Diffusion of Inclusion: Measuring Willingness

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DIFFUSION OF INCLUSION: MEASURING WILLINGNESS
TO ADOPT INCLUSIVE TEACHING STRATEGIES
IN NURSING EDUCATIONAL ENVIRONMENTS

by

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ABSTRACT
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The purpose of the study was to: (1) examine psychometric properties of the Willingness to Adopt Inclusive Teaching Strategies (ITSinNE) instrument and (2) measure factors influencing a nurse educator's willingness to adopt inclusive teaching strategies based in universal design for instruction (UDI). Universal design for instruction (UDI) is one approach to facilitate multiple ways of learning and evaluation in various learning environments for all learners; however, it is not well known or researched in nursing education. Diffusion of innovation theory (Rogers, 2003) and universal design for instruction (McGuire & Scott, 2006) provided the theoretical framework for the study.

A cross-sectional design was used to measure educators' willingness to adopt inclusive teaching strategies in nursing educational settings. A total of 311 nurse educators were recruited from professional nursing organization electronic mailing lists and conferences. The ITSinNE (55-items) consisted of four domains: Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Education. Cronbach's alphas for almost all of the domain subscales were .7 or greater. The confirmatory factor analysis demonstrated adequate model fit on most indices (exogenous model: $\chi^2 = 0.00$; RMSEA = .08; GFI = .96; TLI = .95; WRWR = 1.64; endogenous model: $\chi^2 = 0.00$; RMSEA = .18; GFI = .89; TLI = .87; WRWR = 2.64). When the endogenous model domains were all freestanding, model fit indexes improved ($\chi^2 = 0.00$; RMSEA = .098; GFI = .97; TLI = .96; WRWR = 1.24). The model as a whole explained 44.8% ($R^2 = .448$) of the variance in WillAdITS. None of the characteristics of a nurse educator contributed to the model, except for years of teaching ($B = .-.008, p < .001$)

Reliability and validity estimates support the continued development of an instrument to examine nurse educator's knowledge, support, and willingness to adopt inclusive teaching strategies. This will enable intervention research to enhance professional development fostering access to content and environments for all learners.

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CHAPTER ONE

The National League for Nursing (NLN, 2003, 2005, 2009, 2011), American Association of Colleges of Nursing (AACN, 2008, 2014), American Nurses Association (ANA, 2012), and Institute of Medicine (IOM, 2010, 2011) have continually called on nursing education to transform its paradigm by using innovative and inclusive pedagogies to prepare a diverse workforce to meet the healthcare needs of society. Traditionally, diversity in the nursing workforce and education was defined by demographic terms (e.g., race, age, gender); however, the diversity lexicon also needs to include nurses and students with disabilities (Dupler et al., 2012; Marks, 2000, 2007; Rosenberg & O'Rourke, 2011). Although nursing education has made strides in developing curriculum and teaching approaches to address the expanding definition of student diversity, more program development and research is needed.

One way for nursing education to address today's diverse student body is to adopt a more inclusive curriculum based in universal design for instruction (UDI) for use in all learning environments. The psychometric properties of a new instrument to examine facilitators or barriers to the diffusion of an inclusive curriculum within nursing education were examined in this study. In this chapter, the scope and significance to nursing education for an inclusive curriculum and educational environments are delineated. The background, research questions, operational definitions, and purpose for the study conclude the chapter.

Scope and Significance

Nursing education is charged with the responsibility of educating and graduating nurses to meet the diverse healthcare needs of the public and reduce the nursing shortage. Nursing programs and nurse educators are challenged by the complexity of the educational reform in providing an inclusive curriculum and teaching strategies for diverse learners. For this study, inclusive teaching strategies are teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments. A learning environment in nursing education includes the classroom, clinical, simulation and/or skills lab settings.

The concept of diversity in nursing education has expanded to include students with multiple learning styles, English as a second language (ESL), varied academic preparedness, and disabilities (Fleming, Mckee, & Huntley-Moore, 2011; Schelly, Davis, & Spooner, 2011). In 2010, nearly 20% of the adult population in the United States reported having a disability (U.S. Department of Commerce, 2013). Comparatively, the National Center for Education Statistics [NCES] (2012) reported only 11% of students attending postsecondary educational institutions revealed they had a disability. This number is disproportionate to the population at large and might be underreported due to students' fears of discrimination and stigma (Matthews, 2009). There are no statistics for nurses or nursing students with disabilities (NSWD) rates of admission or graduation. The statistics demonstrate the broadening of the definition of diversity in nursing education; however, more program development and research on the recruitment, retention and graduation of NSWD is needed to diversify nursing education and the workforce. Barriers for NSWD inclusion in nursing programs were attributed to

admission policies, lack of faculty role development, limited teaching experience with students having disabilities, and nurse educators' attitudes toward NSWD (Levey, 2014). Nurses with disabilities might be role models for NSWD and have the ability to provide care from a perspective that mirrors one-fifth of the United States population.

With the increasing enrollment of students with diverse learning needs, it is imperative that nursing education provides an accessible curriculum and uses inclusive teaching strategies that offer equal learning opportunities for all learners, with and without disabilities (Betz, Smith, & Bui, 2012; Levey, 2014; Rosenberg & O'Rourke, 2011). One inclusive teaching approach that embraces today's postsecondary diverse learners and learning styles is universal design for instruction (UDI) rooted in the architecture concept of Universal Design (McGuire, 2011). However, UDI principles and practices are not well known or widely diffused in nursing education, as evidenced by the existence of only one article in the nursing education literature (Marcyjanik & Zorn, 2011). No empirical studies on inclusive teaching strategies based on UDI principles were found in the nursing literature. The lack of knowledge and implementation of inclusive teaching strategies might create barriers to student learning, assessment, and progression in nursing programs (Aaberg, 2012; Dupler et al., 2012).

Though inclusive teaching principles based on UDI principles are well established in postsecondary education, the concept is new in nursing education and needs to be studied as a possible way to develop an inclusive curriculum for today's diverse student body (DeVore, Stuart, & Riall, 2008; Izzo, Murray, & Novark, 2008; Lombardi, Murray, & Gerdes, 2011; Lombardi, Murray, & Dallas, 2013; McGuire, Scott, & Shaw, 2003, 2006; Messigner-Williams & Mariono, 2010; Pliner & Johnson, 2004; Roberts, Park,

Brown, & Cook, 2011; Schelly et al., 2011; Scott, McGuire, & Shaw, 2001, 2003; Shaw, 2012). Examination of the psychometric properties of a new instrument to measure characteristics that are facilitators or barriers to the adoption of inclusive teaching strategies in nursing education was the focus of this study. The development of an instrument to assess the characteristics that contribute to a nurse educator's willingness to adopt inclusive teaching strategies is the initial step needed before professional development training programs are implemented by nursing programs and disability services for this purpose.

The instrument further developed in this study can be used in a collaborative effort between Offices of Disabilities and nursing programs to allocate resources for increased implementation of effective instructional design and content delivery in varied learning environments. Identifying the correlations between the characteristics of facilitators and barriers to the adoption of inclusive teaching strategies may inform nurse educators of areas in need of development for the preparation of novice to seasoned educators to teach diverse learners. The findings might advance teaching strategies used in nursing education and increase the graduation of NSWD and thus, increase the numbers of nurses with disabilities caring for patients, abled or disabled.

Background

Section 504 of the Rehabilitation Act (1973), Americans with Disabilities Act (ADA, 1990), and Americans with Disabilities Act Amendment Act (ADAAA, 2008) were enacted to ensure equal access to postsecondary programs and to provide reasonable accommodations to qualified students who disclose their disabilities. The definition of disability has expanded to include a spectrum of physical, sensory, mental, or chronic

conditions that impact major life functions and activities of an individual. The ADAAA (2008) ensures access for students with documented disabilities who are otherwise qualified for admission into an academic program with or without reasonable accommodations. Despite the laws, students reported being denied admission to nursing programs based on disability-related policies and procedures for admission established by nurse educators on perceived essential functions for employment, not education (Kolanko, 2003; Maheady, 2003; Maheady & Fleming, 2005; Marks, 2007; Marks & Ailey, 2014). Admission to a school of nursing based on educational technical standards establishes the non-academic requirements a student must have or possess to enter a program of study (Smith, 2008). A well written technical standard statement focuses on the "what" of a skill, not the "how" (Marks & Ailey; Smith). For example, "must be able to gather vitals using a variety of means" instead of "must be able to hear a heart murmur through a stethoscope" (Smith, 2008, p. 1); the focus is on the general, not the specific. The essential functions of a nurse for employment are acquired after a program of study is completed, not before. As such, technical standards for a nursing student are not the same as essential functions for a registered professional nurse (Marks & Ailey). Unfortunately, students with visible disabilities may be expected to complete additional task performances not required of students without a disability solely based on the disability, even when accommodations were available from the academic institution (Aaberg, 2012; Marks, 2007). These practices are not in the spirit of the laws.

Other barriers for NSWD inclusion in nursing programs include: concerns of cost for the program to educate students with disabilities (Storr, Wray, & Draper, 2011); perceived increased workload demands (Evans, 2005; Sowers & Smith, 2004a, 2004b);

inadequate institutional support (Carey, 2012; Rosenberg & O'Rourke, 2011); apprehension regarding accommodations in learning environments (e.g., clinical, simulation and skills lab) (Aaberg, 2012; Ryan, 2011); lack of teaching experience with NSWD (Ashcroft et al., 2008; Sowers & Smith, 2004a, 2004b); and limited professional development on accommodations, ADA law, and Universal Design for Instruction (UDI) (Ashman, 2010; Betz et al., 2012; Dupler et al., 2012; Neal-Boylan & Guillett, 2008).

UDI is an educational approach that addresses equitable access to a program's curriculum, assignments, assessments, content and learning environment for all students, with and without disabilities (Scott et al., 2003). The UDI framework focuses on the use of multiple teaching methods and materials to remove physical and cognitive barriers for knowledge and skill acquisition for the broadest range of learners, and, as such, all students benefit (Orr & Bachman-Hammig, 2009; Pliner & Johnson, 2004).

Scott, McGuire and Embry (2002) defined the concept of UDI as "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" (p. 1). UDI principles in postsecondary education include: (1) equitable use, (2) flexibility in use, (3) simple and intuitive use, (4) perceptible information, (5) tolerance for error, (6) low physical effort, (7) size and space for approach, (8) use a community of learners, and (9) instructional climate (Scott, McGuire, & Shaw, 2001, 2003) (see Table 1).

Table 1.

Principles of Universal Design for Instruction

Principle	Definition	Example(s)
Principle 1: Equitable use	Instruction is designed to be useful to and accessible by people with diverse abilities. Provide the same means of use for all students; identical whenever possible, equivalent when not.	Provision of class notes online. Comprehensive notes can be accessed in the same manner by all students, regardless of hearing ability, English proficiency, learning or attention disorders, or note taking skill level. In an electronic format, students can utilize whatever individual assistive technology is needed to read, hear, or study the class notes.
Principle 2: Flexibility in use	Instruction is designed to accommodate a wide range of individual abilities. Provide choice in methods of use.	Use of varied instructional methods (lecture with a visual outline, group activities, use of stories, or web board based discussions) to provide different ways of learning and experiencing knowledge.
Principle 3: Simple and intuitive	Instruction is designed in a straightforward and predictable manner, regardless of the student's experience, knowledge, language skills, or current concentration level. Eliminate unnecessary complexity.	Provision of a grading rubric that clearly lays out expectations for exam performance, papers, or projects; a syllabus with comprehensive and accurate information; a handbook guiding students through difficult homework assignments.
Principle 4: Perceptible information	Instruction is designed so that necessary information is communicated effectively to the student, regardless of ambient conditions or the student's sensory abilities.	Selection of text books, reading material, and other instructional supports in digital format or online so students with diverse needs (e.g., vision, learning, attention, English Language Learners) can access materials through traditional hard copy or with the use of various technological supports (e.g., screen reader, text enlarger, online dictionary).
Principle 5: Tolerance for error	Instruction anticipates variation in individual student learning pace and prerequisite skills.	Structuring a long-term course project so that students have the option of turning in individual project components separately for constructive feedback and for integration into the final product; provision of online "practice" exercises that supplement classroom instruction.

Principle 6: Low physical effort	Instruction is designed to minimize nonessential physical effort in order to allow maximum attention to learning. Note: This principle does not apply when physical effort is integral to essential requirements of a course.	Allowing students to use a word processor for writing and editing papers or essay exams. This facilitates editing of the document without the additional physical exertion of rewriting portions of text (helpful for students with fine motor or handwriting difficulties or extreme organization weaknesses while providing options for those who are more adept and comfortable composing on the computer).
Principle 7: Size and space for approach and use	Instruction is designed with consideration for appropriate size and space for approach, reach, manipulations, and use regardless of a student's body size, posture, mobility, and communication needs.	In small class settings, use of a circular seating arrangement to allow students to see and face speakers during discussion—important for students with attention deficit disorder or who are deaf or hard of hearing.
Principle 8: A community of learners	The instructional environment promotes interaction and communication among students and between students and faculty.	Fostering communication among students in and out of class by structuring study groups, discussion groups, e-mail lists, or chat rooms; making a personal connection with students and incorporating motivational strategies to encourage student performance through learning students' names or individually acknowledging excellent performance.
Principle 9: Instructional climate	Instruction is designed to be welcoming and inclusive. High expectations are espoused for all students.	A statement in the class syllabus affirming the need for class members to respect diversity in order to establish the expectation of tolerance as well as to encourage students to discuss any special learning needs with the instructor; highlight diverse thinkers who have made significant contributions to the field or share innovative approaches developed by students in the class.

A curriculum designed using inclusive teaching strategies is a proactive approach that meets the greatest number of student learning needs and reduces the time and cost for an educator to retrofit a course secondary to an accommodation request. In addition, there is an inverse relationship to the use of inclusive teaching strategies and the amount of requested accommodations (Baker, Boland, & Nowik, 2012; Salmen, 2011; Shaw, 2011). The use of inclusive teaching strategies based in UDI has the potential to empower nurse educators to meet the multiple learning needs of nursing education in development of a diverse workforce.

In postsecondary education, most of the empirical research is qualitative, because the idea of inclusive teaching strategies based in UDI principles is a relatively new concept, only diffusing into this discipline over the past 10 years. Qualitative studies using focus groups, interviews, case studies, and action research found teaching experience (years of teaching, employment status, exposure to students with a disability, type of course taught), knowledge (professional training on disabilities, accommodations, ADA law and UDI), social system norm (supportive behaviors within an academic system), and organizational structure (type of academic institution, programs offered) as factors relating to the adoption of inclusive instructional practices (Ashman, 2013; Carey, 2012; Embry & McGuire, 2011; Izzo et al., 2008; Ryan, 2011).

Recent quantitative studies to measure characteristics of faculty members' willingness to adopt inclusive teaching strategies focused on the traditional classroom setting. Lombardi and Murray (2011) found relationships between faculty members' willingness to adopt inclusive teaching strategies in the classroom were linked to knowledge of previous disability-focused training, teaching status, college/school

association, and prior exposure to students with disabilities. In a similar study, Lombardi et al. (2011) measured postsecondary faculty members' perceptions toward students with disabilities and inclusive instruction practices (i.e., teaching strategies) based on UD at a public 4-year university. The study revealed faculty members' prior disability training or experiences with a student with a disability were related to positive attitudes/beliefs towards inclusive teaching strategies after controlling for gender, teaching status and years of classroom experience. Results also showed a discrepancy between attitudes/beliefs and actions on implementing inclusive teaching strategies in the classroom; faculty could believe in inclusive teaching strategies, but not implement these strategies in the classroom. Nurse educators were not included in this study.

