including elevators and escalators (Scott et al., 2003b; Scott et al., 2003c). Using these strategies in architectural design not only makes buildings more accessible to individuals with disabilities, but also for elderly people, package delivery employees, and
people of short stature (Scott et al., 2003b; Scott et al., 2003c). These principles became the framework for UDL and UDI (Scott et al., 2003b; Scott et al., 2003c).
Universal Design for Learning

To address the discrepancies between instructional delivery and individual student needs, educational leaders developed the concept of UDL. Derived from the concept of UD, CAST defines UDL as a research-based framework for designing curricula that is educational goals, methods, materials, and assessments that enable all individuals to gain knowledge, skills, and enthusiasm for learning (CAST, 2008). Thus, rather than changing environmental and instructional practices to accommodate for diversity, diversity is considered first.

The concept of UD was extended to the field of education in 1998 by Orkwis & McLane. They published a brief with the goal “to increase the awareness of universal design principles for curriculum development” (Orkwis & McLane, 1998, p. 4). While writing this brief, Orkwis & McLane examined the origin of UD and its application in the field of education. They cited the work of CAST as an exemplary initiative promoting accessibility for all elementary and secondary students.

Researchers at CAST coined the term Universal Design for Learning and specialize in UDL. UDL is a proactive method of curriculum development that is accessible to all students. The work of CAST is primarily directed toward K-12 students. To accomplish the goal of providing curricular access to all students, they are guided by three essential goals. The curriculum must provide multiple means of representation, expression, and engagement. These goals are primarily addressed through specialized technology, like text-to-speech programs enabling students with reading disabilities to access information from any reading level (Muller & Tschantz, 2003).
CAST has achieved national recognition as exemplary in the improvement of education, specifically targeting accessibility of the curriculum for all students. The researchers at CAST created the Thinking Reader, an award winning computer-based literacy program and Bobby, a well-documented software tool that measures website accessibility by guiding Web designers to making accessible websites. They have received several awards including, but not limited to, the Ron Mace Designing for the 21st Century Award (2000), the American Association of Engineering Specialists, Access Advancement Award (2000), and the LD ACCESS Foundation Innovation Award. Currently, more than 8,000 administrators and teachers per year attend CAST’s professional development workshops, lectures, and institutes (Muller & Tschantz, 2003).

Since Orkwis and McLane (1998) introduced the idea of UD to the field of education, the concept of UDL is growing in popularity as the instructional method needed in order for all students to have access to the curricula (McGuire et al., 2006). President Bush called for UD as a key to educational reform in the report of the President’s Commission on Excellence in Special Education (U. S. Department of Education, 2002). Recently, the Individuals with Disabilities Education Improvement Act (IDEIA) references to UD including, UD principles are needed to maximize access to the general education curriculum and UD principles should be implemented in developing and administering both district-wide and alternative assessments.

*Universal Design of Instruction*

UDI is the extension of UD to postsecondary education. While UD was created to prevent architectural barriers for a diverse population, UDI was developed to prevent environmental and instructional barriers for diverse student populations in higher
education. In 1998, Silver and colleagues introduced the idea of applying UD to postsecondary instruction and conducted a focus group with faculty to determine faculty perceptions regarding applying UD to instruction. Since, Scott and colleagues have further developed this educational concept into a set of nine principles (Scott et al., 2003b; Scott et al., 2003c).

Ronald Mace’s original seven principles of UD were the framework of the nine principles of UDI. The nine principles of UDI were based on comprehensive and extensive examination of the literature pertaining to UD, best practices for postsecondary instruction. Further examined in the development of UDI was the literature provided by leading organizations in accessibility. The principles target postsecondary best-practices, with particular emphasis on accessibility for the diverse student populations attending institutions of higher education (Scott et al., 2003b; Scott et al., 2003c).

Included in the literature review were topics such as evidence-based instruction for students with learning disabilities in secondary and postsecondary settings, UD, and effective instructional practice at the postsecondary level. At the heart of the research were Ronald Mace’s seven original principles for UD. These principles provide the foundation for accessibility, which is crucial in the field of education. The established educational principles included in the development of UDI were the *Seven Principles of Good Practice in Undergraduate Education*, the *Universal Access Principles for Designing Curriculum*, and the *Three Essential Qualities for Universal Design for Learning* (Scott et al., 2003b). The following is a review of each of these sets of principles and qualities.

*Seven principles of good practice in undergraduate education.* Chickering and Gamson (1987) developed the *Seven Principles of Good Practice in Undergraduate
Education which is included in the elements that form Scott and colleagues modified application of UDI. They are; (a) encourages contacts between students and faculty; (b) develops reciprocity and cooperation among students; (c) uses active learning techniques; (d) gives prompt feedback; (e) emphasizes time on task; (f) communicates high expectations; and (g) respects diverse talents and ways of learning. Each of these principles was geared toward increasing collaboration among faculty and students and maintaining a level of respect with expectations during the course. These principles are well-documented and broadly accepted in the field of postsecondary education (Ouellett, 2004; Scott et al., 2003b).

Universal access principles for designing curriculum. Scott and colleagues also included the work of Kameenui and Carnine (1998) at the National Center to Improve Tools for Educators (NCITE). The researchers designed the Universal Access Principles for Designing Curriculum. There are six principles including: (a) big ideas – concepts, principles, or heuristics that facilitate the most efficient and broad acquisitions of knowledge; (b) conspicuous strategies – useful steps for accomplishing a goal or task; (c) mediated scaffolding – instructional guidance provided by teachers, peers, materials, or tasks; (d) strategies intervention – integrating knowledge as a means of promoting higher-level cognition; (e) judicious review – structured opportunities to recall or apply previously taught information; and (f) primed background knowledge – preexisting information that affects new learning (Scott et al., 2003b).

Three essential qualities of universal design for learning. Three Essential Qualities of Universal Design for Learning, developed by the CAST (2002), were also integrated by Scott and colleagues. These qualities address making curriculum accessible to all students
in elementary and postsecondary settings. They include: (a) curriculum provides multiple means of representation; (b) curriculum provides multiple means of expression; and (c) curriculum provides multiple means of engagement (CAST, 2002).

After infusing the works of Chickering and Gamson (1987), Kameenui and Carnine (1998), and the CAST (2002) with the original seven principles of UD, Scott et al. developed nine principles for UDI. These principles guide UDI and are to be integrated into every aspect of the postsecondary experience for all students with disabilities. By applying these principles, faculty and staff at postsecondary institutions can not only comply with disability laws, but also ensure equal access and appropriate services for all learners (Ouellett, 2004; Scott et al., 2003b; Scott et al., 2003c). The following is a review of the Principles of UDI.

**Principles of Universal Design of Instruction**

The first principle of UDI is equitable use. Applying this principle to instruction means designing instruction to be useful and accessible to all students (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). The means of use and access should be identical if possible for students with disabilities, as required by Section 504 (Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). However, in cases where identical means cannot be accomplished, equivalent means must be implemented (Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c).

In order to ensure equitable instruction is provided to all students, there are several teaching behaviors to implement. For example, a professor could offer online notes, class syllabi, assignment descriptions, chat rooms, and links to on-line resources (Burgstahler,
Thus, all students, regardless of diverse needs could access class notes at any time (Scott et al., 2003b; Scott et al., 2003c). The design of this web material should be accessible and appealing to all users (Burgstahler, 2005; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c).

The second principle of UD is flexibility in use (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). In order to provide flexibility in use, faculty must design instruction based on the vast range of individual abilities and allow students to choose methods of use (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a, Scott et al., 2003b). Thus, diverse learners receive instruction that is most suitable to their individual learning needs (Scott et al., 2003b; Scott et al., 2003c). This principle spans across every aspect of instructional design, meaning each component of curricular planning and implementation should include various approaches (Scott et al., 2003b). Thus, faculty should include an array of methods such as discussion, group activities, guest speakers, graphic organizers, and a variety of media (Scott et al., 2003b; Ouellett, 2004).

Other ways to implement principle two of UDI include using online discussion and group work, posting exercises and quizzes on a website, and providing prompt feedback on assignments (Scott et al., 2003b). Providing online methods of communication fosters peer-to-peer learning and posting online quizzes allow for independent use that accommodates the learner’s pace. Giving prompt and specific feedback fosters student learning, accuracy, and precision (Scott et al., 2003b).

The third principle of UDI is providing instruction that is simple and intuitive (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c).
Regardless of students’ knowledge, experiences, ability levels, or concentration levels, instruction is more effective if it is presented in a predictable and straightforward manner, avoiding unnecessary complexity (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a, Scott et al., 2003b). Instructors can apply this principle by providing instruction that is consistent and clear throughout the semester, allowing students a very concise understanding of faculty expectations (Scott et al., 2003b). Applying principle three to instruction means ensuring that course content, assessment, learning objectives, and grading standards are all consistent. To avoid unnecessary complexity, faculty should design activities or assignments to minimize non-critical tasks. For example, faculty will highlight essential and supplementary information by providing chapter outlines, study questions, and vocabulary lists (Scott et al., 2003b).

The fourth principle of UD is to provide perceptible information (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al, 2003b; Scott et al., 2003c). This principle mirrors principle one, equitable use (Scott et al., 2003b). Instruction will include several modes such as pictorial, verbal, and tactile presentation to appeal to many learning styles (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a, Scott et al., 2003b). To apply principle four, faculty must ensure all instructional supports, textbooks, reading material, and online format are accessible to all students (Scott et al., 2003b; Scott et al. 2003c). For instance, students with visual impairments would require a text enlarger as a technical support (Scott et al., 2003b; Scott et al., 2003c). Additionally, reading assignments would need to be available in electrical format (Scott et al., 2003c).
Integrating principle four into instruction means that faculty will explicitly state instructions and expectations (Scott et al., 2003b; Scott et al., 2003c). For example, policies, procedures, and expectations will be included in the course outline (Scott et al., 2003b; Scott et al., 2003c). Also, students will receive grading rubrics and examples of good assignments (Scott et al., 2003b; Scott et al., 2003c). When creating class materials faculty will ensure essential information is legible (Scott et al., 2003a), like providing digital formats of reading material, textbooks, and materials (Scott et al., 2003c). Implementing this principle ensures that all students, regardless of sensory ability, have access to course materials (Scott et al., 2003b; Scott et al., 2003c).

The fifth principle of UD is demonstrating a tolerance for error (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). As the purpose of instruction is to facilitate learning, tolerating errors and using mistakes as teaching tools is very effective (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a). This tolerance applies to students’ learning pace and prerequisite knowledge or skills (Scott et al., 2003b; Scott et al., 2003c). Teachers must provide continuous feedback and allow students to complete assignments in individual components to guide student understanding (Scott et al., 2003b; Scott et al., 2003c). Another way to implement principle five is to offer online practice activities as supplemental exercises (Scott et al., 2003b; Scott et al., 2003c).

The sixth principle of UD is allowing for low physical effort (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). This means that instruction is designed to evoke maximum attention to learning, while minimizing unnecessary physical effort (Burgstahler, 2005;
McGuire et al., 2006; Scott et al., 2003a, Scott et al., 2003). One way to minimize fatigue is to reducing repetitive actions (Scott et al., 2003a; Scott et al., 2003c). Another way is to allow students to use word processors for written assignments, papers, and examination, unless physical effort is a requirement of the course (Scott et al., 2003c).

The seventh principle of UD is size and space for approach and use (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003a; Scott et al., 2003b; Scott et al., 2003c). Instruction must be designed to be accessible regardless of the student’s mobility, posture, or body size (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003a, Scott et al., 2003b). Therefore, the appropriate size and space is provided for approach, reach, manipulation, and use (Burgstahler, 2005). Examples of this principle include having circular seating arrangements for students who have ADHD or hearing impairments (Scott et al., 2003c), and ensuring space is open for use of assistive devices (Scott et al., 2003a). Sitting or standing students should have a clear view of important class elements and be able to reach any course components (Scott et al., 2003a). Also, laboratory rooms and equipment must be accessible to sitting or standing students (Scott et al., 2003b).

The eighth principle of UDI is promoting a community of learners (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). Instructionally, this means to “promote interaction and communication among students and between students and faculty” (Scott et al., 2003b, p. 46). Faculty can encourage communication among students by organizing group projects, discussions, and assessments (Scott et al., 2003c). Instruction should be inclusive and mindful of diversity (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003b). To apply this principle to
distance learning courses, instructors can hold online chats, email lists, and discussion forums (Scott et al., 2003c; Shaw et al., 2001).

The ninth principle of UD concerns the instructional climate (Burgstahler, 2005; McGuire et al., 2006; Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). Applying UD to the instructional climate means that instructors design instruction that is welcoming and inclusive. Further, all students in this community are met with high expectations (Burgstahler, 2005; McGuire et al., 2006; Scott et al., 2003b). Faculty can emphasize the contributions and accomplishments of diverse thinkers in the classroom and in the field (Scott et al., 2003b). Another way to implement principle nine is to include a statement in the course syllabus emphasizing the importance of diversity, and tolerance for diversity (Scott et al., 2003b). Faculty should also include a statement encouraging students to inform the instructor of any special learning needs they may have (Scott et al., 2003c).

Future Direction of Universal Design of Instruction

Universal Design as a philosophy of higher education is a concept that is being promoted internationally. The USDE’s, Office of Special Education Programs (OSEP) has funded over 299,000 in grants for institutions of higher learning. These grants are used to provide training for administrators, disability service providers, and faculty. Funding is also being used to design websites, and electronic materials to support the implementation of UDI.

The Association on Higher Education and Disability (AHEAD) is dedicated to advancing the concept of UD both nationally and internationally. AHEAD conducted a Think Tank regarding UD at the postsecondary level. This Think Tank was comprised of
experts in UD, disability service directors, non-profit organization Administrators, and campus teaching and learning center staff (Scott et al., 2003a). These professionals explored the foundational principles and future direction of UD. Some conclusions the Think Tank participants outlined were (a) UD is a proactive approach to eliminating barriers and providing an inclusive environment for all students, (b) UD does not compromise academic standards, and (c) UD needs further exploration and research (Scott et al., 2003a).

Conclusion

While laws designed to protect individuals with disabilities from discrimination at the postsecondary level have contributed greatly to the increase in the number of individuals with disabilities who seek higher education, these laws are not completely upheld at universities and colleges (Gamble, 2000). This is due in part to the fact that many faculty members at colleges and universities are not familiar with postsecondary disability laws (Baggett, 1993; Benham, 1995; Cook, 2007). Faculty unawareness is just one of many barriers still faced by individuals with disabilities attending institutions of higher education. Others include faculty resistance to provide accommodations and inaccessible courses (Dziekan, 2003; Lewis, 1998; Vogel et al., 1999).

Instructional methods that are often considered accommodations are also deemed as sound practices by many educators (Scott et al., 2003b). For example, providing copies of class lecture notes may be an accommodation for one student but would be beneficial to all students. The concept of UD applied to postsecondary education is a strategy that proactively considers diversity and integrates teaching strategies which comply with
postsecondary disability laws and alleviate common obstacles faced by students with disabilities (Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c). By subscribing to this educational pedagogy, faculty members are not only ensuring access for students with disabilities, but also improving instruction for all students (Mino, 2004; Pliner & Johnson, 2004; Scott et al., 2003b; Scott et al., 2003c).
CHAPTER III
METHODOLOGY

This quantitative research examined the relationship between college teaching behaviors and demographic variables including academic discipline, experience making accommodations, academic rank, and gender. The methods that were used to survey university faculty from three state universities (University A, University B, and University C) are explained in this chapter. These methods include recruitment and determination of participants, procedures, instrumentation, and data analyze.

Research Design

The Faculty Inventory was used to determine the relationship between college teaching behaviors and demographic variables including academic discipline, experience making accommodations, academic rank, and gender. This instrument was designed to provide a comprehensive list of specific teaching behaviors which are characteristic of successful undergraduate programs. Permission to use The Faculty Inventory was given by the Seven Principles Research Center at Winona State University. Self-reported teaching behaviors of college faculty served as the dependent variables. Frequency of teaching behaviors was assessed using the Faculty Inventory with numerically coded qualifiers of 1-5 (1 indicating never and 5 indicating very often). The independent variables included academic discipline, experience making accommodations, academic rank, and gender. In order to confirm previous findings, gender and rank were included and addressed as research questions, but were not analyzed as hypotheses.
Participants

A G Power analysis indicated that 360 participants were needed in order to have adequate statistical power of the data results. There were a total of 374 participants. The three universities were chosen because they represent a large and diverse number of faculty members.

Recruitment

The participants were contacted via email to inquire about participation in this study. The email method was used because it was cost efficient. Further, the email method produces more accurate data input. Faculty members from various universities were also more easily contacted via email.

Sample

The sample was analyzed in relation to the following demographic variables: (a) academic discipline; (b) experience making accommodations; (c) academic rank; and (d) gender. Detailed descriptions are provided for each demographic variable. Academic discipline was categorized into five classifications. All academic disciplines from universities A, B, and C were reviewed. In an effort to limit the number of possible responses to the academic discipline variable, the researcher selected the university having the fewest number of academic colleges and schools. Given that university A had only five colleges or schools, it was selected to reflect the variable of academic discipline content. The five classifications include Arts and Letters, Business, Education and Psychology, Health, and Science Technology. Each of the academic disciplines from University B and University C were reviewed and compared to University A’s five schools and colleges. Then, each academic discipline from University B and C was assigned a category based on
the school or college division it would fall into at University A. Specific divisions of these academic disciplines are outlined in Appendix C. Experience making accommodations included three levels. They are: 0-4 years, 5-10 years, and 10+ years. Academic rank included the following six categories. They are adjunct, assistant professor, associate professor, full professor, instructor, and visiting professor. Gender included two categories, male and female.

The frequency of responses from each of the academic disciplines, experience levels, academic ranks, and genders are as follows. Numbers differ based on subject responses. From the five academic disciplines, 64 (17.1%) surveys were submitted by faculty from the Arts and Letters departments. The Business department faculty returned 37 (9.9%) of the surveys. Forty-five (12%) of the surveys were submitted by faculty from the Education and Psychology department. Faculty from the Health departments contributed 24 (6.4%). Science and Technology department faculty submitted 106 (28.3%). The total number of participants who provided an academic rank was 276.