The lack of knowledge and consideration for inclusive teaching strategies during curriculum development and instruction might be a barrier to student learning, with and without disabilities. Inclusive teaching strategies are the underpinning of UDI principles and practices; however, they are not well known in nursing education. Only one article in the nursing literature described the use of UDI principles in the context of an online learning environment (Marcyjanik & Zorn, 2011). No studies on inclusive teaching strategies guided by UDI principles were found in the nursing education literature.

Carey (2012) conducted a qualitative study on nurse educators' perspectives of an inclusive curriculum for nursing students with disabilities. However, his study did not address UDI which focuses on access for all students. In addition, Carey does not have a background in nursing practice or education. The lack of research in nursing education on inclusive teaching strategies based in UDI heightens the need for this study.

Theoretical Framework Overview

Rogers' (2003) theory on the Diffusion of Innovation (DOI) offers a theoretical explanation of factors that contribute to the decision to adopt or reject an innovation such as inclusive teaching strategies. An innovation is defined as a new idea, concept, product or object for the individual or group (Rogers, 2003). Diffusion is a process of disseminating the innovation through communication channels over time among individuals or a specified group within a system (Rogers, 2003). In nursing education, Rogers' theory provides a way to measure factors contributing to educators' willingness to adopt inclusive teaching strategies. Constructs from the DOI theory that will constitute the model for this study include: characteristics of the innovation (inclusive teaching strategies), the prior conditions (previous teaching strategies, knowledge/need of inclusive teaching strategies, and social system support), and adopter (nurse educator sociodemographics). To implement inclusive teaching strategies based in UDI in nursing education, it is important to have an instrument that identifies the characteristics and relationships that are facilitators or barriers to the adoption of inclusive teaching strategies in a curriculum. Recognizing the facilitators and barriers that impact the willingness to adopt inclusive teaching strategies will assist in diffusing this idea during professional training development.

Purpose

The purposes of this dissertation were to: (1) examine the psychometric properties of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Education instrument (ITSinNE) and (2) measure the characteristics of nurse educators and

relationships among constructs related to nurse educators' willingness to adopt inclusive

teaching strategies for students in their nursing programs (see Figure 1).

Figure 1. Diffusion of Inclusion: Measuring Willingness to Adopt Inclusive Teaching
Strategies in Nursing Education Model
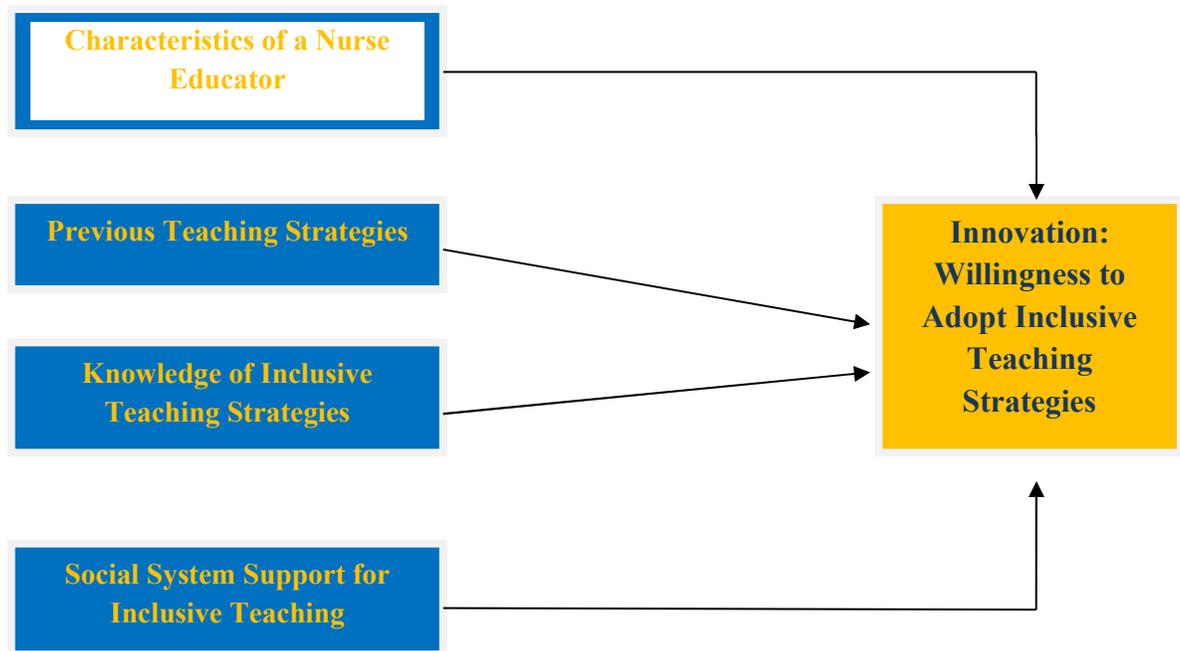
Research Questions

The research questions driving this dissertation study included:

Research Question 1 (RQ 1): (1) Do instruments measuring the four constructs of the

Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational

Environments Model (Previous Teaching Strategies, Knowledge of Inclusive Teaching

Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to

Adopt Inclusive Teaching Strategies in Nursing Educational Environments) demonstrate

acceptable estimates of reliability and validity?

Research Question 2 (RQ 2): What are the relationships between selected demographic variables (Characteristics of Nurse Educator) and variables (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) within the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model?

Research Question 3 (RQ 3): Is one variable (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator) a better indicator for the willingness to adopt inclusive teaching strategies in nursing educational settings (Willingness to Adopt Inclusive Teaching Strategies)?

Chapter One Summary

Postsecondary institutions are becoming more diverse and reflect the population at large with the increased enrollment of students with English as a second language (ESL), multiple learning styles, varied academic preparedness, and disabilities. Nurse educators use multiple teaching pedagogies to meet the varying learning needs of students; however, more program development and research is needed on the inclusivity of content within the different teaching environments. UDI might be the inclusive pedagogical approach that guides nursing curriculum development and course delivery to achieve this goal for all learners, with and without disabilities.

The Diffusion of Innovation (Rogers, 2003) theory with philosophical underpinnings of universal design for instruction principles (McGuire & Scott, 2006a, 2006b) guided this study on inclusive teaching strategies in nursing educational

environments. Inclusive teaching strategies based in UDI have been used in postsecondary education for more than 10 years, but this concept has yet to spread to the nursing departments in colleges and universities. A new instrument, Willingness to Adopt Inclusive Teaching Strategies in Nursing Education instrument (ITSinNE), was designed using selected constructs from the DOI theory to measure factors that might influence nurse educators' willingness to adopt inclusive teaching strategies based in universal design principles. Measuring the characteristics and relationships that are barriers or facilitators for nurse educators' willingness to adopt inclusive teaching strategies can inform nursing education and disability services of areas that need to be developed when preparing novice to seasoned educators to teach diverse learners.

In Chapter 2, the DOI (Rogers, 2003) theory with philosophical underpinnings of UDI (McGuire & Scott, 2006a, 2006b) constructs are described and statements of assumptions, research questions, and a summary of the gaps in literature supporting the need for this study are discussed.

CHAPTER TWO

This chapter describes the conceptual framework of Diffusion of Innovation (DOI) that will guide this study. The philosophical underpinnings of Universal Design for Instruction (UDI) are explained, along with a comprehensive review of relevant literature describing events impacting the call for inclusive teaching strategies in nursing education. A rigorous review of current research on UDI in nursing and postsecondary education will follow. The subsequent section will discuss the preliminary study and resulting instrument used for this research project. Chapter Two culminates with the research questions, assumptions for the study, and a generalized summary of the literature to set the foundation for the methodology proposed in the study.

Conceptual Framework

Diffusion of Innovation (DOI) theory was selected as the framework to guide the examination of factors that influence a nurse educator's willingness to adopt an innovative teaching practice such as inclusive teaching strategies. The DOI theoretical model is based on Roger's (1995) seminal work in which he synthesized 50 years of diffusion research to explain how an innovation spreads through communication channels and becomes adopted by members of a social system over time (Roman, 2003, 2006). The DOI theory assists researchers and educational program developers to understand factors that influence the progression of a new idea through the stages of the innovation-decision process to adoption in widespread practice (Murray, 2009).

Everett M. Rogers attended Iowa State for his graduate work in rural sociology on the diffusion of agricultural innovations. Rogers was studying under Dr. Beal (1954), a

diffusion scholar, and, within a week, was invited by Dr. Beal to join a funded diffusion

project on hybrid corn in Iowa. During his course of study, Rogers was greatly

influenced by Ryan and Gross' (1943) research on the adoption and diffusion of hybrid

seed corn by two farming communities in Iowa. The hybrid corn study revealed to

Rogers how communication channels and characteristics of the farmer facilitated the

adoption of the hybrid seed from a few adopters to the entire farming community. At

Iowa State University, Rogers completed his dissertation study (1959) on the resistance

of Iowan framers to the usage of new agricultural inventions (i.e., high-yielding hybrid

seed corns, weed sprays) and how these innovations were adopted and diffused among

farmers over time (Rogers, 2003). In 2010, more than 5000 published DOI studies were

recorded and Rogers's work was cited in more than 15,000 publications (Bainbridge,

2012). DOI is widely used in many disciplines, including sociology, anthropology,

public health, communication, advertising, marketing, political science, history,

technology, management, economics, geography, education, medical sociology, and most

recently, in nursing (Keele, 2010; Rogers, 2003; Sahin, 2006).

Diffusion of Innovation Model

Diffusion is defined as a process of disseminating the innovation through

communication channels over time among members within a social system; it is a group

process (Rogers, 2003). An innovation is defined as an idea, concept, product or object

perceived as new by an individual or other unit of adoption (Rogers, 2003). Adoption of

the innovation process occurs at the individual level and is interpreted as the mental

process or stages a person passes through when first hearing about an innovation before

the adoption is complete (Rogers, 2003). The state of mind of the potential adopter is

determined by their knowledge and perceptions toward the innovation before the actual

behavior has occurred (Arts, Frambach, & Bijmolt, 2011; Rogers, 1995, 2003). Adoption

of the innovation incorporates a decision to use the idea, practice or object as the best

course of action available (Rogers, 1995, 2003; Rose & Manley, 2012). The intended

adoption expresses the potential adopter's perceptions of the innovation and willingness

to use it in an anticipated situation (Rogers, 2003) (see Figure 2).

Figure 2: Roger's (2003) Model of Five Stages in the Innovation-Decision Process
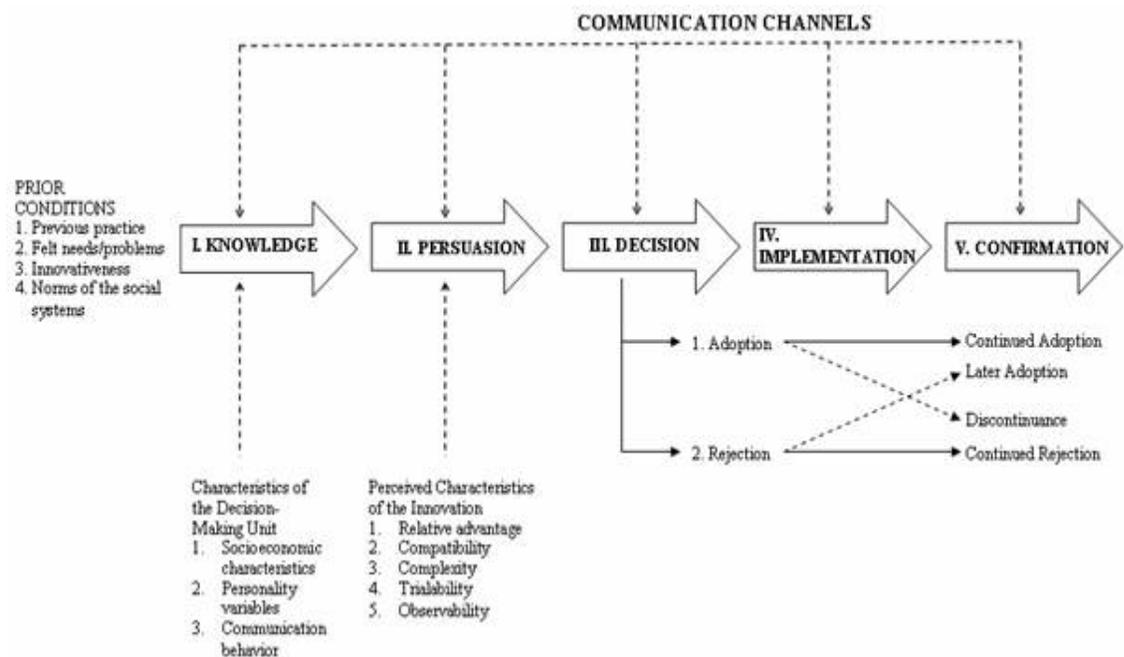
Source: From DIFFUSION OF INNOVATION, 5th Edition by Everett M. Rogers, Copyright © 1995, 2003 by Everett M. Rogers. Copyright © 1962, 1971, 1983, by the Free Press. Reprinted by permission of Simon & Schuster Publishing Group from the Free Press Edition. All rights reserved.

Characteristics of Prior Conditions

The innovation-decision process and adoption is triggered by prior conditions that

foster the need for awareness or need for additional knowledge regarding the innovation

(Rogers, 2003). The theory identified characteristics of prior conditions to include: (1)

previous practices utilized by the individual, (2) the needs/problems that might act as a catalyst to seek more knowledge or to change a behavior, (3) the innovativeness of the individual's eagerness (willingness) to change or to adopt the innovation earlier than other members, and (4) the norms of the social system in which the individual participates and associates. Characteristics of prior condition in the context of nurse educators were one focus of this study. The degree of innovativeness by which an individual perceives their adoption rate of a new idea was not included in this study (i.e., innovators, early adopters, early majority, late majority and laggers).

The Stages of the Innovation-Decision Process

The five stages of the innovation-decision process are knowledge, persuasion, implementation and confirmation (Rogers, 2003). In the knowledge awareness stage, which addresses the cognitive stage of learning (i.e., knowing, objective), the individual is exposed to the existence of the innovation and gains an understanding of how to use it correctly and its operations (Sahin, 2006). At the persuasion stage, the individual forms a positive or negative attitude towards the innovation that addresses the affective domain of learning (i.e., feeling, subjective) (Sahin, 2006). It is during the persuasion stage that the individual weighs the perceived characteristics or attributes of the innovation (i.e., perceptions and willingness). In the decision stage, the individual rejects, adopts or defers the innovation for use at a later time. Adoption is the decision to use the innovation as the best course of action in a future situation. At the implementation stage, the individual makes full use of the innovation and it is demonstrated in the individual's overt behaviors. The last stage is confirmation and this occurs when the individual seeks support as reinforcement for the decision to use the innovation. It is at this time that the

individual could reverse their decision to adopt, if he/she receives conflicting messages about the innovation.

Characteristics of the Innovation

An innovation is defined as an "idea, practice or object that is perceived as new by the individual or other unit of adoption"(i.e., group, organization) (Rogers, 2003, p. 12). The innovation might or might not be new in its concept, practice, object or design; however, it is perceived as new by the individual (Rogers, 2003). The adoption of an innovation depends on the characteristics of the innovation, the social system, the communication channels, and the time (Rogers, 2003). It is the perceived characteristics (attributes) of the innovation that determine the rate of adoption by members within the social system (Morris, Marzano, Dandy, & O'Brien, 2012; Rogers, 2003). For this study, the innovation was identified as inclusive teaching strategies (ITS) in nursing educational settings.

The five perceived characteristics of an innovation include: relative advantage, compatibility, complexity, trialability and observability (Rogers, 2003). Relative advantage refers to the degree to which the innovation is perceived by the potential adopter as being better or more useful than the idea it is replacing. The higher the perceived relative advantage, the greater the likelihood the individual or organization will adopt the innovation. Compatibility denotes the degree to which the innovation is perceived in concordance with the potential adopter's values, experience, and needs. An idea that is perceived as compatible to the adopter's context poses less uncertainty or unfamiliarity to its use. Complexity refers to how easy or simple the innovation can be understood and used. An adopter will be less resistant to an idea or practice that appears

effortless to learn. Trialability is the degree to which an innovation might be experimented with on a trial basis. An innovation that can be used by the potential adopter on a limited time basis has a greater likelihood of adoption. The last perceived characteristic of an innovation is observability. This attribute refers to the degree to which the results of an innovation are visible to a potential adopter (Rogers).

As previously discussed, the weighing of the perceived characteristics of the innovation occurs just prior to the decision to adopt the innovation as the best course of action. Knowing the perceived characteristics of an innovation is important because these perceptions explain 49% to 87% of the variance in the willingness to adopt the innovation (Rogers, 2003). As such, the higher the innovation's score on these perceived characteristics, the greater the impact on the potential adopter's willingness to adopt (Rogers, 2003). The perceived characteristics of an innovation (inclusive teaching strategies) were another area of focus for this study.

Characteristics of Time

The element of time is related to the diffusion process by (1) the innovation-decision process, (2) innovativeness, and (3) an innovation's rate of adoption (Rogers, 2003). Rogers conceptualized the five-stage innovation-decision process of knowledge, persuasion, decision, implementation, and confirmation, as previously described. During various stages in the innovation-decision process, the individual seeks information to decrease uncertainty of the innovation and consequences of its acceptance (Rogers, 2003). The decision stage leads to either adoption (a decision to make full use of the innovation as the best course of action available) or rejection (a decision not to adopt the innovation or defer it to a later time) (Rogers, 2003). Innovativeness is the degree to

which the individual or other unit of adoption has regarding eagerness (i.e., willingness) of adopting a new idea earlier than other members of the social system (Rogers, 2003). The rate of adoption is equated to the time for an innovation to be adopted by members of a social system (Rogers, 2003). Members of a social system are classified by their self-reported innovativeness and demographic data into adopter categories (i.e., innovators, early adopters, early majority, late majority and laggers) (Rogers, 2003). For example, Rogers generalized the characteristics of earlier adopters to have more formal education, higher socioeconomic standing and greater desire for upward social mobility, along with greater exposure to mass media and interpersonal communication channels than later adopters. Selected demographic variables were used to describe the characteristics of nurse educators in this study.

Characteristics of the Social System

Rogers (2003) defined a social system or organization as sets of interrelated units engaged in problem-solving to accomplish a common goal. A social system has structure arrangements, which provide stability and regularity to behaviors in the system (Rogers, 2003). A social system's norms are defined by established behaviors for the members of the system (Rogers, 2003). The system's social communication structure facilitates or impedes the diffusion of innovation within the system (Rogers, 2003). This is related to the degree of interconnectedness between different units of the social system and is linked by interpersonal networks resulting in a greater flow of information within a network (Rogers, 2003). A social network is the pattern of friendship, advice, communication or support for the innovation that exists among the members of a social system and is a dominant mechanism for adoption and diffusion of an innovation

(Greenhalgh, Robert, MacFarlane, Bates, & Kyriakidou, 2004; Valente, 1996). This study focused on the social system support from the following areas: offices of disabilities services (ODS), faculty and deans/directors within a school of nursing, and the institution at large.

There are individuals who influence the adoption or rejection of an innovation within a social system. An opinion leader is an individual who informally influences other individuals' attitudes or behaviors regarding the innovation (Rogers, 2003). A change agent is a person who attempts to influence the individual's innovation-decision process and is influential in the diffusion of innovation within an organization (Rogers, 2003). An innovation champion plays an important role in promoting a new idea in an organization and is seen as a charismatic individual (Rogers, 2003).

The DOI theory identified three types of innovation-decisions: (1) optional innovation-decisions, in which the individual has the independent choice to adopt or reject the innovation regardless of the decision made by other members in the system, (2) collective innovation-decisions, in which the group makes a cohesive choice to adopt or reject an innovation within the social system, and (3) authority innovation-decision, in which those in power or who have technical expertise make the choice to adopt or reject an innovation for the social system. The consequences are the changes that occur as a result of the social system's decision to adopt or reject the innovation (Rogers, 2003).

Characteristics of the Communication Channel

It is through communication channels that information on the innovation is exchanged from one individual to another (Rogers, 2003). Rogers identified mass media and interpersonal as two types of communication channels that create and distribute

information on the innovation. Mass media channels are an effective way of sharing

knowledge about the innovation (i.e., radio, television, journals, newspapers, Internet).

Interpersonal channels are a more effective way to form and change attitudes towards the

idea (innovation) influencing the adoption decision (Rogers, 2003).

Most individuals do not evaluate an innovation by scientific research completed

by experts in the field, but through the communicated subjective evaluation of peers who

have adopted the innovation (Rogers, 2003). These peers serve as role models whose

innovative behavior tends to be imitated by others in their social system (Rogers, 2003).

Communication of the innovation usually occurs with some degree of heterophily present

during the exchange of information. Rogers defined heterophily as the degree to which

two or more individuals during the interaction possess differences in regards to beliefs,

education, social status and other attributes. On the other end of the spectrum, homophily

is defined as the degree to which two or more individuals are similar in certain attributes

or background during the interaction. Overall, most communications take place between

individuals who are more homophilous in nature, leading to more effective

communication (Rogers, 2003). Next, philosophical underpinnings undergirding the

study will be described.

Philosophical Underpinnings

During the civil rights era, an architectural movement began to focus on the

removal of physical environmental barriers for the disabled (i.e., cutout sidewalks,

ramps) (Scott, McGuire, & Foley, 2003). Ron Mace, an architect with a disability,

coined the conceptual term, universal design (UD) to mean proactively designing a

product or environment that is usable and/or accessible to the broadest range of

individual needs and abilities (Embry, Parker, McGuire, & Scott, 2005; McGuire & Scott, 2006a, 2006b; Orr & Bachman-Hammig, 2009; The Center for Universal Design, 1997).

UD is based on the philosophy that architects and designers have the responsibility to develop environments and goods usable and accessible by a diverse population (McGuire & Scott, 2006a, 2006b). The aim of UD is to remove the barrier during initial design and construction, instead of retrofitting to accommodate an existing designed structure or product (Gradel & Edson, 2009; Rose, Harbour, Johnston, Daley, & Abarbanell, 2006). Examples of some universally designed products or environments would be the cell phone and elevator. The cell phone touch screen is usable by all individuals with or without limited dexterity. An elevator can be used by someone in a wheelchair or parent transporting an infant in a stroller.

The UD (1997) framework consists of seven principles from the architectural perspective: (1) equitable use, (2) flexibility in use, (3) simple and intuitive use, (4) perceptible information, (5) tolerance for error, (6) low physical effort, and (7) size and space for approach and use (The Center of Universal Design, 1997). Over the past 40 years, Mace's common sense concept of UD has spread to the domain of education.

In postsecondary education, universal design for instruction (UDI) principles set forth a comprehensive approach for proactively developing an inclusive curriculum that provides for equal access, addresses diverse learning styles and removes cognitive and physical barriers, thereby eliminating marginalization of previously excluded students (Ashman, 2010; Higbee, 2009). UDI is rooted in accessible architectural concepts (i.e.,

curb cuts are sloped and benefit all sidewalk users) and evolved to a holistic approach to course instruction (Messinger-Willman & Mario, 2010).

The aim of UDI is to provide a comprehensive instructional design approach for creating an inclusive learning environment by which faculty anticipate a variety of teaching and learning needs for a diverse student body with multiple ways of learning (Scott et al., 2003b; Shaw, 2011). The assumptions underpinning the UDI principles of effective and inclusive teaching in postsecondary education include: (1) diverse student populations are in the classrooms and the role of faculty is to effectively facilitate the learning of all students without lowering academic criteria and expectations, (2) inclusive teaching practices are integrated into course development and instructional design for all learners as a way to obviate the need for accommodations to meet the learning needs, and (3) the process of choice is embedded for all learners within the created curriculum (Salmen, 2011; Scott et al., 2003a, 2003b).

The principles are more than technological access to course content; they constitute an accessible pedagogy approach to the teaching/learning process (Rose et al., 2006). The rigor or course objectives are not lowered or altered by using UDI principles, but an accessible course is created for diverse learners (Hennessey & Koch, 2007; Izzo et al., 2008). When using UDI principles, faculty members generally do not need to retrofit a course for a student requesting accommodations because multiple methods and materials are used when creating the course content and criteria (Orr & Bachman-Hamming, 2009; Roberts et al., 2011). There was only one article on UD principles in the nursing literature that described this approach focused on accessibility to online learning environments for nursing students with a disability (Marcyjanik & Zorn, 2011).

Scott, McGuire and Shaw (2003) stressed the need for effective and innovative accessible approaches for at-risk students and those with hidden, visible or unknown disabilities. In most cases, the use of UDI principles provides accessibility to learning environments without forcing disclosure from students with disabilities (Shaw, 2011). Students who face overt or covert barriers to a learning environment are considered at risk or vulnerable due to the situation of their socially constructed circumstances (McGuire et al., 2006). Pliner and Johnson (2004) paralleled the lack of inclusionary practices by postsecondary institutions and faculty as "othering," in which diverse student populations are outliers to current classroom norms. UDI can be used to guide faculty in proactive design of course content, implementation and evaluation of learning objectives that embrace and anticipate heterogeneous learning styles while maintaining high academic standards (McGuire & Scott, 2006).

The UDI framework is framed in social justice principles and transforming oppressive social relationships between students, faculty and the culture of academic institutions (Hennessey & Koch, 2007; McGuire et al., 2003). UDI focuses on educational equality of access to content, materials and learning environments (Higbee, 2009). UDI is not a form of accommodation (Orr & Bachman-Hamming, 2009). UDI represents a set of emerging initiatives, principles, guidelines and projects that promote and work toward inclusive and equitable access to learning. In this way, the playing field is leveled for more than just students with disabilities; it is leveled for all students (i.e., ESL, temporary disabilities, difficulties with traditional learning formats) (Shaw, 2011). An instructional design with a one-size-fits-all mantra does not address the diverse ways students prefer to learn or demonstrate knowledge (Hennessey & Koch, 2007; Scott et al.,

2003). An example of UDI in addressing multiple ways of learning is the deliverance of course content in a variety of formats (i.e., printed media, digital formats or online technology), instead of the use of only one format.

The definition of diversity has broadened to include students with diverse learning styles (DeVore et al., 2008; Pliner & Johnson, 2004). Learning style refers to a student's sensory preference for processing information and demonstrating knowledge and skills (Hennessey & Koch, 2007; Scott et al., 2003). The preferred environmental sensory input of visual, aural, read/write and kinesthetic (known as VARK) is processed in the brain to interpret the world and individual might use one or several senses to learn (Fleming & Mills, 1992; Fleming & Baume, 2006; Hennessey & Koch, 2007). A preferred learning style contributes to an individual's multiple intelligences used to demonstrate a particular intellectual aptitude (Gardner, 1995). Gardner's *multiple intelligences theory* defines intelligence as a biopsychological potential for interpreting information at the cognitive level to problem-solve or create new products valued by a society (Davis, Christodoulou, Seider, & Gardner, 2011). Gardner's work in psychology, human cognition and human potential evolved into nine factors of intelligences (linguistic, logical-mathematical, musical, spatial, bodily kinesthetic, interpersonal, intrapersonal, naturalist and existential) and ways individuals prefer to convey their knowledge and skills (Davis et al., 2011). For this study, the focus is on the use of inclusive teaching strategies by nurse educators to deliver course content and experiences for students with diverse learning styles.

A Call for Reform in Nursing Education

The Institute of Medicine (IOM, 2010, 2011), AACN (2008, 2014), and National League for Nursing (NLN, 2005, 2009, 2011) have called upon nursing education to transform its paradigm to embrace technology, evidence-based practice, cultural diversity, interdisciplinary communication, leadership skills, critical judgment and teamwork using innovative and effective pedagogies that engage all types of learning styles. Nursing faculty are challenged to provide meaningful and inclusive learning experiences in a content-laden curriculum for all learners, with and without disabilities (Aaberg, 2012; Brown, Kirkpatrick, Greer, Matthias, & Swanson, 2009; Dupler et al., 2011; Fleming et al., 2011; Neuman et al., 2009; Rosenberg & O'Rourke, 2011).

The NLN (2005) defines innovative and inclusive teaching practices in nursing education as an evolving process in which curricular design and teaching/learning practices are assessed to inspire lifelong learning necessary for professional nursing. To meet the NLN goal of an inclusive, effective and innovative curriculum, nursing faculty need to shift from "Sage on the Stage" to "Guide on the Side" pedagogy, accessible to all learners (Stanley & Dougherty, 2010).

Effective inclusive instructional design approaches include active learning activities (i.e., simulation, case study, gaming, journaling, concept mapping, small group discussion) focused on student-centered learning (i.e., collaborating to achieve learning objective) that promote analytical thinking (i.e., problem-solving, clinical reasoning and judgment) for all learners (Billings & Halstead, 2012; Stanley & Dougherty, 2010). The use of these teaching strategies is considered innovative because it is a departure from the traditional lecture-driven, content-laden coursework used to deliver knowledge at the

postsecondary level (Phillips & Vinten, 2010). This paradigm shift replaces the one-size-fits-all teacher-focused passive learning environment that provided only one avenue of learning for the traditionally conceptualized postsecondary student (Messinger-Willman & Marino, 2010; Salmen, 2011).

A curriculum provides the framework for educators to conceptualize and design learning experiences to be achieved by the learner within a nursing program that reflects the institution's and nursing school's mission statement, philosophy, program outcomes, course objectives and evaluation (Adams & Valiga, 2009; Billings & Halstead, 2012). The instructional design constructs the blueprint for meeting specific course learning objectives linked to the overall program's outcome through methods and materials (Embry & McGuire, 2011; Harrison, 2006). Instructional design includes the elements of lesson plans, units, syllabi, assessments, learning activities, materials, assignments, readings, teaching strategies and selection of learning environments (Passman & Green, 2009). The complexities of a nursing curriculum are magnified because the use of innovative teaching strategies are a departure from nurse educators' traditional use of course design reflective of the Tyler model developed in 1949 (Benner, Sutphen, Leonard, & Day, 2010). This linear model has collided with healthcare and educational reforms, technology, scientific information and the changing dynamics of the nursing student population (Bosher & Pharris, 2009; Phillips & Vinten, 2010).