Table 1

*Participant Numbers and Percentages from the Academic Disciplines*

<table>
<thead>
<tr>
<th>Academic Discipline</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Letters</td>
<td>64</td>
<td>17.1</td>
</tr>
<tr>
<td>Business</td>
<td>37</td>
<td>9.9</td>
</tr>
<tr>
<td>Health</td>
<td>24</td>
<td>6.4</td>
</tr>
</tbody>
</table>
Table 1 (continued).

<table>
<thead>
<tr>
<th>Academic Discipline</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science &amp; Technology</td>
<td>106</td>
<td>28.3</td>
</tr>
<tr>
<td>Total</td>
<td>276</td>
<td>73.8</td>
</tr>
</tbody>
</table>

Of the three choices for years of experience making accommodations, 75 (20.1%) reported having 0-4 years experience. Sixty-five (17.4%) were submitted by faculty with 5-10 years experience. Faculty having 10 or more years experience making accommodations submitted 161 (43%) of the surveys. The total number of respondents who reported years of experience making accommodations was 301.

Table 2

*Participant Numbers and Percentages from Years of Experience Groups*

<table>
<thead>
<tr>
<th>Years of Experience Making Accommodations</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 Years</td>
<td>75</td>
<td>20.1</td>
</tr>
<tr>
<td>5-10 Years</td>
<td>65</td>
<td>17.4</td>
</tr>
<tr>
<td>10+ Years</td>
<td>161</td>
<td>43.0</td>
</tr>
<tr>
<td>Total</td>
<td>301</td>
<td>80.5</td>
</tr>
</tbody>
</table>
Academic rank as a demographic variable represented six choices including adjuncts, assistant professors, associate professors, full professors, instructors, and visiting professors. Adjuncts submitted 15 (4%) of the surveys. Eighty-eight (23.5%) were submitted by associate professors and 74 (19.8%) were submitted by associate professors. Full professors submitted 78 (20.9%). Instructors submitted 38 (10.2%) of the surveys. Eight (2.1%) of the surveys were submitted by visiting professors. The total number of participants who indicated rank was 301.

Table 3

*Participant Numbers and Percentages for Academic Rank*

<table>
<thead>
<tr>
<th>Academic Rank</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjunct</td>
<td>15</td>
<td>4.0</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>88</td>
<td>23.5</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>74</td>
<td>19.8</td>
</tr>
<tr>
<td>Full Professor</td>
<td>78</td>
<td>20.9</td>
</tr>
<tr>
<td>Instructor</td>
<td>38</td>
<td>10.2</td>
</tr>
<tr>
<td>Visiting Professor</td>
<td>8</td>
<td>2.1</td>
</tr>
<tr>
<td>Total</td>
<td>301</td>
<td>80.5</td>
</tr>
</tbody>
</table>
Gender represented the two choices, male or female. One hundred seventy-four (46.5%) males submitted surveys. Females submitted 129 (34.5%) of the surveys as shown on Table 4. Three hundred three of the participants indicated gender.

Table 4

*Participant Ratios for Gender*

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>174</td>
<td>46.5</td>
</tr>
<tr>
<td>Female</td>
<td>129</td>
<td>34.5</td>
</tr>
<tr>
<td>Total</td>
<td>303</td>
<td>81.0</td>
</tr>
</tbody>
</table>

*Procedures*

Data for this study was collected via emailing questionnaires to faculty members from the three state universities. Inquiries were made to determine the availability of university list serves to access different ranking faculty participants. These list serves were provided by each of the universities. Faculty received an email containing a letter explaining the purpose of the study (Appendix A) and a link to the questionnaire (Appendix B). The link connected participants to the questionnaire posted on Survey Dog. The questionnaire included standardized directions for completion (Appendix B). After sending the initial emails, the researcher waited two weeks for responses. After two weeks, the email containing Appendix A and Appendix B was resent. Prior to disseminating the questionnaires, permission was obtained through the University of
Southern Mississippi’s Human Subjects Protection Review Board. All information returned was completely confidential. No participant names were revealed in this research. Participants were informed that participation in the research was completely voluntary and confidential (Appendix A).

**Instrumentation**

This section provides a description of the questionnaire selected for the study. The Faculty Inventory was designed to be an instrument for faculty personal use. However, the instrument does measure the frequency of behaviors. This inventory contains seven sections. Each section contains ten teaching behaviors to be rated by frequency of use on a verbal frequency scale ranging from one to five. The numbers indicate the following: (1) never; (2) rarely; (3) occasionally; (4) often; and (5) very often. Seven subscales comprise this instrument including: (a) student/faculty contact; (b) cooperation among students; (c) active learning; (d) prompt feedback; (e) time on-task; (f) high expectations; (g) diverse talents. The section titles, descriptions, and examples are provided in the following Table.

Table 5

**Description of the Faculty Inventory**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student/faculty Contact</td>
<td>This section helps faculty determine the extent to which they provide faculty-student contact.</td>
<td>Students drop by my office just to visit.</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Examples</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>This section helps faculty determine the extent to which they encourage students to collaborate, share, and have contact with one another.</td>
<td>I create “learning communities,” study groups, or project teams within my courses.</td>
</tr>
<tr>
<td>Active learning</td>
<td>This section helps faculty determine the extent to which they encourage students to talk about, write about, and relate to their lives what they are learning.</td>
<td>I use simulations, role-playing, or labs in my classes.</td>
</tr>
<tr>
<td>Prompt feedback</td>
<td>This section helps faculty determine the extent to which they provide feedback on assignments, tests, projects, strengths, and weaknesses.</td>
<td>I return examinations and papers within a week.</td>
</tr>
<tr>
<td>Time-on-task</td>
<td>This section helps faculty determine the extent to which they emphasize the importance of attendance, participation, and any other activity that involves the student in the learning process.</td>
<td>I meet with students who fall behind to discuss their study habits, schedules, and other commitments.</td>
</tr>
<tr>
<td>High expectations</td>
<td>This section helps faculty determine the extent to which they communicate high expectations to students.</td>
<td>I revise my courses.</td>
</tr>
<tr>
<td>Diverse talents</td>
<td>This section helps faculty determine the extent to which their instruction promotes diversity and encourages multiple ways of learning.</td>
<td>I use diverse teaching activities to address a broad spectrum of students.</td>
</tr>
</tbody>
</table>
Reliability and Validity

Prior to disseminating the questionnaire, the researcher examined the instrument’s reliability and validity. Reliability is the consistency in which an instrument measures what it purports to measure. Sattler (2001) reported an appropriate reliability of subscales to be at least .80. An instrument is considered valid only to the degree in which it measures what it purports to measure (Gay, Mills, & Airasian, 2006). The reliability, content validity, and construct validity are reviewed in the following sections.

Reliability

With the exception of one section, the following reliabilities of the Faculty Inventory meet or exceed Sattler’s criteria of .80 or higher. The reliability for the seven individual sections ranged from .790 to .871. A Cronbach’s Alpha of .959 was reported for the overall survey instrument (Meade, 2003).

Content Validity

The Seven Principles of Good Practice in Undergraduate Education was developed in 1986 by a task force of leading scholars including Carol M. Boyer, Arthur Chickering, Patricia Cross, Russell Edgerton, Jerry Gaff, and Zelda Gamson. The task force met to determine a specific framework of principles which are characteristic of successful undergraduate programs. In 1987, the final version of the Seven Principles for Good Practice in Undergraduate Education was published in the AAHE Bulletin. Based on this framework, they developed the Faculty Inventory containing seven sections with ten statements relevant to each section. These seven principles also guided the development of The Student Inventory, and The Institutional Inventory. The three inventories were
Construct Validity

In order for an instrument to have construct validity, it must exclusively measure the hypothetical construct it purports to measure (Gay et al., 2009). Meade (2003) used the Faculty Inventory to determine possible differences in the reported teaching behaviors of part- and full-time faculty. The results of this study showed a significant difference between part- and full-time faculty reported teaching behaviors in the subcategory, student/faculty contact. Full-time faculty ranked student/faculty contact highest of all seven subcategories, while part-time faculty ranked student/faculty contact the lowest of all seven subcategories. Thus, the construct validity of the instrument was shown by the differences between the reported behaviors of part-time and full-time faculty.

Data Analysis

Data collected from the completed questionnaires were entered into SPSS data software. Due to the fact that the questionnaire was posted on Survey Dog, there was no error in input as the information is directly entered by computer. Further, no reverse items were included in the instrument.

Previous data shows that academic discipline, academic rank, and gender can significantly influence reported teaching behaviors. Two MANOVAs were used to determine if academic discipline and/or level of experience making accommodations significantly influence reported teaching behaviors from any of the seven subscales of the
Faculty Inventory. Following the MANOVAs the researcher examined the F statistics. Then, a post hoc analysis was conducted to determine the specific areas of significant differences within the demographic variables.
CHAPTER IV
RESULTS

Data Analysis

The purpose of this study was to determine if the self-reported teaching behaviors of college faculty differ as a function of four demographic variables including academic discipline, years of experience making accommodations for students with disabilities, academic rank, or gender. The Faculty Inventory was employed to determine faculty teaching behaviors. This instrument is comprised of seven subscales including: (a) student/faculty contact; (b) cooperation amongst students; (c) active learning; (d) prompt feedback; (e) time on-task; (f) high expectations; and (g) diverse talents. Each of these sections contains 10 statements for faculty to rate on a scale ranging from one to five. The numbers represent: (1) never; (2) rarely; (3) occasionally; (4) often; and (5) very often.