Shifting Demographics in Nursing Programs

Historically, a traditional postsecondary student was a single, able-bodied, white, heterosexual male and postsecondary institutions perpetuated exclusion of students not meeting this criterion (Pliner & Johnson, 2004). Today's students are a diverse

multicultural group and no longer fit the traditionally conceptualized model of a postsecondary student (Rosenberg & O'Rourke, 2011). The NCES (Enrollment Fall 2010) reported that minority students composed 38.8% of the total students enrolled in baccalaureate programs in the 2010-2011 academic year and that only 1.1% of these minority students were enrolled in baccalaureate nursing programs (AACN, 2014). This diverse student body not only reflects established demographic differences, but also includes students with varied academic preparedness, disabilities, English as a second language and multiple learning styles (Fleming et al., 2011; Starr, 2009). Learning styles are identified as sensory input (aural, visual, kinesthetic, read/write) organized into cognitive patterns for human understanding (Fleming et al., 2011; Hennesey & Koch, 2007) and there were no statistics available regarding baccalaureate students' preferred learning styles.

Undergraduate enrollment of SWD has trended up since the enactment of the Rehabilitation Act of 1973, but only 12% of SWD graduate from college versus 43% without a disability (U.S. Department of Justice, Access for All, 2006). The difference between graduation rates only adds to the disparity of the unemployment and poverty levels between these groups (Brault, 2010). It is important to note these statistics are likely to be under-estimated secondary to students' fears of disclosure, lack of accommodation awareness, stigma, and identification as being disabled (Grönvik, 2009; Matthews, 2009; Scott et al., 2003; Solli & da Silva, 2012). Further extrapolation of these numbers would show an even greater disparity of NSWD to the overall population with disabilities. No statistics are available on the recruitment, retention or graduation of NSWD. The issue of low numbers of practicing nurses with disabilities potentially

relates to barriers in nursing programs' retention and graduation policies (Griffiths, Worth, Scullard, & Gilbert, 2010; Wood & Marshall, 2010).

Barriers to Nursing Education

Admission. Besides the traditional postsecondary admission requirements, schools of nursing might have additional entrance requirements known as essential functions for employment. These additional requirements include physical and cognitive criteria perceived by nursing faculty (Katz, Woods, Cameron, & Milam, 2004) to be essential for functioning as a professional nurse and do not apply at the student level (Marks & Ailey, 2014). For example, a student's ability to hold a squat position for three minutes is a requirement for admission, retention and graduation at some schools of nursing (Dahl, 2010; Helms, Jorgensen, & Anderson, 2006). Essential functions are based upon nursing faculty's perceptions of traditional nursing skills which are not possessed by a new student prior to admission and are not necessarily reflective of today's nursing practice (Aaberg, 2010; Marks & Ailey, 2014). Essential functions criteria are considered exclusionary and discriminatory (Aaberg, 2012; Marks, 2007), preventing the nursing workforce from diversification and reflection of contemporary society at large (Dupler et al., 2012; Konur, 2002; Tee & Cowen, 2012). Admission to a nursing program needs to be based on educational technical standards, not essential functions of the profession (Marks & Ailey, 2014).

Nurse Educator's Perceptions of NSWD. Nursing faculty reported uncertainty when working with NSWD because of changes in the laws and definition of disability (Dupler et al., 2012; Newsham, 2008), perceptions of individuals with disabilities (IWD)

working in the healthcare setting (Aaberg, 2010; Dahl, 2010; Wood & Marshall, 2010), and not knowing the type of accommodations available for students in the classroom and clinical setting (Barnard-Brak, Lechtenberger, & Lan, 2010; Gordon, Lewandowski, Murphy, & Dempsey, 2008). Nursing faculty perceived an increase in terms of workload necessitated by retrofitting course materials and addressing access to clinical sites for NSWD (Dahl, 2010). Other perceptions educators cited as reasons for not admitting students with disabilities included concerns for safety and quality care for patients (Aaberg, 2010; Dahl, 2010; Sowers & Smith, 2004a, 2004b); however, there are no studies indicating students with disabilities pose a greater risk to patient safety than students without a disability. These researchers stressed that patient safety is the number one priority in all clinical settings, for students with or without a disability.

Though there are many complex elements surrounding nursing faculty attitudes toward students with disabilities, the research supported the premise that nursing faculty perceptions varied, depending upon their degree of experiences with individuals having a disability (Christensen, 1998) and the type of program in which they taught, Associate Degree in Nursing or Bachelor of Science in Nursing (Ney, 2004). Bachelor of Science in Nursing faculty had statistically significant more positive attitudes toward students with disabilities than Associate Degree in Nursing faculty (Ney, 2004). Perceived hierarchy of success in a program was based on the student's type of disability (Sowers & Smith, 2004a; Persaud & Leedom, 2002). In some cases, faculty lack of experience and knowledge of working with students with disabilities resulted in negative attitudes toward these students (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b). However, faculty who completed an educational program regarding sensitivity to

disabilities and accommodations were more positive toward students with disabilities (Sowers & Smith, 2004b).

Additional faculty concerns were raised regarding academic standards and meeting ADA requirements without changing the curriculum (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b). Some faculty based their apprehension for professional success of students with disabilities on the erroneous belief that these students would be unable to pass National Council Licensure Examination [NCLEX®] (known as State Boards), as needed accommodations would not be provided (Aaberg, 2010; Dahl, 2010; Sowers & Smith, 2004a, 2004b; Watson, 1995). In fact, NCLEX® provides a wide range of accommodations for students with documented disabilities (NCLEX® Examination Candidate Bulletin, 2014). Faculty members in the studies had preconceived attitudes regarding different types of disabilities and a student's likely success in their program and the nursing profession (Sowers & Smith, 2004a, 2004b). No schools reported any difficulty finding employment for graduating nursing students with a disability.

Medical Model. The medical model might be contributing to a nurse educator's perception of NSWD. Traditionally, the medical discipline views being disabled as an impairment in which the body departs from standardized norms of anatomy and physiology and needs to be "fixed" or "cured" back to "normal" (Roush & Sharby, 2011). The medical model of disability focuses on "pathology, disorder, dysfunction or deformity that is located within an individual" (Smart, 2008, p. 4). A medical diagnosis evaluates the extent of being disabled or degree of dysfunction or impairment (Grönvik, 2009). Being disabled refers to a person's physical, cognitive or sensory ability to

interact within a physical or social environment as less than prescribed as societal normality (Ashby, 2012; Dupler et al., 2012; Emens; 2011; Marks, 2007; Masala & Petretto, 2008; Solli & da Silva, 2012; Wiegand, Delting, Fekete, Gutenbrunner, & Reinhardt, 2012). The medical model views a person with a disability as sick, therefore, unable to function as well as a person without a disability (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b).

Being disabled has negative connotations and is seen as something that needs to be managed under the prestigious role of a physician (Smart, 2008; Williams & Mavin, 2012). From this perspective, the body's structure and function deviates from normally accepted standards and needs medical rehabilitation treatments and interventions (Roush & Sharby, 2011); the cause is shifted to the disability and the individual is defined by it (McMillan-Boyles, Bailey, & Mossey, 2008; Scullion, 2102). The IWD is seen as 'suffering' and evokes feelings of 'pity' (Smart, 2009). In medical and nursing practice, the meaning of disability is defined by the medical model of disability (Cook et al., 2012; Roush & Sharby, 2011; Scullion, 1999a, 1999b, 2010).

The medical model of disability is the underpinning of the nursing profession and education in which nurses are viewed as delivering care to patients with medical conditions and illnesses using nursing diagnoses and interventions (McMillan et al., 2008; Sin, 2009; ten Klooster, Dannenberg, Taal, Burger, & Rasker, 2009). Education administrators and faculty have used admission criteria known as essential functions related to perceived fitness-for-practice for admission decisions and program progression of students with disabilities (SWD) (Aaberg, 2010; Carey, 2012; Dahl, 2010; Newsham, 2008). NSWD face the same concerns as SWD in other majors and it can be inferred that

being disabled as a nursing student incorporates the additional burden of navigating accommodations in the classroom and clinical settings, uncertainty of how to self-modify performance for skill competence requirements and faculty's lack of knowledge on how to design alternative methods for achieving stated course criteria (Carey, 2012; Griffiths et al., 2010; Neal-Boylan et al., 2008; Storr et al., 2011). The burden of proof is placed on the student to provide documentation of a disability to receive access to a learning environment or course content in the form of an accommodation (Aaberg, 2010, 2012; Marks, 2007; Matthews, 2009).

NSWD Perceptions of Nurse Educators. There is a paucity of research on the lived-experience of NSWD from admission to graduation. Students with learning disabilities, such as dyslexia (Bolland, Lahiff, & Parkes, 2012; Bradshaw & Salzer, 2003; Kolanko, 2003; Morris & Turnbull, 2005; Owen & Standen, 2007; Ridley, 2011; White, 2007; Wray, Asplaud, Taghzouit, & Pace, 2012; Wright, 2000; Wright & Eathorne, 2003), hearing loss (Nobel, 2010) or other disabilities (Azzopardi et al., 2012; Maheady, 2003; Marks, 2007) who disclosed their disabilities, revealed they experienced negative attitudes and behaviors from nurse educators and classmates. NSWD who did not disclose feared discrimination (Maheady, 2003). NSWD perceived faculty members' negative social interactions as directly affecting admission, accommodations and successful completion of the nursing program (Carroll, 2004; Dahl, 2010; Maheady, 2003). The need to increase knowledge and strategies to support an inclusive nursing program were the prevailing themes in the literature.

Lack of Role Development for Nurse Educators. Faculty at the postsecondary level are hired as content experts, and might lack the education and experience in

pedagogical implementation, instructional design and student evaluation (Ashman, 2010;

Billings & Halstead, 2011; McGuire et al., 2003, 2006; Orr & Hamming, 2009). Some

faculty are teaching how they were taught and are using trial-and-error methods in an

attempt to meet the learning needs of diverse learners (Oleson & Hora, 2012). The slow

response to curriculum change has been attributed to the lack of faculty role

development, limited teaching experiences, and consensus on what essential content

constitutes an innovative inclusive curriculum for diverse learners (Aaberg, 2012; Carey,

2012; Diekelmann, 2005; Forbes & Hickey, 2009; Neuman et al., 2009; NLN, 2005,

2007; Poorman, Mastorovich, & Webb, 2008). Nursing faculty are professional

educators who teach about caring for individuals with disabilities, but are not

professionals prepared to teach either NSWD (Dupler et al., 2012; Marks, 2007; Scullion,

1999a, 1999b, 2010) or nursing students with multiples ways of learning.

Limited Communication with Disability Officers. Not knowing the type of

accommodations available for students in the classroom and clinical setting leads to a

lack of cohesion between disability officers, nursing faculty and NSWD, and confusion

for all stakeholders in the disability experience (Barnard-Brak, Lechtenberger, & Lan,

2010; Gordon et al., 2008). Additional barriers for nursing students with disabilities

(NSWD) accessing programs and successful completion of curricula include nursing

faculty members' limited knowledge of ADA laws and accommodation awareness

(Aaberg, 2010; Christensen, 1998; Magilvy & Mitchell, 1995; Sowers & Smith, 2004a,

2004b). As nursing faculty attended more in-services on disability awareness,

perceptions toward students with disabilities became more positive and concerns

decreased (Christensen, 1998; Ney, 2004; Sowers & Smith, 2004a, 2004b).

Legal Access to a Nursing Curriculum

The civil rights movement set the stage of access and equality for diverse populations in education (Burke, Friedl, & Rigler, 2010; Ketterlin-Geller & Johnstone, 2006; Newsham, 2008). Social activism raised the public's consciousness of explicit exclusionary practices in higher education and society based on race, gender, national origin, disability, religion, language, class and age (Pliner & Johnson, 2004). The Rehabilitation Act of 1973 (Section 504) and The Americans with Disability Act (ADA, 1990) were enacted to provide IWD greater protection and access to employment, education, public accommodation, communications, transportation and government services. The ADA defines disability "as a physical or mental impairment that limits one or more major life activity; or has a record of such an impairment; or is regarded as having such an impairment" (1990, p. 7). Unfortunately, the narrow ADA definition of disability was interpreted to cover only serious disability without "mitigating measures" (i.e., prosthetics, hearing aids) (Leiker, 2008). In other words, if one had a prosthetic hand, he/she was no longer considered disabled.

Americans with Disabilities Act Amendments Act. The Americans with Disabilities Act Amendments Act (ADAAA) of 2008 was passed to restore the original intent of the ADA by expanding the definition of a "qualified disability" and "major life functions and activities" (Emens, 2011). As a result, the ADAAA opens the door for more individuals to qualify as IWD under this broadened statute and further prohibits discrimination from post-secondary institutions receiving federal funding (Helms et al., 2006; Madaus, Kowitt, & Lalor, 2012; McCleary-Jones, 2005). Other key legislation was enacted to level the playing field and open doors for all individuals seeking an

education: the Architectural Barriers Act of 1968 (PL 90-480), the Rehabilitation Act of 1973 (PL 93-112), Education for All Handicapped Children Act of 1975 (PL 94-142) and subsequent amendments (now known as Individuals with Disabilities Education Act (IDEA), American with Disabilities Act of 1990 (ADA; PL 101-336) and amendment (ADAAA, 2008; PL 110-325), Technology-Related Assistance for Individuals with Disabilities Act of 1998 (PL 100-407), Assistive Technology Act of 1998 (PL 105-394) and its amendments.

Accommodations. The increase in enrollment of students with disabilities at the postsecondary level is credited to the social movement and legislation to eliminate discrimination (Chodock & Dolinger, 2009). Access to curriculum and instruction for students with documented disabilities is prescribed by disability officers in the form of accommodations at academic institutions and revolves around a legal perspective (Ketterlin-Geller & Johnstone, 2006). An accommodation is an academic adjustment created to ensure access to a learning environment (e.g., extended time on an assessment, note takers) (DeVore et al., 2008). An accommodation is not a modification that substantially changes or lowers standards of essential elements for a program's curriculum (Carey, 2012). An accommodation is based on the medical model of disability (Marks, 2007).

Within nursing education, a disabling environment is not recognized or addressed until the office of disabilities processes the SWD as meeting the ADAAA definition of disability (Dupler et al., 2012; Newsham, 2008). Once recognized, the school of nursing administration and faculty must determine if "reasonable accommodations" are available to ensure students can demonstrate competencies and meet objectives for all experiential

learning experiences (Barnard-Brak et al., 2010; Tee & Cowen, 2012). Faculty members are not mandated to fundamentally change the "disabling environments" within the curriculum, course work, clinical rotations and skills criteria (Burke et al., 2010; Emens, 2011). In addition, schools of nursing are not required to expend undue administrative or financial costs to accommodate NSWD; however, academic institutions have difficultly proving "undue hardship" secondary to the revenue generated by tuition and grant funding (Newsham, 2008). The experiences of NSWD within the disabling physical, social and attitudinal environment of nursing education are once again percolating in journals, but the voices of the students are still not well delineated (Dahl, 2010). NSWD are being evaluated by standardized criteria designed by and for individuals without impairments and must navigate unfamiliar environments (McCleary-Jones, 2008; White, 2007). Universal design might reduce disabling environments in nursing education and practice settings (Carey, 2012).

Call for Inclusive Curriculum in Nursing Education

Diekelmann (2005) pioneered an inclusive nursing education position and posed the question: "What is the nature of an inclusive science of nursing education?" (p. 64). Diekelmann discussed multiple conventional and alternative teaching/learning pedagogies used in nursing education reflective of universal design for instruction principles (UDI) grounded in instructional access; however, Diekelmann did not mention the UDI framework as an approach to meet the diverse ways of learning for today's nursing students. Developed around 2001, UDI creates accessible learning for a broad postsecondary student body using multiple pedagogies (i.e., physical/social environments, resources, materials, technology and evaluations) (Scott et al., 2003).