While studies have examined demographic variables such as academic discipline, academic rank, and gender, they have not examined college faculty teaching behaviors as a function of years of experience making accommodations for students with disabilities. Thus, this study included years of experience making accommodations as a demographic variable. This chapter provides the descriptive statistics of the respondents and the results of the data analysis of the survey.

Presentation of Descriptive Statistics of Respondents

Each of the four demographic variables examined in this study rendering descriptive data including means and standard deviations. Specific descriptive statistics were also examined pertaining to the subscales of the Faculty Inventory. This descriptive data is reported on Tables 6-10. Table 6 presents the means and standard deviations of the
seven subscales. Mean scores of the subscales ranged from the highest mean score of 3.96 with a standard deviation of .58 on the high expectations subscale to the lowest mean score of 3.14 with a standard deviation of .82 on the cooperation among students subscale.

Table 6

Descriptive Statistics of Subscales

<table>
<thead>
<tr>
<th>Subscales</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student/Faculty Contact</td>
<td>3.23 (.65)</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>3.14 (.82)</td>
</tr>
<tr>
<td>Active Learning</td>
<td>3.37 (.74)</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>3.23 (.59)</td>
</tr>
<tr>
<td>Time-on-Task</td>
<td>3.81 (.67)</td>
</tr>
<tr>
<td>High Expectations</td>
<td>3.96 (.58)</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>3.20 (.65)</td>
</tr>
</tbody>
</table>

Descriptive Statistics of Academic Disciplines

Descriptive statistics examined for academic discipline include means and standard deviations from each discipline. This data was included in Table 7. Education and Psychology had the highest mean scores on six of the seven subscales including cooperation among students, active learning, prompt feedback, time on-task, high expectations, and diverse talents. Health had the highest mean on the student/faculty
contact subscale. Business had the lowest mean scores on all seven of the subscales. Table 7

**Descriptive Statistics of Academic Discipline**

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Arts &amp; Letters</th>
<th>Business</th>
<th>Education &amp; Psychology</th>
<th>Health</th>
<th>Science &amp; Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
</tr>
<tr>
<td>Student/Faculty Contact</td>
<td>3.12(.65)</td>
<td>3.01(.70)</td>
<td>3.48(.64)</td>
<td>3.63(.46)</td>
<td>3.22(.60)</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>3.09(.85)</td>
<td>2.87(.72)</td>
<td>3.79(.88)</td>
<td>3.39(.55)</td>
<td>2.95(.75)</td>
</tr>
<tr>
<td>Active Learning</td>
<td>3.37(.67)</td>
<td>2.96(.79)</td>
<td>3.83(.67)</td>
<td>3.74(.44)</td>
<td>3.23(.75)</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>3.19(.49)</td>
<td>3.08(.49)</td>
<td>3.55(.76)</td>
<td>3.20(.57)</td>
<td>3.16(.55)</td>
</tr>
<tr>
<td>Time-on-Task</td>
<td>3.88(70)</td>
<td>3.66(.67)</td>
<td>4.03(.68)</td>
<td>3.98(.58)</td>
<td>3.72(.64)</td>
</tr>
<tr>
<td>High Expectations</td>
<td>4.06(.63)</td>
<td>3.78(.52)</td>
<td>4.16(.55)</td>
<td>4.03(.43)</td>
<td>3.86(.56)</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>3.28(.62)</td>
<td>2.95(.63)</td>
<td>3.60(.68)</td>
<td>3.51(.60)</td>
<td>3.02(.57)</td>
</tr>
</tbody>
</table>

**Descriptive Statistics of Years of Experience Making Accommodations**

Descriptive statistics of years of experience making accommodations were examined and included means and standard deviations. Table 8 presents this data. Faculty respondents with 10+ years experience had the highest mean scores on four of the seven subscales including student/faculty contact, prompt feedback, time on-task, and high expectations. These mean scores were significantly higher than the mean scores of faculty with 0-4 years experience on the student/faculty contact and the time on-task subscales. Faculty with 5-10 years experience had the highest mean scores on the remaining three subscales including cooperation amongst students, active learning, and diverse talents.
Faculty respondents with 0-4 years experience making accommodations had the lowest mean scores on all seven subscales.

Table 8

*Descriptive Statistics of Years Experience Making Accommodations*

<table>
<thead>
<tr>
<th>Years of Experience Making Accommodations</th>
<th>0-4 Years</th>
<th>5-10 Years</th>
<th>10+ Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscales</td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
</tr>
<tr>
<td>Student/Faculty Contact</td>
<td>3.02(.63)</td>
<td>3.22(.65)</td>
<td>3.34(.65)</td>
</tr>
<tr>
<td>Cooperation Amongst Students</td>
<td>3.09(.88)</td>
<td>3.17(.78)</td>
<td>3.16(.82)</td>
</tr>
<tr>
<td>Active Learning</td>
<td>3.21(.75)</td>
<td>3.35(.67)</td>
<td>3.40(.76)</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>3.07(.57)</td>
<td>3.20(.61)</td>
<td>3.32(.57)</td>
</tr>
<tr>
<td>Time-on-Task</td>
<td>3.60(.68)</td>
<td>3.83(.67)</td>
<td>3.90(.65)</td>
</tr>
<tr>
<td>High Expectations</td>
<td>3.78(.63)</td>
<td>4.02(.49)</td>
<td>4.02(.55)</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>3.04(.58)</td>
<td>3.26(.64)</td>
<td>3.26(.65)</td>
</tr>
</tbody>
</table>

*Descriptive Statistics of Academic Rank*

Academic rank was also analyzed using only descriptive statistics including mean scores and standard deviations. This data is reported on Table 9. Adjuncts had the highest scores on five of the seven subscales including cooperation among students, high expectations, time on-task, and diverse talents. Assistant professors scored highest on the active learning and student/faculty contact subscales. Visiting professors scored lowest on five of the seven subscales including student/faculty contact, cooperation among students,
active learning, time on-task and high expectations. Associate Professors scored lowest on the diverse talents subscale and assistant professors scored lowest on the prompt feedback subscale.

Table 9

Descriptive Statistics of Academic Rank

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Instructors M(SD)</th>
<th>Assistant Professors M(SD)</th>
<th>Associate Professors M(SD)</th>
<th>Full Professors M(SD)</th>
<th>Visiting Professors M(SD)</th>
<th>Adjunct M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student/Faculty Contact</td>
<td>3.15(.77)</td>
<td>3.16(.58)</td>
<td>3.38(.59)</td>
<td>3.29(.68)</td>
<td>2.56(.72)</td>
<td>3.19(.67)</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>3.22(.84)</td>
<td>3.14(.90)</td>
<td>3.19(.74)</td>
<td>3.10(.82)</td>
<td>2.86(.99)</td>
<td>3.24(.83)</td>
</tr>
<tr>
<td>Active Learning</td>
<td>3.15(.77)</td>
<td>3.36(.73)</td>
<td>3.52(.73)</td>
<td>3.37(.73)</td>
<td>3.05(.92)</td>
<td>3.41(.81)</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>3.41(.59)</td>
<td>3.09(.56)</td>
<td>3.21(.55)</td>
<td>3.25(.58)</td>
<td>3.26(.83)</td>
<td>3.64(.51)</td>
</tr>
<tr>
<td>Time-on-Task</td>
<td>3.82(.74)</td>
<td>3.78(.64)</td>
<td>3.86(.64)</td>
<td>3.79(.67)</td>
<td>3.46(.99)</td>
<td>3.99(.67)</td>
</tr>
<tr>
<td>High Expectations</td>
<td>4.08(.52)</td>
<td>3.92(.54)</td>
<td>3.94(.60)</td>
<td>3.97(.51)</td>
<td>3.52(.98)</td>
<td>4.11(.51)</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>3.24(.71)</td>
<td>3.19(.70)</td>
<td>3.18(.65)</td>
<td>3.18(.58)</td>
<td>3.24(.68)</td>
<td>3.37(.70)</td>
</tr>
</tbody>
</table>

Descriptive Statistics of Gender

Descriptive statistics including means and standard deviations were collected for gender and outlined in Table 10. Females scored higher on all seven subscales. Of the subscales female’s means ranged from a high of 3.94 with a standard deviation of .65 on the time on-task subscale and a low of 3.34 with a standard deviation of .66 on the student/faculty contact subscale. Males had a high mean score of 3.71 with a standard deviation of .67 on the time on-task subscale and a low mean score of 2.95 with a standard deviation of .78 on the cooperation amongst students subscale.
Table 10

*Descriptive Statistic of Gender*

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Student/Faculty Contact</td>
<td>3.14 (.64)</td>
<td>3.35 (.66)</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>2.95 (.78)</td>
<td>3.42 (.81)</td>
</tr>
<tr>
<td>Active Learning</td>
<td>3.28 (.70)</td>
<td>3.48 (.79)</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>3.14 (.56)</td>
<td>3.36 (.60)</td>
</tr>
<tr>
<td>Time-on-Task</td>
<td>3.71 (.67)</td>
<td>3.94 (.65)</td>
</tr>
<tr>
<td>High Expectations</td>
<td>3.87 (.58)</td>
<td>4.08 (.54)</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>3.06 (.65)</td>
<td>3.39 (.61)</td>
</tr>
</tbody>
</table>

Test of Hypotheses

This study is guided by one research question. Do faculty teaching behaviors differ as a function of faculty characteristics (academic discipline, experience making accommodations, academic rank, and gender)? Two MANOVAs were used to determine if faculty teaching behaviors differed as a function of academic discipline or experience making accommodations. Descriptive statistics were calculated to determine if faculty behaviors differed as a function of academic rank or gender.

The researcher hypothesized that reported college teaching behaviors differ as a function of academic discipline. Also hypothesized was that reported college teaching
behaviors differ as a function of level of experience providing accommodations. These hypotheses were analyzed and rendered the following results.

*Group Academic Discipline Differences on the Faculty Inventory*

A MANOVA was used to evaluate group differences within the academic disciplines as the factors and the subscales of the Faculty Inventory as the dependent variables. Using Pillai’s Trace, differences between the teaching behaviors of the faculty from differing academic disciplines was significant ($F(28, 1068)=3.118$, $p<.001$, $\eta^2=.076$). Pillai’s Trace was chosen because the box test indicates a violation of the assumption of homogeneity of variance-covariance.

*Univariate analysis of academic discipline.* Faculty teaching behaviors differed significantly as a function of academic discipline. Significant results were found on six of the seven subscales provided on Table 11. Analysis of the student/faculty contact subscale indicated that Education and Psychology and Health mean scores were significantly higher scores than Business and Arts and Letters. Health mean scores were significantly higher than Science and Technology. The cooperation amongst students subscale analysis indicated that Education and Psychology mean scores were significantly higher than Arts and Letters, Business, and Science and Technology. Analysis of the active learning subscale indicated that Education and Psychology and Health had significantly higher mean scores than Science and Technology, Arts and Letters, and Business. Arts and Letters subscale mean scores were significantly higher than Business mean scores. The prompt feedback analysis indicated that Education and Psychology subscale mean scores were significantly higher than Arts and Letters, Business, and Science and Technology. Data analysis of the high expectations subcategory indicated that Education and
Psychology had significantly higher than Business and Science and Technology. Finally, analysis of the diverse talents subscale showed that Education and Psychology and Health mean scores were significantly higher than those of Business and Science and Technology.

Table 11

*Univariate Analysis of Academic Discipline*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$Df$</th>
<th>$F$</th>
<th>$P$</th>
<th>$\eta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student/Faculty Contact</td>
<td>14.584</td>
<td>5.948</td>
<td>.001</td>
<td>.081</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>14.584</td>
<td>10.570</td>
<td>.001</td>
<td>.135</td>
</tr>
<tr>
<td>Active Learning</td>
<td>14.584</td>
<td>10.325</td>
<td>.001</td>
<td>.133</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>14.584</td>
<td>4.839</td>
<td>.001</td>
<td>.067</td>
</tr>
<tr>
<td>Time on Task</td>
<td>14.584</td>
<td>2.634</td>
<td>.035</td>
<td>.038</td>
</tr>
<tr>
<td>High Expectations</td>
<td>14.584</td>
<td>3.974</td>
<td>.004</td>
<td>.056</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>14.584</td>
<td>10.306</td>
<td>.001</td>
<td>.132</td>
</tr>
</tbody>
</table>

*Group Years of Experience Making Accommodations on the Faculty Inventory*

A MANOVA was used to evaluate group differences among years of experience making accommodations categories including 0-4 years, 5-10 years, and 10+ years as the factor and the subscales of the Faculty Inventory as the dependent variables. Using Pillai’s Trace, differences between the teaching behaviors of the faculty having differing years of experience was significant ($F (14,584)=1.945$, $p<.02$, $\eta=.045$).
Univariate analysis of years of experience making accommodations. Faculty teaching behaviors differed significantly as a function of years of experience making accommodations. Significant results were found on two subscales (provided on table 12), student/faculty contact and time on-task. Analysis of the student/faculty contact subscale indicated than mean scores of faculty with 10+ years experience making accommodations were significantly higher than those with 0-4 years experience. Also, mean scores on the time on-task subscale of faculty with 10+ years experience making accommodations were significantly higher than those of faculty with 0-4 years experience.

Table 12
Univariate Analysis of Years of Experience Making Accommodations

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>F</th>
<th>P</th>
<th>η</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student/Faculty Contact</td>
<td>28.1068</td>
<td>6.038</td>
<td>.003</td>
<td>.039</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>28.1068</td>
<td>.370</td>
<td>.691</td>
<td>.002</td>
</tr>
<tr>
<td>Active Learning</td>
<td>28.1068</td>
<td>2.251</td>
<td>.082</td>
<td>.017</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>28.1068</td>
<td>4.584</td>
<td>.001</td>
<td>.030</td>
</tr>
<tr>
<td>Time- on- Task</td>
<td>28.1068</td>
<td>5.843</td>
<td>.003</td>
<td>.038</td>
</tr>
<tr>
<td>High Expectations</td>
<td>28.1068</td>
<td>4.857</td>
<td>.008</td>
<td>.032</td>
</tr>
<tr>
<td>Diverse Talents</td>
<td>28.1068</td>
<td>3.233</td>
<td>.041</td>
<td>.021</td>
</tr>
</tbody>
</table>
Chapter IV provided the descriptive statistics for the Faculty Inventory subscales: (a) student/faculty contact; (b) cooperation among students; (c) active learning; (d) prompt feedback; (e) time on-task; (f) high expectations; and (g) diverse talents. Descriptive statistics were also explained for demographic variables: (a) academic discipline; (b) years of experience making accommodations; (c) academic rank; and (d) gender. Mean scores and standard deviations were outlined for the four demographic variables. This chapter details the results of the two MANOVAs and Post Hoc analysis run in this study. Significant differences within the demographic groups were presented. Tables showing the descriptive statistics and significance of findings were included.

Chapter V will provide a discussion of the results provided in this chapter. These results are examined in relation to previous studies outlined in Chapter II. In addition, Chapter V examines the implications and suggestions for future research based on the results of this study.
CHAPTER V

SUMMARY

Summary of Study

Chapters I through IV presented the purpose of this study, research questions, hypotheses, literature review, methodology, and results of this study. This chapter will provide a brief summary of the study, results of the study as compared to the existing literature, and implications and limitations of the study. Recommendations for policy, practice, and future research are provided.

This study examined faculty teaching behaviors in relation to academic discipline, gender, academic rank, academic discipline, and years of experience making accommodations. With UDI as a guiding focus for the specific behaviors analyzed, the Faculty Inventory was selected to determine faculty teaching behaviors because it is based on researched, best-practices for postsecondary instruction. As research pertaining to faculty teaching behaviors is scarce, this study extended to include an examination of faculty perceptions and attitudes regarding several disability related topics. These topics include faculty perceptions and attitudes regarding disability related training and students with disabilities, faculty reported frequency of making accommodations for students with disabilities, and the specific accommodations faculty members implement.

Literature and research pertaining to postsecondary disability related topics describe some alarming issues in postsecondary education. Faculty members generally report that they have little to no training related to disability related topics. These topics include, but are not limited to disability laws, characteristics of disabilities, and UDI. With little to no knowledge of these topics, faculty members can not ensure that they are
providing accessible instruction for all students. Further, some faculty members reported making very few accommodations for these students. This could be a result of the general lack of knowledge many faculty members have regarding disability laws and the rights of students with disabilities. While applying the principles of UDI could help address the accessibility issues found at IHL, most faculty reported not having knowledge regarding UDI.

When faculty knowledge, attitudes, and frequency making accommodations were analyzed in relation to demographic variables, patterns emerged. Faculty from various academic disciplines tended to have more positive attitudes and implement a greater variety of accommodations on a more frequent basis. Specifically, faculty members from Education and Health disciplines had more positive attitudes and made more accommodations. Faculty members from the Business, Computer/Engineering, and Law, disciplines had the least positive attitudes and made the fewest accommodations. In additions, faculty with 11 or more years experience teaching students with disabilities had more positive attitudes, spent more time planning accommodations, and implemented more accommodations than faculty members with less experience. Further, females reported having more positive attitudes and providing more accommodations than males.

The researcher implemented the Faculty Inventory to determine if commonalities might exist between the trends in faculty attitudes, frequency making accommodations, and teaching behaviors. This study analyzed the following research question and hypotheses:
Do faculty teaching behaviors differ as a function of faculty characteristics (academic discipline, experience making accommodations, academic rank, and gender)?

H1: Reported college teaching behaviors differ as a function of academic discipline.

H2: Reported college teaching behaviors differ as a function of years of experience providing accommodations.

The following section details the results of this study in relation to previous findings described in the literature review.

Group Differences

This study examined group differences among the subscales of the Faculty Inventory. Academic discipline, years experience making accommodations, academic rank and gender were analyzed. The differences found and their similarities to the findings of previous studies reviewed in chapter two are explored in the following sections.