The significance of this problem is that the best teaching practices in nursing education might not provide access and authentic learning environments based on learning preferences and abilities of today's nursing students (Ashcroft et al., 2008; Cook, Griffin, Hayden, Hinson, & Raven, 2012; Fleming et al., 2011; Konur, 2002; Marks, 2007; Matthews, 2009; Stanley & Dougherty, 2010). Diekelmann and Ironside (2002) addressed the need for nursing education to move toward an inclusive paradigm by using alternative innovative learning pedagogies. Young (2008) noted that research from "multimethod, multisite, multiparadigmatic, and multipedagogical" approaches is needed to develop and reform nursing curriculum that will engage and prepare all students for practice (p. 95). Even though nursing education is responding to the calls for curriculum reform, some tension remains between traditional nursing education espousing essential functions of nursing practice and advocates for an inclusive curriculum that embraces diversity in student characteristics and ability (Aaberg, 2012; Katz et al., 2004; Marks, 2007; Rosenberg & O'Rourke, 2011).

Inclusive Curriculum Based in UDI. An inclusive curriculum addresses accessibility to learning materials and experiences that are equitable for all learners (McGuire & Scott, 2006). Postsecondary institutions "must engage in the same inexorable challenges for inclusion that our total society is facing, that is, full integration and nothing less" (Pliner & Johnson, 2004, p. 105). An inclusive curriculum anticipates individual differences to learning and goes beyond legislative efforts to remove discriminatory barriers to socially equitable education (Aaberg, 2012; Dupler et al., 2012). An inclusive curriculum is accessible to learners with diverse learning styles, with and without disabilities (Ashman, 2010; McGuire & Scott, 2006). Inclusive instructional

design uses multiple teaching strategies and varied assessment approaches aimed to remove physical and cognitive barriers to knowledge and skill acquisition for the greatest number of students (Carey, 2012; Izzo et al., 2008; Lombardi et al., 2011; Murray, Lombardi, Wren, & Keys, 2009). For this study, inclusive teaching strategies are teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments. A learning environment in nursing education includes the classroom, clinical, simulation and/or skills lab settings.

In the United States, college and university campuses have become more diverse and heterogeneous in regards to ethnicity, race, English as a second language, learning style, physical abilities, socioeconomic and non-traditional degree-seeking students (Ruggs & Hebl, 2012). Reflective of social diversity and equality, postsecondary educators committed to successful student learning are changing curricula, teaching paradigms and strategies to be more inclusive and student-centered (Carey, 2012; Gradel & Edson, 2009). To meet this goal, educators are preparing an inclusive curriculum that anticipates diversity by intentionally designing instruction, course materials and learning environments that are accessible to the broadest range of learners (McGuire-Schwartz & Arndt, 2007, McGuire, 2011). At the postsecondary level, the concept of UDI is spreading across disciplines as an innovative curriculum approach that embraces the perspective of diversity and inclusion of all learners in academic programs - except in nursing education.

Review of Relevant Studies

Universal Design for Instruction in Postsecondary Education

In postsecondary education, most of the empirical research is qualitative because the idea of inclusive teaching strategies based in UDI principles is a relatively new concept, only diffusing into this discipline over the past 10 years. Qualitative studies using focus groups, interviews, case studies and action research found teaching experience (years of teaching, employment status, exposure to students with a disability, type of course taught), knowledge (professional training on disabilities, accommodations, ADA laws and UDI), social systems (supportive behaviors within an academic system, type of academic institution, programs offered) as factors related to the adoption of inclusive instructional practices (Ashman, 2010; Carey, 2012; Embry & McGuire, 2011; Izzo et al., 2008; Ryan, 2011).

Silver, Bourke and Strehorn's (1998) pilot is recognized as the initial study which integrated the concept of UD and instruction at the postsecondary level for diverse learners. The authors were credited with coining the term "Universal Instructional Design" (UID) for inclusive curriculum practice. Silver et al. conducted focus group interviews with 13 faculty members representing disciplines across a university (e.g., education, math, sciences, music, dance, technology and engineering). Each interview session started with two question prompts regarding faculty members' perceptions of UID and identified what factors might facilitate or hinder the use of UID on campus. Verbatim transcripts were reviewed separately and then collaboratively by the researchers, noting terms and domains as outlined by the Spradley (1979) method. The findings revealed: (1) some faculty were already proactively addressing diverse learning

in instructional design, (2) the university community and culture needed to support the concept of UID to transform instructional approaches, and (3) faculty development could assist in the knowledge and awareness of diverse learning needs and accommodations. Limitations to this study were no nurse educators were interviewed during the focus groups, no ethnographic type fieldwork observations or review of artifacts were performed during the study, and credibility was not established by allowing the participants to read and/or provide feedback to the findings.

In 2001, Scott, McGuire and Shaw found a "goodness of fit" between the architecture inclusive design principles and effective teaching practices for diverse learners and added two more principles (a community of learners and instructional climate) to the existing UD principles and developed a framework for postsecondary education known as Universal Design for Instruction (UDI). The authors based UDI on the following seminal research on inclusive and effective instruction: Principles of Universal Design (The Center for Universal Design, 1997), Principles of Good Practice in Undergraduate Education (Chickering & Gamson, 1987), Universal Access Principles for Design Curriculum (Kameenui & Carine, 1998), and Principles for Curriculum Development in a Metacognition Framework (Embry et al., 2005).

The UDI constructs were validated by interviews with 18 distinguished awarded professors from 10 disciplines across a research university for their effective teaching strategies (Madaus, Scott, & McGuire, 2003). Themes extracted for effective instructional strategies paralleled to the nine UDI principles: (1) establishing high and clear expectations; (2) actively engaging students throughout the learning process; (3) being approachable and available to the learner; (4) providing a positive learning

environment; (5) using multiple teaching/learning strategies; and (6) the need for continuous professional development in teaching learning strategies. During the same year, Madaus, Scott and McGuire conducted four focus groups interviewing 23 students with learning disabilities (e.g., Learning Disabilities) to explore their perceptions of effective and inclusive teaching strategies. Themes extracted from this study included: (1) faculty being clear and straightforward in course assignment and performance expectations; (2) instructors being "compassionate" regarding student needs; (3) providing a positive and caring learning environment; (4) recognizing student individuality; (5) frequent formative feedback; and (6) engaging the learner by using a variety of teaching approaches. The UDI themes extracted from both the faculty and student study provided strong evidence of concurrent validity between the elements of inclusive instruction and UDI literature (McGuire, 2011). The limitations of both studies were the lack of identifying and describing the type of thematic analysis and audit trail used to code, categorize and confirm extracted themes from the transcripts. No nursing students or educators participated in the study.

Embry and McGuire (2011) conducted a qualitative study to explore novice graduate teaching assistants' beliefs and practices regarding inclusive teaching practices for all adult learners ($n = 5$). This phenomenological study consisted of classroom observation, examination of teaching materials, and two 1-hour interviews that were transcribed verbatim. Data were analyzed using a multi-step process of themes to category development and refinement. Topics were reviewed and examined between the participant and researcher until an understanding was reached between them. The graduate teaching assistants expressed beliefs and teaching practices were congruent with

the principles of inclusive teaching as identified in the UDI framework of experienced educators. However, it was identified the graduate teaching assistants would benefit from an orientation on UDI to deepen their knowledge of inclusive teaching strategies to anticipate and implement teaching practices for diverse learners. Limitations to the study were the lack of clarity regarding how the topics were exhausted or saturated within the confines of two 1-hour interviews and no member check to validate the findings of the graduate teaching assistant lived-experiences.

Recent quantitative studies to measure characteristics of faculty members' willingness to adopt inclusive teaching strategies focused on the traditional classroom setting. Lombardi and Murray (2011) surveyed 1714 faculty members on their attitudes and perceptions toward students with disabilities using a revised version of the Expanding Cultural Awareness of Learners (ExCEL) 38-item instrument. The response rate for this online survey was 27% ($N = 289$). This study was a field test for the modified ExCEL instrument in which the constructs were more in alignment with the literature of accommodations for all types of disabilities, universal design and inclusive teaching practices. The survey contains three sections: (1) demographics (e.g., gender, faculty rank, college/school affiliation, age, years of teaching at the postsecondary level and primary type of courses taught), (2) prior disability-focused training experiences (attended a workshop, took a course, read a book/article, visited a website and other), and (3) a 39-item questionnaire using a 6-point Likert-type scale (*strongly disagree* to *strongly agree*). Face and content validity for the modified ExCEL instrument were verified by content experts in Special Education and Disability Studies. The overall Cronbach's alpha was .88 with subscales ranging from .69 to .85 (Fairness in Providing

Accommodations (.85), Knowledge of Disability Law (.82), Adjustment of Course

Assignments and Requirements (.78), Minimizing Barriers (.70), Campus Resources

(.69), Willingness to Invest Time (.74), Accessibility of Course Materials (.69) and

Performances Expectations, .65) (Lombardi & Murray, 2011).

The findings indicated there were statistical differences in the multivariate

combination of subscales based on gender (Wilks' $\Lambda = 0.914$. $F(8, 278) = 3.25$, $p < .025$,

$np^2 = 0.08$), teaching status (Wilks' $\Lambda = 0.915$. $F(8, 278) = 3.22$, $p < .025$, $np^2 = 0.08$),

college discipline (Wilks' $\Lambda = 0.488$. $F(8, 276) = 5.38$, $p < .001$, $np^2 = 0.14$), and prior

disability-focused training (Wilks' $\Lambda = 0.798$. $F(8, 280) = 8.87$, $p < .001$, $np^2 = 0.20$).

The univariate tests indicated: (1) female faculty members demonstrated greater fairness

in providing accommodations and tried to minimize barriers in the classroom than male

instructors, (2) non-tenured faculty revealed they were more flexible in adjusting course

assignments/requirements, made greater attempts to minimize instructional barriers, were

more willing to invest time to help students outside of posted office hours/classroom, and

used a variety of formats to deliver content than tenured faculty members, (3) faculty in

Education had greater scores on seven of the eight subscale indicating they were more

willing to accommodate and adopt universal design principles than colleagues in other

disciplines, and (4) faculty who had previous training revealed greater knowledge of

disability law, made greater attempts to minimize instructional barriers, were more

knowledgeable of campus resources, had greater willingness to invest time outside of the

classroom/post office hours, and had higher performance expectations of students with

disabilities than faculty who did not have prior disability-focused training. Limitations to

this study included the lack of reliability indices from the previous ExCEL study to

compare Cronbach alphas, test-retest reliability was not performed, lack of power analysis, potential respondent bias due to self-reporting, data were only collected from one postsecondary institution and the sample did not include nurse educators (Lombardi & Murray, 2011).

In a similar study, Lombardi, Murray and Gerdes (2011) measured postsecondary faculty members' ($N = 233$) perception towards students with disabilities and inclusive instruction practices (i.e., teaching strategies) based on UD at a public four-year university. The response rate for this online survey was 23%. Data were collected using the Inclusive Teaching Strategies Inventory (ITSI) (previously known as the ExCEL) to measure six constructs (Multiple Means of Presentation, Inclusive Lecture Strategies, Accommodations, Campus Resources, Inclusive Assessment, and Accessible Course Materials) reflective of the instrument refinement of the item text and construct definitions. The survey contained three sections: (1) demographics (e.g., gender, race, faculty rank, age and years of teaching at the postsecondary level), (2) prior disability-focused training experiences (yes/no) and personal experience with an individual with disabilities (e.g., self, friend, family member), and (3) a 31-item questionnaire using a 6-point Likert-type scale (*strongly disagree* to *strongly agree*). The ITSI expanded the response option to allow for faculty to self-report their actions/behaviors of teaching strategies currently being used in the classroom. Each item asked faculty to report their attitudes/beliefs and actions/behaviors. The Cronbach's alpha for the Attitude subscales ranged from .70 to .89 and the Action subscales ranged from .72 to .85. The overall Cronbach's alpha for the scales was not reported.

In this study, Lombardi et al. conducted a hierarchical regression analysis to evaluate the extent to which faculty characteristics predicted their attitudes/beliefs and actions/behaviors towards inclusive teaching instruction. For the Attitude model, demographics (i.e., gender, years teaching and teaching status) were entered at Step 1, and explained 17% of the variance in the Multiple Means of Presentation scores ($R^2 = .17$, $F(5, 277) = 8.91$, $p < .001$). Gender ($\beta = .14$, $p < .05$) and teaching status ($\beta = -.17$, $p < .05$) were identified as predictors in the equation. Personal Experiences and Prior Disability-Focused Training were entered at Step 2, disability-related experiences accounted for 9% of the variance in the equation ($\Delta R^2 = .09$, $F(2, 227) = 11.9$, $p < .001$). Prior training ($\beta = .30$, $p < .001$) was identified as the predictor in the Multiple Means of Presentation. In the other Attitude subscales, there were small, but statistically significant, contributions of the other variables to the equation: Accommodation $\Delta R^2 = .03$, $F(2, 227) = 4.02$, $p < .05$, Inclusive Lecture Strategies, $\Delta R^2 = .03$, $F(2, 227) = 3.03$, $p < .05$, and Inclusive Assessment, $\Delta R^2 = .05$, $F(2, 227) = 6.53$, $p < .00$. Personal experience with individuals with disabilities was identified as a predictor for Accommodations ($\beta = .14$ $p < .05$) while prior training was the unique predictor of Inclusive Lecture Strategies ($\beta = .14$ $p < .05$) and Inclusive Assessment ($\beta = .21$ $p < .05$) (Lombardi et al., 2011).

Interestingly, in the Action/Behavior Model, prior disability related experiences did not contribute to the equation. Again, in the final model, gender ($\beta = .16$ $p < .05$) and prior training ($\beta = .13$ $p < .05$) were identified as contributors for Multiple Means of Presentation. Results also showed a discrepancy between attitudes/beliefs and actions on implementing inclusive teaching strategies in the classroom; faculty could believe in

inclusive teaching strategies, but not implement these strategies in the classroom.

Limitations to this study were that a pilot study was not conducted on the revised

instrument, test-retest reliability was not performed, potential respondent bias due to self-

reporting, lack of power analysis, data were only collected from one postsecondary

institution, and the sample did not include nurse educators.

Nursing Education

The only research on nurse educators' perception of an inclusive curriculum was

recently conducted in the United Kingdom by Carey (2012). The purposeful sample

consisted of 15 participants who were nurse educators from a single nursing program.

Data were collected during a face-to-face interview using open-ended questions. All data

were recorded, transcribed verbatim and reviewed by participants for accuracy and

additional comments. Data were analyzed by the researcher and focused on the

variations of an inclusive curriculum by nurse educators from the phenomenological

perspective. Carey concluded this phenomenological study "exposes wide variation in

the ways in which nurse educators conceive the notion of an inclusive curriculum in their

area of specialism…[and] potential conflict between the competency-based requirements

of the nursing profession and the expectation of the educational establishment" (pp. 751-

752). Limitations to the study included: (1) Carey was an educational researcher and

counselor who did not have a nursing background, (2) the focus study was on NSWD and

did not address UDI for multiple ways of learning, (3) data collection only occurred

during one interview and was not reflective of the multiple interviews generally needed

when using the phenomenological method, and (4) the study was performed at one

British university and nurse educators in the United States might have a different

perspective on the phenomena. In the nursing education literature, there were no quantitative studies examining nurse educators' willingness and use of inclusive teaching strategies.