*Academic Discipline Subscale Differences*

Of the studies examining faculty behaviors, only one examined these behaviors in as a function of academic discipline. Barnes et al. (1998) found faculty teaching goals varied among the academic disciplines. While faculty from all other disciplines placed lowest importance on helping students with personal development, faculty from the soft, applied life disciplines found personal development of students to be most important. Also, faculty from the soft, applied non-life disciplines found preparing students for job and career placement significantly more important than all other disciplines.
Faculty attitudes were examined as a function of academic discipline. Those with the most positive attitudes were the faculty from the Arts and Sciences, Education, and Health Sciences (Lewis, 1998), School of Liberal Arts (Campbell, 2002), Arts and Sciences (Williamson, 2000) and College of Education and Health Sciences (Rao, 2002). Faculty with the least positive attitudes were from the Computer/Engineering Department (Lewis, 1998), School of Business (Williamson, 2000), and College of Engineering and the School of Law (Rao, 2002).

Similar results were found in studies examining faculty reported frequency of making accommodations for students with disabilities in relation to academic discipline. In the three studies finding significant results, the College of Education made the most accommodations (Lewis, 1998; Vogel et al., 1999; Rao, 2002). In the Rao (2002) study, the College of Education and the Health Sciences made more accommodations than all other disciplines combined. Lewis (1998) found that Education and Arts and Sciences reported making more examination accommodations and the Health Sciences reported making more instructional accommodations. Computer/Engineering faculty reported making the fewest accommodations (Lewis, 1998) and the College of Engineering and School of Law faculty (Rao, 2002) made fewer accommodations than all other disciplines combined.

This study examined the relationship between academic discipline and faculty teaching behaviors on the seven subscales of the Faculty Inventory. The results were very similar to the results of the studies pertaining to faculty attitudes toward students with disabilities and faculty frequencies making accommodations. Significant relationships were found on six of the subscales. The Education and Psychology department had
significantly higher mean scores on six subscales including student/faculty contact, cooperation among students, active learning, prompt feedback, high expectations, and diverse talents. Education departments were also found to have the most positive attitudes toward students with disabilities (Lewis, 1998; Rao, 2002) and made more accommodations than other disciplines (Lewis, 1998; Rao, 2002; Vogel et al., 1999). Health scored significantly higher on student/faculty contact, active learning, and diverse talents. Health disciplines also had more positive attitudes toward students with disabilities (Lewis, 1998; Rao, 2002) and made more accommodations (Rao, 2002). Of all the literature examined in this study, Education disciplines and Health disciplines were never reported to have least positive attitudes, make the fewest accommodations, or to have significantly lower means scores on any of the Faculty Inventory subscales. Of the five disciplines examined in this study, mean scores of Arts and Letters fell right in the middle on all subscales except student/faculty contact, where Arts and Letters had the lowest mean score. Arts and Letters’ mean scores were significantly higher than the mean scores of Business on the active learning subscale. Science and Technology mean scores were lower than Education and Psychology, Health, and Arts and Letters on all subscales except the student/faculty contact subscale in which Arts and Letters’ mean score was the lowest. This is similar to Lewis (1998) findings that faculty from the Computer/Engineering department had the least positive attitudes toward students with disabilities and made the fewest accommodations. Business was lowest on all six subscales. While Williamson (2000) found that faculty from the Business department had the least positive attitudes of all departments, studies regarding accommodations did not include Business departments.
Years of Experience Making Accommodations Subscale Differences

Years of experience making accommodations for students with disabilities was examined in relation to reported teaching behaviors. Previous studies have focused on faculty attitudes toward students with disabilities and faculty willingness to provide accommodations in relation to faculty experience teaching students with disabilities. Benham (1995) found that faculty members with 11-20 years of experience teaching students with disabilities had more positive attitudes toward students with disabilities than faculty with less or more experience. Dzeikan (2003) study results show that faculty members with the most experience teaching students with LD were more likely to allow auxiliary aids and services and modify assessment methods. Vogel et al., (1999) found that faculty with the most experience teaching students with LD were more aware of disability categories were more skillful providing accommodations, spent more time making accommodations, communicated more frequently with disability service providers, and were more willing to allow extra time for examination completion. Contrarily, Rao (2002) found that faculty with the most experience making accommodations were less willing to make accommodations than faculty without experience.

This study examined three levels of experience including 0-4 years, 5-10 years, and 10+ years in relation to teaching behaviors. Significant results were found on two subscales, student/faculty contact and time on-task. On both subscales, faculty members with 10+ years experience had higher mean scores than faculty members with 0-4 years experience. These findings are similar to previous findings that faculty members with the highest level of experience teaching students with disabilities was more likely to allow auxiliary aids and services, modify assessment methods, provide accommodations, plan
accommodations, and talk to disability service providers (Dzeikan, 2003; Vogel et al., 2003).

**Academic Rank Subscale Differences**

Previous studies examined academic rank in relation to faculty attitudes toward students with disabilities and the frequency faculty make accommodations for these students. The results of these studies did not seem to follow a trend. Campbell (2002) found that associate professors had more positive attitudes toward students with disabilities than the other ranks. Conversely, Williamson (2000) reported that lower ranking faculty such as instructors and adjunct faculty reported having significantly more positive attitudes than higher ranking faculty including full professors, associate professors, and assistant professors. In regard to providing accommodations for students with disabilities, associate professors allowed more testing accommodations than professors or full professors (Dzeiken, 2003) and instructors and assistant professors were more willing to make accommodations than higher ranking faculty (Williamson, 2000).

This study obtained and examined descriptive statistics regarding faculty teaching behaviors in relation to academic rank. Associate Professors had the highest scores on five of the seven subscales including cooperation among students, high expectations, time on-task, and diverse talents. Associate Professors scored highest on the active learning and student/faculty contact subscales. Visiting Professors scored lowest on five of the seven subscales including student/faculty contact, cooperation among students, active learning, time on-task, and high expectations. Full Professors scored lowest on the diverse talents subscale and Associate Professors scored lowest on the prompt feedback subscale.
**Gender Subscale Difference**

Previous studies have examined faculty attitudes toward students with disabilities, faculty frequency of making accommodations, and faculty teaching behaviors in relation to gender. Females were found to have significantly more positive attitudes than males in four out of five studies (Baggett, 1993; Benham, 1995; Kleinssaser, 1999; Rao, 2002). Females were also made more accommodations such as allowing assignments to be proofread or edited, allowing extra time for exam completion, and allowing disability services to tape record exams (Dzeikan, 2003; Vogel et al., 1999). Finally, Lee (2004) found that female faculty members who taught undergraduate courses were generally more learner-centered than teacher centered. These studies indicate a trend in post-secondary education where females have more positive attitudes toward students with disabilities, provide more accommodations for these students, are more learner-centered and employ more teaching strategies known to be best practices.

Gender was examined in this study to determine if the trend would extend to their teaching behaviors. The descriptive data indicated that females had higher mean scores on all seven of the Faculty Inventory subscales. This indicates that the trend does extend from attitudes and perceptions to teaching practices.

**Limitations, Delimitations, and Assumptions**

This study was limited by certain factors. Further, the study was based upon a certain set of assumptions. A discussion of the limitations, delimitations, and assumptions are provided.
Limitations

While the total number of respondents was greater than the 360 recommended by the G Power analysis, not all participants indicated demographic information such as academic discipline and gender. Also, the behaviors were self-reported by faculty members.

Delimitations

Faculty members from only three universities were included, therefore results can not be generalized to all universities. Further, teaching behaviors were confined to those listed on the survey instrument and did not include all possible teaching behaviors. Also, faculty member participation was voluntary.

Assumptions

This study was guided by two assumptions. First, faculty who participated in the survey provided an accurate account of the teaching behaviors they employ. Second, faculty who participate in the survey provided accurate demographic information.

Summary

This study examined the descriptive statistics of demographic variables on the subscales of the Faculty Inventory. Results of this study indicate that teaching behaviors do vary as a function of academic discipline, years of experience making accommodations, academic rank, and gender. Academic discipline and years of experience making accommodations were analyzed to determine if they had a significant impact on teaching behaviors. Both academic discipline and years of experience making accommodations had significant results.
Clear trends emerged regarding faculty and students with disabilities. Whether the area of study was faculty attitudes, frequency making accommodations, or faculty behaviors, faculty from the Education and Health departments had the most positive attitudes, made more accommodations, and reported implementing the most teaching behaviors characteristic of good teaching practices. Faculty from the Computer/Engineering Department, the College of Engineering, and Business had the least positive attitudes. Further, faculty from the Computer/Engineering department, and the College of Engineering made the least accommodations. Additionally, faculty members from the Business and Science and Technology employed the least amount of teaching behaviors characteristic of good practices. Another trend is that females not only have more positive attitudes and made more accommodations, females also reported implementing more teaching behaviors designed for diverse student populations.

Implications of This Study

Over twenty years have passed since ADA was enacted. While certain sections of ADA and its predecessor Section 504 were designed to protect the rights of students at IHL, the force of the law depends on the extent to which postsecondary faculty understand and implement the law. As many faculty report having little to no training regarding disability laws, the likelihood that faculty members are following the law is minimal. In fact, with some faculty reporting making very few accommodations for students with disabilities, research clearly shows that disability laws are not universally being followed. Thus, problematic issues persist for students with disabilities at IHL.

These issues in postsecondary education suggest the ongoing need for faculty training opportunities to be provided in the areas of disability related law and UDI.
Training specific to disability law can help college faculty members ensure that they are abiding by the law and providing services specified by law. Disability law training would also help college faculty members understand the rights of students with disabilities and can help faculty members become better advocates for their students. Faculty members also need training in UDI. By understanding and implementing teaching strategies and procedures designed to proactively address the needs of all students, faculty can ensure that all students have equal access to instruction.

Recommendations for Future Research

The results of this study can be used as a basis for future studies. Based on the review of the literature and the findings of this study it is recommended:

1. This study should be duplicated in five to seven years.
2. Further research is needed in the area of UDI. While the concentrated efforts to develop a design for providing instruction at the postsecondary level have been successful, training and implementation of this design are not presently common practice.
3. Research could assess faculty perceptions of their roles and responsibilities regarding students with disabilities both before UDI training and after would be very helpful in the further development and implementation of UDI.
4. The studies regarding faculty teaching behaviors is very limited. Further research examining the specific teaching strategies faculty members use is needed.
APPENDIX A

LETTER TO PARTICIPANTS

Dear Colleagues,

Thank you for taking the time to read this email. This is Christa Bryant, a doctoral candidate at the University of Southern Mississippi, conducting research for my dissertation regarding the teaching behaviors of college faculty. I understand your time is valuable and would greatly appreciate your participation in completing the survey linked to this email. The survey contains questions regarding faculty teaching behaviors and takes approximately 15 to 20 minutes to complete.

Your participation will be voluntary and completely confidential. Feel free to decline participation or discontinue participation at any point. All identifying data collected in this study will be deleted following data analysis.

This study seeks to obtain information regarding the teaching behaviors of faculty. I hope the data collected during this study will provide practical and theoretical benefit in the field of postsecondary education. The results of this study will be included in my dissertation. However, no identifying information about you, your department, or your university will be identifiable within the findings.

Permission to use your data will be indicated by the completing and returning the survey. If you have any questions, please feel free to contact me.

Christa Bryant,
University of Southern Mississippi
(601) 554-6958
Christa.martin@usm.edu
This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.
APPENDIX B

FACULTY INVENTORY

For each option under the seven headings, please indicate either very often, often, occasionally, rarely, or never.

<table>
<thead>
<tr>
<th>1 Student-Faculty Contact</th>
<th>ever</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>I advise my students about career opportunities in their major field.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students drop by my office just to visit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I share my past experiences, attitudes, and values with students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I attend events sponsored by student groups.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I work with student affairs staff on issues related to student extracurricular life and life outside of school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know my students by name by the end of the first two weeks of the term.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I make special efforts to be available to students of a culture or race different from my own.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I serve as a mentor or informal advisor to students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I take students to professional meetings or other events in my field.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whenever there is a conflict on campus involving students, I try to help in its resolution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 2 Cooperation Among Students | | | | | |
| I ask students to tell each other about their interests and backgrounds. | | | | | |
| I encourage my students to prepare together for classes or exams. | | | | | |
| I encourage students to do projects together. | | | | | |
| I ask students to evaluate each other’s work. |   |   |   |
| I ask my students to explain difficult ideas to each other. |   |   |   |
| I encourage my students to praise each other for their accomplishments. |   |   |   |
| I ask my students to discuss key concepts with other students whose backgrounds and viewpoints are different from their own. |   |   |   |
| I create “learning communities,” study groups, or project teams within my courses. |   |   |   |
| I encourage students to join at least one campus organization. |   |   |   |
| I distribute performance criteria to students so that each person’s grade is independent of those achieved by others. |   |   |   |

3 Active Learning

| I ask my students to present their work to the class. |   |   |   |
| I ask my students to relate summarize similarities and differences among different theorists, research findings, or artistic works. |   |   |   |
| I ask my students to relate outside events or activities to the subjects covered in my courses. |   |   |   |
| I ask my students to undertake research or independent study. |   |   |   |
| I encourage students to challenge my ideas, the ideas of other students, or those presented in readings or other course materials. |   |   |   |
| I give my students concrete, real-life situations to analyze. |   |   |   |
| I use simulations, role-playing, or labs in my classes. |   |   |   |
| I encourage my students to suggest new readings, research projects, field trips, or other course activities. |   |   |   |
| My students and I arrange |   |   |   |
field trips, volunteer activities, or internships related to the course.

I carry out research projects with my students.

<table>
<thead>
<tr>
<th>4 Prompt Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>I give quizzes and homework assignments.</td>
</tr>
<tr>
<td>I prepare classroom exercises and problems which give students immediate feedback on how well they do.</td>
</tr>
<tr>
<td>I return examinations and papers within a week.</td>
</tr>
<tr>
<td>I give students detailed evaluations of their work early in the term.</td>
</tr>
<tr>
<td>I ask my students to schedule conferences with me to discuss their progress.</td>
</tr>
<tr>
<td>I give my students written comments on their strengths and weaknesses on exams and papers.</td>
</tr>
<tr>
<td>I give my students a pre-test at the beginning of each course.</td>
</tr>
<tr>
<td>I ask students to keep logs or records of their progress.</td>
</tr>
<tr>
<td>I discuss the results of the final examination with my students at the end of the semester.</td>
</tr>
<tr>
<td>I call or write a note to students who miss classes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5 Time on Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>I expect my students to complete their assignments promptly.</td>
</tr>
<tr>
<td>I clearly communicate to my students the minimum amount of time they should spend preparing for class.</td>
</tr>
<tr>
<td>I make clear to my students the amount of time that is required to understand complex material.</td>
</tr>
<tr>
<td>I help students set challenging goals for their own learning.</td>
</tr>
<tr>
<td>When oral reports or class presentations are called for I encourage students to rehearse...</td>
</tr>
</tbody>
</table>
I underscore the importance of regular work, steady application, sound self-pacing, and scheduling.

I explain to my students the consequences of non-attendance.

I make clear that full-time study is a full-time job that requires forty or more hours a week.

I meet the students who fall behind to discuss their study habits, schedules, and other commitments.

If students miss my classes, I require them to make up lost work.

**6 Communicates High Expectations**

I tell students that I expect them to work hard in my classes.

I emphasize the importance of holding high standards for academic achievement.

I make clear my expectations orally and in writing at the beginning of each course.

I help students set challenging goals for their own learning.

I explain to students what will happen if they do not complete their work on time.

I suggest extra reading or writing tasks.

I encourage students to write a lot.

I publicly call attention to excellent performance by my students.

I revise my courses.

I periodically discuss how well we are doing during the course of the semester.

**7 Diverse Talent and Ways of Learning**

I encourage students to speak up when they don’t
I discourage snide remarks, sarcasm, kidding, and other class behaviors that may embarrass students.

I use diverse teaching activities to address a broad spectrum of students.

I select readings and design activities related to the background of my students.

I provide extra material or exercises for students who lack essential background knowledge or skills.

I integrate new knowledge about women and other underrepresented populations into my courses.

I make explicit provisions for students who wish to carry out independent studies within my own course or as separate courses.

I have developed mastery learning, learning contracts, or computer-assisted learning alternatives for my courses.

I encourage my students to design their own majors when their interest doing so.

I try to find out about my students learning styles interests or backgrounds at the beginning of each course.

Demographic Information:

1. Gender Male ___ Female ___

2. Academic rank Full Professor ____ Associate Professor ____ Assistant Professor ____ Adjunct ____ Instructor ____ Other ____

3. Academic Discipline

______________________________
4. Experience making classroom accommodations  0-4 years _____  5-10 years ______ 10+ years _____
### APPENDIX C

### UNIVERSITY ACADEMIC DISCIPLINES

<table>
<thead>
<tr>
<th>University A</th>
<th>University B</th>
<th>University C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Letters</strong></td>
<td><strong>Departments of:</strong></td>
<td><strong>Colleges of:</strong></td>
</tr>
<tr>
<td>Art and Design</td>
<td>Architecture, Art, and Design</td>
<td>College of Liberal Arts</td>
</tr>
<tr>
<td>English</td>
<td>Arts and Sciences</td>
<td>Departments of:</td>
</tr>
<tr>
<td>Foreign Languages and Literature</td>
<td>Departments of:</td>
<td>African American Studies</td>
</tr>
<tr>
<td>History</td>
<td>Art</td>
<td>Art</td>
</tr>
<tr>
<td>Philosophy and Religion</td>
<td>Communication</td>
<td>Art History</td>
</tr>
<tr>
<td>Political Science, International Development and International Affairs</td>
<td>English</td>
<td>Classics</td>
</tr>
<tr>
<td>Speech Communication</td>
<td>Foreign Language History</td>
<td>English</td>
</tr>
<tr>
<td>Theatre and Dance School of Mass Communication</td>
<td>Military Science</td>
<td>Gender Studies</td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td><strong>Departments of:</strong></td>
<td><strong>Departments of:</strong></td>
</tr>
<tr>
<td>Tourism and Management School of Accountancy and Information Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School of Accountancy</strong></td>
<td><strong>School of Architecture</strong></td>
<td><strong>School of Applied Science</strong></td>
</tr>
</tbody>
</table>