Summary of the Gaps in the Literature

The lack of research on inclusive teaching strategies in nursing education heightens the need for further study in this area. With the increasing enrollment of students with diverse learning needs, it is imperative that nurse educators provide an accessible curriculum and use inclusive teaching strategies that offer equal learning opportunities for all learners, with and without disabilities. One inclusive teaching approach that embraces today's postsecondary diverse learners and learning styles is UDI; however, UDI principles are not well known or widely diffused in nursing education. The lack of knowledge of inclusive teaching strategies might create barriers to student learning, assessment and progression in nursing programs. Nurse educators lacking awareness and knowledge of inclusive teaching practices related to universal design for instruction might unknowingly be excluding students from their learning environments.

In nursing education, Rogers (2003) theory provides a way to measure prior conditions as factors contributing to educators' willingness to adopt inclusive teaching strategies. Adoption of inclusive teaching strategies depends on prior conditions that facilitate or hinder the need for awareness or additional knowledge of this pedagogical approach to teaching. Prior conditions and perception of inclusive teaching strategies influence the nurse educators' willingness for adoption and diffusion of this teaching practice. The development of an instrument to assess these characteristics that contribute

to a nurse educator's willingness to adopt inclusive teaching strategies is the initial step needed before program development is implemented by nursing programs and disability services for this purpose.

Preliminary Study

The purpose of the preliminary study was to (1) examine the reliability of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Education Instrument (ITSinNE) measuring factors influencing nurse educators' willingness to adopt inclusive teaching strategies and (2) determine the feasibility of the SurveyMonkey® data collection procedure, item performance and feedback on the instrument. The development and testing of the ITSinNE was conducted in a two-phase process: the instrument development phase and preliminary study phase. The institutional review board approved collection of data from nurse educators teaching in a Midwest baccalaureate program using an online survey. Data were collected from January 27, 2014 to March 10, 2014.

Phase 1: Instrument Development

The ITSinNE was designed using constructs from the DOI theory to measure factors that influenced a nurse educator's willingness to adopt inclusive teaching strategies based in universal design principles supported from the literature. Characteristics of prior conditions (previous practice, felt needs/problems, social system norms) and perceived characteristics of the innovation (relative advantage, compatibility, complexity, trialability and observability) were the DOI constructs providing structure to the ITSinNE, a 72-item instrument used in the preliminary study. Previous Teaching

Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for

Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in

Nursing Educational Environments were instruments developed for this study.

Previous Teaching Strategies Scale. This instrument measures past teaching

strategies used by nurse educators. The 38-item instrument was created from the

Inclusive Teaching Strategies Inventory (ITSI) (Lombardi et al., 2013; Lombardi &

Murray, 2011), plus multiple items developed by the principal investigator (PI) based on

the literature review. Permission to modify the ITSI for nursing educational settings was

received from Dr. Lombardi. Recently, Lombardi (2013) reported the Cronbach's alpha

for the ITSI seven subscales ranging from .72 to .85.

Knowledge of Inclusive Teaching Strategies Scale. This 10-item instrument

was created to measure a nurse educator's perceived level of awareness-knowledge

regarding concepts of UDI and disability law as applied to teaching.

Social System Support for Inclusive Teaching Strategies Scale. The third

instrument was a 4-item measurement which addressed nurse educator's perceptions of

their organization's support, from the disability office, peers, nursing administration and

institution administration, for the use of inclusive teaching strategies in learning

environments at their organization.

Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational

Environments. The fourth instrument was a 20-item measure with five subscales

designed to examine nurse educator's perceptions and willingness to adopt inclusive

teaching strategies.

Open-ended Questions. Questions were designed to understand subjects'
definition for the phrase "inclusive teaching strategies" and their perceptions of areas
needing professional development. These optional questions aided in the refinement of
the instruments, interpretation of results and were placed after the survey.

Characteristics of the Nurse Educator. Sociodemographic variables were used
to identify characteristics of the adopter to the adoption of a new idea by the Rogers
(2003) model. The prior condition of innovativeness was not included in the ITSinNE
since this concept categorizes the adopter to the degree by which an individual adopts a
new idea.

Variables. The independent and dependent variables incorporated the DOI theory
terminology and literature review. Independent variables included: Previous Teaching
Strategies, Inclusive Teaching Strategies Knowledge Needs or Problems, Social System
Support for Inclusive Teaching Strategies, and characteristics of a nurse educator (type of
institution, degree programs offered, years of teaching experience, exposure to NSWD,
professional development (ADA and UDI), employment status, primary level of teaching
responsibility and teaching environment). The dependent variable was the Willingness to
Adopt Inclusive Teaching Strategies in Nursing Educational Environments (relative
advantage, compatibility, complexity, trialabilty and observability).

Face and Content Validity. The ITSinNE was examined for face validity by
three experts in postsecondary education (one nurse educator, one postsecondary
disability service officer and one special education program director) and minor revisions
were made to the instrument. Content validity was established by seven content experts

from around the United States in Associate and Baccalaureate Degree Programs (see

Table 2).

Table 2

Face/Content Experts

Type of Program	Role	Number of Reviewers
Associate Degree	Disability Officers	2
Associate Degree	Associate Dean of Nursing	1
Baccalaureate Degree	Nurse Educator	3
Baccalaureate Degree	Disability Officer	1
Baccalaureate Degree	Dean of Nursing	1
Baccalaureate Degree	Assistant Research Director of Disabilities	1
Baccalaureate Degree	Director of Special Education Program	1

The content experts evaluated the ITSinNE for relevance, accuracy,

appropriateness, and clarity of each item using a content validity index (CVI) tool created

by the PI. The CVI is a 4-point Likert-type scale in which 1 indicated not relevant and 4

indicated strongly relevant for the overall instrument (Polit & Beck, 2012; Waltz,

Strickland, & Lenz, 2010). Lynn's (1986) CVI rating was used as the content validity

criterion for each instrument (CVI >.78 with six to 10 experts) and resulted in the

following indexes: Previous Teaching Strategies Scale (.92), Inclusive Teaching

Strategies Knowledge Needs or Problems Scale (.91), Social System Support for

Inclusive Teaching Strategies Scale (.97), and Willingness to Adopt Inclusive Teaching

Strategies Scale (.84).

Phase 2: Preliminary Study Phase

      Sample and Recruitment. Nurse educators at a Midwest baccalaureate nursing program were recruited for the preliminary study. Inclusion criteria consisted of nurse educators currently working in academia in the United States with at least two years of teaching experience in the classroom, clinical, simulation and/or skills lab setting. This amount of experience was selected to ensure the nurse educators had sufficient teaching time from which to base their survey responses. Of the 101 nurse educators who were invited to participate in the study (40 full time; 61 part time), 26 nurse educators initially participated in the survey, resulting in a 26% response rate.

Analysis of Data from Preliminary Study

      The preliminary review of the dataset ($N = 26$) revealed four nurse educators opted out at different points during the survey. Participants who completed the four instruments (Previous Teaching Strategies, Inclusive Teaching Strategies Knowledge Needs or Problems, Social System Support for Inclusive Teaching Strategies, Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) were included in the data analysis ($n = 22$). Due to the nature of the research questions and statistical method used, subjects were redirected to any item not answered before being allowed to advance to the next page or to exit the survey. As such, within the completed datasets, there were no missing data points. Recoding of items was not necessary, since no negatively worded items were used. The Statistical Package for the Social Sciences (SPSS) version 20.0 was used to analyze the data.

Assessment of the quantitative variables for normality revealed assumption violations. This could be due to extreme scores, restricted range on instruments (rating scale of 0 to 5), small sample size and ceiling effect of responses at the top of the scale (Warner, 2013). It was decided to proceed with the analysis because this was a preliminary study that not only examined the feasibility of the online study, but also examined reliability indicators for the instruments.

Descriptive analysis was used to describe the characteristics of the study sample. The psychometric properties for the ITSinNE were determined by computing the Cronbach's alpha for all of the instruments and subscales. A higher mean score on the instrument was conceptualized to indicate higher agreement on the items (Waltz et al., 2010).

Characteristics of the Study Sample. All of the nurse educators were female and teaching in the state in which the preliminary study was conducted. Nurse educators ranged in age from 30 to 68 (mean age, 50 years) more than half had a Master's Degree (55%) and only one was a Certified Nurse Educator (< 5%). Most of the nurse educators worked at a private academic institution ($n = 20$) with an average of 10 years of teaching experience (range, 2 to 30). At least half of the educators were teaching in the baccalaureate nurse program (50%) as a full time employee. Educators' primary teaching responsibilities were in the classroom/didactic or clinical arena (classroom/didactic, 41%; clinical practicum, 41%; simulation/skills lab, 1%; online learning 9%) at institutions offering different types of nursing programs (Associate Degree, $n = 1$; Baccalaureate Degree, $n = 20$; RN to BSN Completion, $n = 9$; Direct Entry, $n = 1$; Master's Degree, $n = 21$; and PhD, $n = 20$). It was estimated that in the past two years, 27% ($n = 6$) of the

nurse educators reported not having the opportunity to teach NSWD (range 0 to 2). In the past two years, more than half of the nurse educators reported they had not attended a professional development training session on either accommodations/ADA Law (67%, *n* = 14) or on inclusive teaching strategies (68%, *n* = 15). The average time to complete the survey was 18 minutes and 30 seconds (range 5 to 51 minutes).

Psychometrics of ITSinNE Instruments. The psychometric properties of the ITSinNE instruments were determined by examining the inter-item correlation matrix, Cronbach's alpha, item statistics (means), summary item and item-total statistics tables (Pallant, 2010). The Cronbach's alpha for the overall scales ranged from .78 to .92. The reliability indexes ranged from .51 to .98 for the subscales (see Table 3).

A Cronbach's alpha above .7, which is considered acceptable for a new measure (DeVon et al., 2007; Polit & Beck, 2012). The low subscale reliabilities might possibly be related to the negative scores on the inter-item correlation matrix, less than .03 on the corrected item-total correlation or having less than 10 items per scale on a new instrument (DeVon et al.; Pallant, 2010). Polit (2010) recommended removing these items to see if it corrects the problem by increasing the internal consistency reliability index. This procedure was completed and it was determined to remove an item of the Complexity subscale ("I understand how inclusive teaching practices reflect best teaching practice"), which increased the Cronbach's alpha from .51 to .66. Eliminating this one item did not change the overall score on the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Scale. Table 3 summarizes the Cronbach's alphas from the preliminary study.

Table 3

Cronbach's Alpha from the Preliminary Study

Instrument	Cronbach's Alpha	
	Overall	Subscales
Previous Teaching Strategies	.92	
Accommodation		.98
Accessible Material		.77
Inclusive Lecture		.54
Inclusive Classroom		.82
Inclusive Assessment		.59
Confidence in disability law/UDI		.66
Knowledge of Inclusive Teaching Strategies	.86	
Social Systems Support for Inclusive Teaching Strategies	.78	
Willingness to Adopt ITSinNE	.88	
Relative Advantage		.86
Compatibility		.80
Complexity		.51
Observability		.76
Trialability		.77

Note. George and Mallery (2003) provide the following rules of thumb for accessing Cronbach's alpha: > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable (p. 231).

Scale Revision. Based on the preliminary study, modifications were made to improve clarity. An item on the Knowledge of Inclusive Teaching Strategies Scale was changed to reflect the small group interactions that occur in the classroom and clinical setting ("I know how to use inclusive lecture/discussion in my primary teaching environments"). In addition, to clarify an inclusive assessment item, the word "exam" was removed because this term could be associated with a midterm/final that is

theoretically weighted heavier than a quiz altering the subject's response ("I allow all students to remediate a quiz in my primary teaching environment").

The one item ("I use closed/open captioning when showing video or tutorial in my primary teaching environment") scored as not applicable (N/A) on the Likert-type scale and subjects who primarily taught in the clinical setting desired more N/A options because they believe some inclusive teaching strategy opportunities did not occur in this setting. However, half of the subjects teaching in the classroom setting selected this option when this technology is readily available. If subjects primarily teaching in the clinical setting were removed from the pilot study, half of the sample size would have been lost over an item. If the N/A section was added to all items on the instrument, it would need to be treated as missing data, as selection of this response could have been based on the nurse educator's not knowing or applying inclusive teaching strategies in his/her teaching environment. As such, it was determined not to use N/A in any scales in the ITSinNE.

In reviewing the Previous Teaching Practice scale, it was decided to rearrange the order of the subscales to script the flow of items from teaching practices used with all students to items addressing teaching practices for students with documented disabilities (Krosnick & Presser, 2010). An additional item was moved to the knowledge subscale because it was conceptually a better fit for this scale and was in the original survey design ("I know what types of services are provided by the Disability Services Office on my campus").

The ITSinNE 71-item instruments with subscales for the dissertation project followed this order: Previous Teaching Strategies (38-items)(subscales: inclusive

materials, inclusive lecture, inclusive classroom, inclusive assessment, accommodations, disability/UDI concepts), Knowledge of Inclusive Teaching Strategies (10-items), Social System Support for Inclusive Teaching Strategies (4-items), Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments (19-items)(subscales: relative advantage, compatibility, complexity, trialability, observability).

A test-retest was planned for the preliminary study, but will be deferred to the dissertation study due to a low response rate of matching codes between surveys. Clearer directions prompting subjects to use a specific code only known to them such as their mother's birthdate (e.g., 08-03-30) will ease in the recall of the original code when the second survey request is emailed.

Summary of the Literature Review

A comprehensive review of the literature identified the state of nursing education and the call for an inclusive curriculum in all educational settings to meet the learning needs of students. With the increasing enrollment of students with diverse learning needs, it is imperative that nursing education provides an accessible curriculum and uses inclusive teaching strategies that offer equal learning opportunities for all learners, with and without disabilities. Though the ADA and ADAAA provide legal access to postsecondary institutions, barriers for NSWD inclusion in nursing programs were attributed to admission policies, lack of faculty role development, limited teaching experience with students having disabilities, and nurse educators' attitudes towards NSWD (Levey, 2014). This problem is compounded by nurse educators' limited communication with disability officers and knowledge of services this entity offers.

The concepts of UDI are being adopted by postsecondary educators as an innovative curriculum approach that embraces diversity and inclusion of all students, but is limited in nursing education. The research in the postsecondary domain focus resulted in five qualitative ($n = 5$) and two quantitative ($n = 2$) studies that were all performed by professors of Special Education and/or Educational Psychology; no studies were conducted by a nurse educator as researcher or published in nursing journals. No studies addressed the use of UDI in the clinical setting (e.g., clinical practicum, simulation or skills lab). A possible reason for the paucity of the empirical research is that the idea of inclusive teaching strategies based in UDI principles is a relatively new concept, only diffusing into this discipline over the past 10 years.

Most of the qualitative studies' limitations lacked clear explanation of the philosophical underpinnings, description of content/thematic analysis, and type of audit trail used in the study; credibility was not established by allowing the participants to read and/or provide feedback to the findings; and, nurse educators did not participate in the focus groups. Carey's (2012) study was one qualitative study that addressed nurse educators' perceptions of an inclusive curriculum for students with disabilities; however, the study focused on disabilities and not abilities. The underpinning of UDI principles of accessibility was not even addressed in the review of literature by the author. The two quantitative studies included a convenience sample with low response rates, reliability indexes missing from previous studies, and lacked test-retest reliability and power analysis. There are concerns of potential respondent bias due to self-reporting, data being collected from only one postsecondary institution, and the interviews did not include nurse educators.