---

**Note:** The table includes departments and colleges from Universities A, B, and C, illustrating the diversity of academic disciplines offered across these institutions.
<table>
<thead>
<tr>
<th>Education and Psychology</th>
<th>College of Education and Psychology</th>
<th>Departments of: Leadership and Counselor Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Departments of: Child and Family Studies</td>
<td>Curriculum and Instruction</td>
</tr>
<tr>
<td></td>
<td>Curriculum, Instruction, and Special Education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Educational Leadership and Research</td>
<td>Communication Sciences</td>
</tr>
<tr>
<td></td>
<td>Library and Informational Sciences</td>
<td>Family and Consumer Sciences</td>
</tr>
<tr>
<td></td>
<td>Psychology</td>
<td>Schools of: Applied Sciences</td>
</tr>
<tr>
<td></td>
<td>Summer Program in Graduate Education</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>Technology</td>
<td>Education</td>
</tr>
<tr>
<td>Health</td>
<td>Departments of:</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community Health Sciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nutrition and Food Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speech and Hearing Sciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schools of: Human Performance and Recreation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Departments of: Food Sciences, Nutrition, and Health Promotion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kinesiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Departments of: Health, Exercise Science, and Recreation Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Schools of: Applied Science Nursing</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Technology</th>
<th>Departments of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Administration of Justice</td>
</tr>
<tr>
<td></td>
<td>Biological Sciences</td>
</tr>
<tr>
<td></td>
<td>Chemistry and Biochemistry</td>
</tr>
<tr>
<td></td>
<td>Coastal Sciences</td>
</tr>
<tr>
<td></td>
<td>School of Computing</td>
</tr>
<tr>
<td></td>
<td>Departments of: Biochemistry and Molecular Biology</td>
</tr>
<tr>
<td></td>
<td>Biological Sciences</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
</tr>
<tr>
<td></td>
<td>Entomology and Plant Pathology</td>
</tr>
<tr>
<td></td>
<td>Geosciences</td>
</tr>
<tr>
<td></td>
<td>Mathematics and Statistics</td>
</tr>
<tr>
<td></td>
<td>Physics and Astronomy</td>
</tr>
<tr>
<td></td>
<td>Plant and Soil Sciences</td>
</tr>
<tr>
<td></td>
<td>Departments of: Chemical Engineering</td>
</tr>
<tr>
<td></td>
<td>Civil Engineering</td>
</tr>
<tr>
<td></td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td></td>
<td>General Engineering</td>
</tr>
<tr>
<td></td>
<td>Geology and Geological Engineering</td>
</tr>
<tr>
<td></td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td>Schools of: Engineering Law</td>
</tr>
</tbody>
</table>
APPENDIX D

PARTICIPANT PERCENTAGES BY YEARS OF EXPERIENCE MAKING ACCOMMODATIONS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
<th>4</th>
<th>-10</th>
<th>10+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(%)</td>
<td>N(%)</td>
<td>N(%)</td>
<td>N(%)</td>
</tr>
<tr>
<td>Academic Discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and Letters</td>
<td>4(17.1)</td>
<td>15(20.0)</td>
<td>17(26.2)</td>
<td>31(19.3)</td>
</tr>
<tr>
<td>Business</td>
<td>37(9.9)</td>
<td>4(5.3)</td>
<td>7(10.8)</td>
<td>26(16.1)</td>
</tr>
<tr>
<td>Education and Psychology</td>
<td>45(12.0)</td>
<td>15(20.0)</td>
<td>10(15.4)</td>
<td>20(12.4)</td>
</tr>
<tr>
<td>Health</td>
<td>24(6.4)</td>
<td>7(9.3)</td>
<td>4(6.2)</td>
<td>13(8.1)</td>
</tr>
<tr>
<td>Science and Technology</td>
<td>106(28.3)</td>
<td>27(36.0)</td>
<td>22(33.8)</td>
<td>56(34.8)</td>
</tr>
<tr>
<td>Years of Experience Making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>75(20.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10</td>
<td>65(17.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10+</td>
<td>161(43.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Rank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjunct</td>
<td>15(4.0)</td>
<td>7(9.3)</td>
<td>4(6.2)</td>
<td>4(2.5)</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>88(23.5)</td>
<td>38(50.7)</td>
<td>29(44.6)</td>
<td>19(11.8)</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>74(19.8)</td>
<td>7(9.3)</td>
<td>18(27.70)</td>
<td>49(30.4)</td>
</tr>
<tr>
<td>Full Professor</td>
<td>78(20.9)</td>
<td>1(1.3)</td>
<td>4(6.2)</td>
<td>73(45.3)</td>
</tr>
<tr>
<td>Instructor</td>
<td>38(10.2)</td>
<td>16(21.3)</td>
<td>8(12.3)</td>
<td>14(8.7)</td>
</tr>
<tr>
<td>Visiting Professor</td>
<td>8(2.1)</td>
<td>5(6.7)</td>
<td>2(3.1)</td>
<td>1(.6)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>129(34.5)</td>
<td>43(57.3)</td>
<td>27(41.5)</td>
<td>58(36.0)</td>
</tr>
<tr>
<td>Male</td>
<td>174(46.5)</td>
<td>32(42.7)</td>
<td>38</td>
<td>103</td>
</tr>
<tr>
<td>Variable</td>
<td>Sample</td>
<td>Arts and Letters</td>
<td>Business</td>
<td>Education and Psychology</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------</td>
<td>------------------</td>
<td>----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td></td>
<td>N(%)</td>
<td>N(%)</td>
<td>N(%)</td>
<td>N(%)</td>
</tr>
<tr>
<td>Academic Discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and Letters</td>
<td>64(17.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>37(9.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and Psychology</td>
<td>45(12.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>24(6.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science and Technology</td>
<td>106(28.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Experience Making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>75(20.1)</td>
<td>15(23.4)</td>
<td>4(10.8)</td>
<td>15(33.3)</td>
</tr>
<tr>
<td>5-10</td>
<td>65(17.4)</td>
<td>17(26.6)</td>
<td>7(18.9)</td>
<td>10(22.2)</td>
</tr>
<tr>
<td>10+</td>
<td>161(43.0)</td>
<td>31(48.4)</td>
<td>26(70.3)</td>
<td>20(44.4)</td>
</tr>
<tr>
<td>Academic Rank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjunct</td>
<td>15(4.0)</td>
<td>4(6.3)</td>
<td>2(5.4)</td>
<td>1(2.2)</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>88(23.5)</td>
<td>23(35.9)</td>
<td>7(18.9)</td>
<td>16(35.6)</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>74(19.8)</td>
<td>14(21.9)</td>
<td>11(29.7)</td>
<td>9(20.0)</td>
</tr>
<tr>
<td>Full Professor</td>
<td>78(20.9)</td>
<td>11(17.2)</td>
<td>11(29.7)</td>
<td>9(20.0)</td>
</tr>
<tr>
<td>Instructor</td>
<td>38(10.2)</td>
<td>6(9.4)</td>
<td>6(16.2)</td>
<td>6(13.3)</td>
</tr>
<tr>
<td>Visiting Professor</td>
<td>8(2.1)</td>
<td>5(7.8)</td>
<td>0(0.0)</td>
<td>1(2.2)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>129(34.5)</td>
<td>28(43.8)</td>
<td>8(21.6)</td>
<td>28(62.2)</td>
</tr>
<tr>
<td>Male</td>
<td>174(46.5)</td>
<td>36(56.3)</td>
<td>29(78.4)</td>
<td>17(37.8)</td>
</tr>
</tbody>
</table>
APENDIX F

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board
118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 29091702
PROJECT TITLE: Postsecondary Faculty Instructional Behaviors at Three State Supported Institutions
PROPOSED PROJECT DATES: 09/28/09 to 09/28/10
PROJECT TYPE: Dissertation or Thesis
PRINCIPAL INVESTIGATORS: Christa Bryant
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Curriculum, Instruction, & Special Education
FUNDING AGENCY: N/A
HS PRC COMMITTEE ACTION: Exempt Approval
PERIOD OF APPROVAL: 09/24/09 to 09/23/10

[Signature]
Lawrence A. Hosman, Ph.D.
HS PRC Chair

[Signature]
Date
REFERENCES


Campbell, B. S. (2002). Faculty attitudes toward students with disabilities at a regional university (Doctoral dissertation) Oklahoma State University. (UMI No. 3080513)


Cook, L. H. (2007). Faculty member’s priorities and understanding regarding university students with disabilities (Doctoral dissertation) Kent State University. (UMI No. 3268857)


Dziekan, K. L. (2003). Postsecondary inclusion through academic accommodations: Attitudes, experiences, and perceptions of college students with learning disabilities and faculty. (Doctoral Dissertation) Syracuse University. (UMI No. 3081632)


Individuals with Disabilities Education Act, 20 U.S.C. §1400 et seq.

Individuals with Disabilities Education Act Regulations, 34 C.F.R. §300.1 et seq.


Rao, S. M. (2002). Students with disabilities in higher education: Faculty willingness to provide accommodations. (Doctoral dissertation) University of Arkansas. (UMI No. 3079101)