The professional literature and studies support the use of UDI in postsecondary education; however, UDI principles are not well known or widely diffused in nursing education. Nurse educators who lack the awareness and knowledge of inclusive teaching practices related to universal design for instruction might unknowingly be excluding students from their learning environments. The lack of research on inclusive teaching strategies based in UDI in nursing education heightens the need for further study in this area.

Rogers' (2003) model provides a way to measure prior conditions as factors contributing to educators' willingness to adopt inclusive teaching strategies. Adoption of inclusive teaching strategies depends on prior conditions that facilitate or hinder the need for awareness or additional knowledge of this pedagogical approach to teaching. This study addresses the gaps in nursing research regarding the influences of prior conditions and perceptions of inclusive teaching strategies on a nurse educator's willingness to adopt this teaching approach into his/her practice.

Review and Summary of Research Questions

The purpose of this study was to examine the psychometric properties of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model (ITSinNE) for measuring characteristics and relationships that were barriers or facilitators for nurse educators' willingness to adopt inclusive teaching strategies to increase the diversity of the nursing workforce. The research questions driving the dissertation study included:

Research Question 1 (RQ 1): Do instruments measuring the four constructs of the

Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational

Environments Model (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) demonstrate acceptable estimates of reliability and validity?

Research Question 2 (RQ2): What are the relationships between selected demographic variables (Characteristics of Nurse Educator) and variables (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) within the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model?

Research Question 3 (RQ3): Is one variable (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator) a better indicator for the willingness to adopt inclusive teaching strategies in nursing educational settings (Willingness to Adopt Inclusive Teaching Strategies)?

Assumptions for the Study

The assumptions for the study were reflective of universal design for instruction (# 1-5), the review of the literature and those established from working with nurse educators and educating students (# 6-12):

1. UDI provides equal access to content, course materials, and learning environments for all learners.

2. UDI does not force disclosure from students with disabilities.

3. UDI is an instructional approach that focuses on ability, not disability.

4. UDI guides faculty in a proactive design of course content, implementation, and evaluation of learning objectives which embrace and anticipate heterogeneous learning styles while maintaining high academic standards.

5. UDI is an innovation in nursing education that seeks to build on traditional pedagogies used in all learning environments.

6. Diverse student populations are in the classrooms and the role of nurse educators is to effectively facilitate learning for all students.

7. There are multiple ways to learn.

8. Nurse educators respect the adult learner and learning style.

9. Nurse educators will accurately report their demographics, prior conditions (level of knowledge, teaching strategies and social support system), perceptions and willingness to adopt inclusive teaching strategies.

10. Nurse educators desire a diverse workforce that includes nurses with different ways of learning and disabilities.

11. Nurse educators want to use the best teaching strategies to facilitate learning in their teaching environment(s).

12. Nurse educators might not know about universal design for instruction and the considerations for an inclusive learning environment.

Chapter Two Summary

Chapter Two described the theoretical model of DOI and philosophical underpinnings of UDI that provide the framework for this study. An extensive literature review connected the current context of nursing education reform, shifting demographics, multiple barriers to nursing education, and legal access to curriculum to the call for an inclusive curriculum in nursing education. Empirical literature on UDI was rigorously reviewed and gaps in nursing education were identified as applicable to this study. The development and psychometric properties of ITSinNE instruments were described and discussed. Chapter Three will identify and explain the methodology proposed for this study.

CHAPTER THREE

This chapter provides a detailed description of the methodology for this

dissertation study. Sections in this chapter include the research design, sample,

recruitment, data collection and management, measurement and instruments, preliminary

study results, data analysis, research questions, ethical considerations, and limitations.

The chapter concludes with a summary of the methodology planned for this study.

Design

A cross-sectional correlational research design was used to measure educators'

willingness to adopt inclusive teaching strategies in nursing educational settings.

Sample and Recruitment

A sample was generated through an email invitation to a targeted population of

nurse educators through the electronic mailing lists of professional nursing organizations.

The Administrators of Nursing Education in Wisconsin (ANEW; $N = 1200$) and

International Nursing Association for Clinical Simulation and Learning (INACSL; $N =$

1600) granted access to their electronic mailing lists for the recruitment of nurse

educators for this one-time online study. Membership for these organizations provided a

total of 2800 potential subjects. Inclusion criteria consisted of nurse educators currently

working in academia in the United States with at least two years of teaching experience

in either the classroom, clinical, and simulation or skills lab setting. This amount of

experience was selected to ensure nurse educators had sufficient teaching time on which

to base their survey responses.

Sample Size Determination

It is important to determine the appropriate sample size to achieve confidence in the generalizability of the results to the population based on the statistics used in a study (Faul, Erdfelder, Buchner, & Lang, 2009; Hayat, 2013). The G*Power software program was used to estimate the sample size for the proposed study because it provided an economical and versatile solution when calculating the probability of correctly rejecting a false null hypothesis (Dattalo, 2009). For the multiple regression, a priori power analysis determined a minimum sample size of 143 with 17 predictor variables using a moderate effect size of 0.15, $\alpha = 0.05$, yielded a power of 0.80 by G*Power (Warner, 2013).

The study also included a factor analysis which explored the interrelationship among the measured variables to define the construct grouping during the survey development and refinement (DeVon, et al., 2007; Pallant, 2010). The instrument in this study contains 71 items and, according to the rule of thumb, no fewer than 5 subjects per each item. At least 355 subjects were needed to meet the sample size recommendation for generalizability of significant results (Comrey & Lee, 1992). Since the sample size recommendation for the factor analysis exceeded the one calculated for a multiple regression, 355 subjects were set as the minimum sample size for the study. To anticipate for a response rate of 20 to 22% for professional nursing organizations (Hart, Brennan, Sym, & Larson, 2009), a pool of 1,775 nurse educators were recruited. To account for a 10% non-completion rate for online subjects, an additional 36 nurse educators were added to the total sample pool (1,811). This was obtained with the pooled listserv memberships to multiple relevant sites across the United States. Diversity of the

potential sample was limited to the subjects responding to the survey who participate in the chosen electronic mailing lists.

Procedure

After receiving IRB approval, data collection was planned over a one month period from August 11, 2014 to September 8, 2014. These dates were strategically scheduled two weeks before the start of the fall semester when teaching workloads are typically lower. To minimize measurement error and improve the response rate, the survey was based on Dillman, Smyth and Christian's (2009) recommendations for survey development and recruitment. To increase the response rate for the survey, a series of repeat emails were sent to potential subjects through gatekeepers of the electronic mailing lists (e.g., deans, associate deans, department chairs and program directors of Administrators of Nursing Education in Wisconsin; Communication Directors of International Nursing Association for Clinical Simulation and Learning) encouraging participation. The email process included an email invitation to participate in the study and two and four week reminder emails with the end date for the study (See Appendixes A and B).

The email invitation contained informational guidelines as framed by Dillman et al. (2009). Information about a $5 charity donation incentive to either the American Cancer Society or Paws with a Cause made on the participant's behalf for completing the survey was included. Small incentives ranging from $1 to $5 for an online survey shows appreciation for completing the survey and is not considered coercive (Dillman et al., 2009). A donation to a charity was perceived by the PI as a unique way to pique interest in the survey and maintain the anonymity of the subject.

The subject read the invitation and linked to the SurveyMonkey® questionnaire to participate in the study. For this survey, instructions and operational definitions were on each page. Subjects were allowed to view all of the items on a page and change answers. The demographic questions were purposely placed at the end of the survey to reduce the subject's termination of the survey. This was done to reduce possible reluctance to share this type of information which, by some, might be considered sensitive in nature (Dillman et al., 2009). Due to the nature of the research questions and statistical method used, subjects were redirected to any unanswered item before exiting the survey. A thank you message appeared before the subject exited the survey. Time to complete this online survey was estimated to be between 15 and 20 minutes based on the preliminary study. A web designer reviewed the survey for navigation and suggested programming prompts to guide subjects with browser conductivity issues back into the survey (Dillman et al., 2009). A plan was devised if the data collection fell below the sample size needed for the study. Nurse educators were to be recruited through other professional nursing organizations' meetings and personal contacts; although, the preliminary and prior studies (Hart et al., 2008; Lombardi & Murray, 2011; Lombardi et al., 2011) indicated the initial recruitment plan was sufficient.

Data Management

Data was stored in Advanced SurveyMonkey® provided by Marquette University College of Nursing Research Office. Access to this service is restricted to authorized researchers and password protected. All researchers using this service are under confidentiality agreements and can only access authorized surveys. Files are kept for five

years following the completion of the study and destroyed according to the policies of the Marquette University College of Nursing Research Office.

Measures and Instruments

The ITSinNE was designed using selected constructs from the DOI theory to measure factors that influenced a nurse educators' willingness to adopt inclusive teaching strategies based in universal design principles. Characteristics of prior conditions (previous practice, sensed needs/problems and social system norms) and perceived characteristics of the innovation (relative advantage, compatibility, complexity, trialability and observability) were the DOI constructs providing structure to the ITSinNE 71-item instrument with demographic survey and two optional open-ended questions (Appendix C). Scales were examined by national content experts and received content validity indices ranging from .84 to .97.

Previous Teaching Strategies Scale. This instrument measures past teaching strategies used by nurse educators. The 38-item instrument was created from modifying the Inclusive Teaching Strategies Inventory (ITSI) (Lombardi et al., 2013; Lombardi & Murray, 2011), plus multiple items developed by the principal investigator (PI) based on the literature review (See Permission Letter). Lombardi (2013) reported the Cronbach's alpha for the ITSI seven subscales ranging from .72 to .85.

The Previous Teaching Strategies Scale had six subscales based on accommodations, creating accessible course materials, use of inclusive lecture strategies, inclusive approaches, inclusive assessment strategies, confidence in disability law and UDI concepts. An example of a Previous Teaching Strategies item was "I use closed/open caption when showing video or tutorials in my primary teaching

environment. Response choices were scored using a five-point Likert-type scale (i.e., 1 = Never to Neutral to 5 = Very Frequently). In the preliminary study, the overall Cronbach's alpha was .92, with subscales ranging from .98 to .54.

Knowledge of Inclusive Teaching Strategies Scale. This 10-item instrument was created to measure a nurse educator's perceived level of awareness-knowledge regarding concepts of UDI and disability law as applied to teaching. Recognizing the state of knowledge might assist Officers of Disability (ODS) and/or schools of nursing with training on inclusive teaching strategies or the need to change future teaching practices. There was no appropriate instrument to measure a nurse educator's knowledge needs/problems on inclusive teaching strategies relating to the concepts of UDI and disability law and, as such, a new scale was created for this purpose. The scale was based on an extensive review of literature and the factors used in Lombardi's ITSI instrument (2013) and, in the preliminary study; the Cronbach's alpha was .86.

The Knowledge of Inclusive Teaching Strategies Scale asked nurse educators to rate their knowledge level on accommodations, creating accessible course materials, use of inclusive lecture strategies, inclusive approaches, inclusive assessment strategies, confidence in disability law and UDI concepts. An example of a Knowledge of Inclusive Teaching Strategies item was "I know how to create accessible course materials for my teaching environment." Response choices were scored using a five-point Likert-type scale (i.e., 1 = Strongly Disagree to 5 = Strongly Agree).

Social System Support for Inclusive Teaching Strategies Scale. The third instrument was a 4-item measure to address nurse educators' perceptions of their organizations' support; from the disability office, peers, nursing administration and

institution administration, for the use of inclusive teaching strategies in learning environments at their organization. An organization's social system is guided by the institution's values and beliefs towards achieving a common goal expressed by the members of the social network (Rogers, 2003). Nurse educators' perceptions of supportive climate for inclusive teaching strategies might influence the adoption of this pedagogy in practice. There was no appropriate instrument to measure a nurse educator's perceptions of support for inclusive teaching strategies and, as such, a new scale was created for this purpose. The scale was based on a comprehensive review of literature by the PI (Levey, 2014). In the preliminary study, the Cronbach's alpha was .78. An example of a Social System Support for Inclusive Teaching item was "At my academic institution, there are professional development workshops or tutorials on inclusive teaching strategies." Response choices were scored using a 5-point Likert-type scale (i.e., 1 = Strongly Disagree to 5 = Strongly Agree).

Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments. The fourth instrument was a 19-item measurement with five subscales designed to examine nurse educator's perceptions and willingness to adopt inclusive teaching strategies. Knowing the characteristics of innovation that influence a nurse educator's adoption or rejection of inclusive teaching strategies will assist in effective program development to diffuse the concept and practice. There was no appropriate instrument to measure a nurse educator's willingness to adopt inclusive teaching strategies, so a new scale was created for this purpose. The scale was based on a comprehensive review of literature by the PI. An example of Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments item was "I am

willing to pilot inclusive teaching strategies after attending a workshop or conference on the topic." Response choices were scored using a 5-point Likert-type scale (i.e., 1 = Strongly Disagree to 5 = Strongly Agree). In the preliminary study, the overall Cronbach's alpha was .88, with subscales ranging from .86 to .66.

Variables. The independent and dependent variables incorporated the DOI theory terminology and literature review. The independent variables included: Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator (type of institution, degree programs offered, years of teaching experience, exposure to NSWD, professional development (ADA and UDI), employment status, primary level of teaching responsibility and teaching environment). The dependent variable was the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments (relative advantage, compatibility, complexity, trialabilty and observability).

Data Analysis

Data collected in Survey Monkey® was exported into the Statistical Package for the Social Sciences (IBM-SPSS Statistics for Windows, Version 21.0.) for data analysis. Before the statistical analysis, data were examined for violations of assumptions amongst the variables (e.g., multicollinearity, singularity, outliers, normality, linearity, homoscedasticity and independence of residuals) (Pallant, 2010). Missing data were not an issue because the survey required responses before linking from the survey to the demographic questionnaire prior to exiting the study. Categorical variables were dummy coded for ease of analysis. Descriptive statistics were used to describe and summarize the characteristics of the sample (e.g., frequency, means and standard deviations).

Research Question One

Do instruments measuring the four constructs of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) demonstrate acceptable estimates of reliability and validity? The first research question was addressed by performing a factor analysis and Cronbach's alpha on the overall and subscale scores. Factor analysis is used in instrument development to explore the relationships among a large set of variables to identify the underlying dimensionality of the phenomena within a set of measures (DeVon et al., 2007; Polit, 2010). The factors most distinct to the Willingness to Adopt Inclusive Teaching Strategies were identified by factor analysis to examine construct validity of the instrument (Pallant, 2010; Waltz et al., 2010). Internal consistency measures the correlations of the items on the overall scale and subscales on the instrument and is expressed as a Cronbach's alpha with values above .70 for a new scale considered acceptable (DeVon et al., 2007; Polit & Beck, 2012).

The stable reliability of the instrument can be estimated by examining the consistency of the responses on the same measurement, to the same group of subjects, at two different occasions (DeVon et al., 2007; Waltz et al., 2010). A reliability coefficient above .70 is acceptable for a new scale and indicates the stability of an instrument (DeVon et al., 2007; Polit, 2010).

Research Question Two

What are the relationships between selected demographic variables (Characteristics of Nurse Educator) and variables (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) within the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model? The second research question was addressed by a Pearson's *r* correlation to assess the relationships between selected demographic variables and scales. The linear correlation coefficients are measures that represent the strength and the direction of linear associations between two variables (Hulley, Cummings, Browner, Grady, & Newman, 2013).

Research Question Three

Which variable (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator) is the best indicator for the willingness to adopt inclusive teaching strategies in nursing educational settings (Willingness to Adopt Inclusive Teaching Strategies)? Hierarchical multiple regression (HMR) was used to answer this question. This statistical approach assesses the relationships between variables and calculates the best indicators independent (predictor) variables on the dependent (criterion) variable (Polit, 2010). HMR was selected because the literature review highlighted multiple predictors associated with the willingness to adopt inclusive teaching strategies and, in

nursing education; there is no basis for a particular order or importance of variables (Polit & Beck, 2012).

In HMR, all characteristics of the nurse educator were entered into the regression equation (Step 1), to examine the unique variance in the dependent variable (Willingness to Adopt Inclusive Teaching Strategies) as explained by the independent variables (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator) (Pallant, 2010). Multiple R (observed and predicted correlation coefficient) and R^2 (percentage of the variance in the dependent variable that is explained by the model) were used to measure the relationship strength between variables (Pallant, 2010). An omnibus F test was used to determine the statistical significance of the model and advanced for further analysis (Meyers, Gamst, & Guarino, 2006).

Ethical Considerations

IRB approval was obtained from Marquette University. The recruitment letter contained statements regarding confidentiality, anonymity, implied consent, right to withdraw and the voluntary nature of survey. Consent was obtained when the subject clicked on the specific link identified in the recruitment letter.

Limitations

The study was limited in several ways. The variables and constructs selected from the DOI theory might not have represented all of the factors influencing educators' willingness to adopt inclusive teaching strategies in nursing educational environments. As a convenience sample, only participants responding to the online invitation had the opportunity to participate in the study, which might have resulted in a biased sample. Diversity of the sample is limited to the nurse educators responding to the survey. The ANEW listserv required dean/directors/chairs of nursing schools to forward the survey to their nurse educators. This additional distribution layer for the survey might have reduced the number of responses. An introductory message from the ANEW listserv Webmaster was provided to give recipients greater confidence and sense of legitimacy for distribution of the survey to their nurse educators. Educators with administrative responsibilities for nursing programs might have interpreted the meaning of the items differently than those without this responsibility. Subjects may have modified their answers to achieve a socially desirable effect for the survey (Polit & Beck, 2012); however, the anonymous response format was designed to reduce this limitation. Results need to be interpreted cautiously, as this is a new instrument and new concept in nursing education; repeated studies will enhance generalizability (Hulley et al., 2013).

Chapter Three Summary

The purpose of this dissertation was to examine the psychometric properties of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Education Scale (ITSinNE). The specific aim was to measure the characteristics and relationships that

were barriers or facilitators for nurse educators' willingness to adopt inclusive teaching strategies to increase the diversity of the nursing workforce. This chapter described the methodology utilized in the cross-sectional correlational research designed to accomplish the aims of the study. A detailed description of determining the sample size was provided, as well as the data collection and management procedure. The ITSinNE instruments, independent and dependent variables were reviewed. Data analysis was explained and paralleled with the research questions. Ethical considerations and limitations were addressed.

Marquette University College of Nursing offers PhD students the option of writing a traditional five chapter dissertation or two publishable quality manuscripts to meet degree requirements. The manuscripts option was selected. The College of Nursing dissertation guidelines state both manuscripts must be related to the dissertation topic, with the second containing major findings of the study. These manuscripts are included next, followed by references and appendices. Findings and discussion not included in the second manuscript are included in the appendices.

Reference for First Manuscript

Levey, J.A. (2014). Attitudes of nursing faculty towards nursing students with disabilities: An integrative

review. *Journal of Postsecondary Education and Disability, 27*(3), 355 – 371.

Second Manuscript Containing Major Findings

Measuring Nurse Educators' Willingness to Adopt Inclusive Teaching Strategies

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Abstract

Aim: The purpose of the study was to examine the characteristics and relationships of nurse educators' teaching practices, knowledge, support, and willingness to adopt inclusive teaching strategies (WillAdITS).

Background: Adopting more inclusive teaching strategies based in universal design for instruction (UDI) is an innovative way for educators to reach today's diverse student body. However, the pedagogy has not diffused into nursing education.

Methods: Descriptive statistics and hierarchical multiple regression were used for analyzing data from 311 nurse educators in prelicensure and RN to BSN programs.

Findings: The model explained 44.8% of the variance in WillAdITS. The best indicators for this pedagogy were knowledge of UDI, social system support for ITS, multiple instructional formats, and years of teaching.

Conclusions: Knowing factors influencing the adoption of inclusive teaching strategies can inform schools of nursing of areas needing further development in the preparation of novice and seasoned educators to teach diverse learners.

keywords: inclusive teaching strategies, universal design for instruction, nursing students

Measuring Nurse Educators' Willingness to Adopt Inclusive Teaching Strategies

The National League for Nursing ([NLN], 2003, 2005, 2009) and Institute of

Medicine ([IOM], 2010) have called upon nurse educators to transform curricula and

better prepare diverse learners for complex healthcare settings. These exciting

curriculum changes need to address the diversity of students attending nursing school

(i.e., in terms of ethnicity, learning styles, non-traditional students, enrollment status, and

disabilities). An innovative way for nurse educators to teach today's diverse student

body is to adopt more inclusive teaching strategies based in universal design for

instruction (UDI). This approach focuses on the use of multiple instructional methods,

materials, and assessments to remove barriers for knowledge and skill acquisition for the

broadest range of learners (McGuire & Scott, 2006; McGuire, 2011), with and without

disabilities. Although UDI is well established in postsecondary education, the concept

has not diffused into nursing education. Novice and seasoned nurse educators might not

receive formal instruction or mentoring on teaching strategies for diverse learners in

multiple learning environments (Oleson & Hora, 2012). This lack of knowledge, support,

and experience can lead to inadvertent obstacles to student learning, assessment, and

progression in a program (Lombardi, Murray, & Gerdes, 2011b). Limited time and

resources only exacerbate the gap between an educator's knowledge and application of

inclusive teaching strategies, such as UDI (Levey, 2014).

The purpose of the study was to examine the characteristics and relationships of

nurse educators' teaching practices, knowledge, support, and willingness to adopt

inclusive teaching strategies. This study is significant in nursing education because there

are no studies that measure factors which may influence an educator's perceptions and

willingness to adopt inclusive teaching strategies into their learning environment. An individual's willingness to adopt a new idea or practice relates to their perception of this new concept or strategy. This is applicable to inclusive teaching strategies (ITS) based in UDI. Identifying an educator's teaching practices, knowledge, support, and perceptions of ITS can facilitate program development and sustainable use of this pedagogy. Employing broad teaching strategies, materials, and assessments are unique approaches to provide accessible and engaging learning for all students in nursing programs.

Background

The NLN (2003, 2009) has challenged nurse educators to use innovative and inclusive pedagogies to address the diverse learning needs of students. The NLN Task Group on Innovation in Nursing Education (2005 through 2007) defined innovation of teaching as the application of knowledge to deconstruct long-held ideas and assumptions and introduce new (or perceived as new) pedagogies in the discipline. The outcome of an innovation leads to changed teaching practices within a culture that is willing to take risks, be creative, and support teaching excellence, while attending to the diverse learning needs of students. The concept of diversity in nursing education needs to include students with disabilities (Dupler et al., 2012; Marks, 2007; Marks & Ailey, 2014).

Since the enactment of The Americans with Disabilities Act ([ADA], 1990) and subsequent amendments, the number of students with disabilities attending postsecondary institutions has grown (Raue & Lewis, 2011). In a report for the National Center for Education Statistics, these authors estimated that 707,000 students with some type of disability were attending postsecondary institutions. The number of nursing students with disabilities (NSWD) is unknown. A barrier for NSWD is the preparedness and

support of nurse educators in their teaching role (Levey, 2014; Sower & Smith, 2004a, 2004b). Concerns regarding an educator's orientation to their role are not a new issue in nursing education (Baker, 2010). Limited time for seasoned educators to attend continuing education on NSWD only intensifies the problem. Educational programs on UDI provide an opportunity for nurse educators to develop their knowledge, skills, and experiences to enhance their instructional delivery so that it benefits all students and decreases barriers for NSWD (Baker, Boland, & Nowik, 2012; Sower & Smith, 2004a, 2014b).

UDI is an instructional approach in course design, materials, assessments, and content delivery that benefits the widest-range of postsecondary students, including students with disabilities, without the need to adapt or retrofit (McGuire, 2011). Scott, McGuire, and Shaw (2001) built on previous concepts of universal access in environments and learning and expanded them to postsecondary education. The nine principles of UDI include: (1) equitable use (e.g., accessible online course materials), (2) flexibility in use (e.g., multiple instructional formats), (3) simple and intuitive use (e.g., detailed assignment instructions and rubric), (4) perceptible information (e.g., audio format and videos), (5) tolerance for error (e.g., frequent feedback on components of a project), (6) low physical effort (e.g., online templates for standardized assignments) , (7) size and space for approach (e.g., flexible classroom seating and environment), (8) use of a community of learners (e.g., group work, discussion forums), and (9) instructional climate (e.g., syllabus statement on disability and accommodations, etiquette for interactions). UDI provides a framework and philosophy by which educators can self-

reflect on their teaching strategies to improve the learning accessibility for diverse learners (McGurie & Scott, 2006).

Rogers' (2003) theory on the Diffusion of Innovation (DOI) offers a theoretical explanation of factors that contribute to the decision to adopt or reject an innovation, such as inclusive teaching strategies. Diffusion is a process of disseminating the innovation through communication channels over time among individuals within a system. An innovation is a perception that an idea, practice, or object is new for an individual or group. The five perceived characteristics of an innovation (attributes) include: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). The higher the perceived relative advantage, the greater the chance the individual or organization will adopt the innovation. An innovation perceived as compatible to the individual's context poses less uncertainty or unfamiliarity to its use. An individual will be less resistant to an idea or practice that appears effortless to learn. The opportunity to see and try the innovation on a limited time basis reduces uncertainty regarding the idea, product, or practice. Rogers (2003) reported knowledge of the attributes can explain 49% to 87% of the variance in the adoption rate of an innovation.

DOI is widely used in many disciplines, including public health, communication, advertising, political science, technology, economics, education, medical sociology, and nursing (Rogers, 2003). In nursing education, Rogers' theory provides a way to measure factors contributing to educators' willingness to adopt inclusive teaching strategies by examining characteristics of the innovation (inclusive teaching strategies), prior conditions (previous teaching strategies), social system support, and adopter (nurse educator demographics).

Instrument Development

The ITSinNE model was conceptualized based on the literature and Rogers'
theory. The domains included: (1) characteristics of the innovation (inclusive teaching
strategies), (2) prior conditions (previous teaching strategies, knowledge levels, and
social system support for ITS), and (3) adopter (characteristics of nurse educators). The
ITSinNE was created by modifying the Inclusive Teaching Strategies Inventory
(Lombardi & Sala-Bars, 2013; Lombardi & Murray, 2011a, Lombardi et al., 2011b).
Permission to modify the tool was received by Lombardi. The Cronbach's alpha for the
Inclusive Teaching Strategies Inventory subscales ranged from .72 to .89 (Lombardi,
2011b). Multiple items and scales were developed and added by the PI to create the
current ITSinNE instrument.

Face and content validity. The ITSinNE was examined for face and content
validity by 13 content experts in Associate and Baccalaureate Degree Programs from
around the United States. The content experts evaluated the overall instrument for
relevance and accuracy of each item using a content validity index ([CVI], Waltz,
Strickland, & Lenz, 2010) 4-point Likert-type tool created by the PI. The scale rating (1
= not relevant to 4 = very relevant) was used as the content validity criterion for the
instrument and resulted in a CVI rating ranging from .84 to .97. Feedback was
incorporated in the ITSinNE before the preliminary study.

Preliminary study. The reliability of the ITSinNE instrument and feasibility of
the SurveyMonkey® data collection procedure were examined in the preliminary study.
Institutional Review Board (IRB) approval was obtained to collect online data from a
convenience sample of educators ($N = 26$) teaching at a Midwest university nursing

program during spring 2014. The Previous Teaching Strategies, Knowledge Levels of

ITS, Social System Support for ITS, and Perceptions of ITS overall scales had acceptable

Cronbach's alphas of .92, .86, .78, and .88, respectively. One item was deleted because it

did not perform well. Space was provided for participants to provide feedback which

was used in the refinement of the instrument.

Method for the Study

The current study was a descriptive, correlational analysis of a subset of data from

a larger survey titled, *Willingness to Adopt Inclusive Teaching Strategies in Nursing*

Education. A total of 311 respondents teaching in Diploma (DPL), Associate Degree

(AD), RN to BSN Completion Programs (RNtoBSN), and traditional Baccalaureate

Nursing Programs (BSN) were pooled and 55 survey items were used. Nurse educators

were recruited through invitations sent to schools, professional nursing organizations, and

associations with electronic mailing lists for this one-time anonymous online survey

using SurveyMonkey®. The principal investigator (PI) obtained appropriate IRB

approval and electronic mailing list permission to post the initial invitation and email

reminders. Informed consent was obtained when participants voluntarily linked to the

survey. A $5 charitable incentive was offered for each completed survey. Operational

definitions were located at the top of each survey page.

Subjects were allowed to view all of the items on a page and redirected to any

item not answered before exiting the survey. The demographic questions were purposely

placed at the end of the survey to reduce the subject's termination of the survey (Dillman,

Smyth, & Christian, 2009). The survey took approximately 20 minutes to complete and

data were password-protected. Inclusion criteria consisted of nurse educators currently

working in academia in the United States with at least two years of teaching experience in either the classroom, clinical, and simulation or skills lab setting. This amount of experience was selected to ensure nurse educators had sufficient teaching time on which to base their survey responses. The response rate was indeterminable due to the nature of online surveys. Minimum sample size determination of 275 was based on sufficient power for a confirmatory factor analysis (CFA) of no fewer than five participants per item which exceeded the sample size needed for a multiple regression (Comrey & Lee, 1992; Warner, 2013). The results of the confirmatory factor analysis will be published in a future manuscript.

Measurements

A conceptual or theoretical model is structured by cognitive, affective, or psychomotor domains in which to measure characteristics of interest (Waltz et al., 2010). Inclusive teaching strategies are based in UDI principles and defined as teaching pedagogies that enable all students to access and engage in learning throughout the nursing program and its environments. A learning environment in nursing education includes the classroom, clinical, simulation and/or skills lab settings. The ITSinNE is a 55-item instrument reflecting specific domains within the DOI theory to measure the antecedents influencing nurse educators' willingness to adopt inclusive teaching strategies (See Figure 1).

Previous Teaching Strategies (PTS) domain. The PTS domain (17 items) measured past teaching strategies used by nurse educators to instruct students and had four subscales: Inclusive Presentation (PTS1), Multiple Instructional Formats (PTS2), Accommodations (PTS3), and Inclusive Assessment (PTS4). These items were from

Lombardi and Sala-Bars (2013) study and were modified for learning environments in

nursing education. Lombardi et al. (2011b) reported the Cronbach's alpha for the ITSI

seven subscales ranging from .72 to .85. Examples of the PTS subscales include: PTS1:

"I summarize key points throughout each session for all students in my primary teaching

environment"; PTS2: "I create multiple opportunities for engagement in my primary

teaching environment"; PTS3: "I provide individual accommodations for students who

have documented disabilities in my primary teaching environment"; and, PTS4: "I allow

students to demonstrate their knowledge and skills in way other than traditional test and

exams in my primary teaching environment (e.g., written essays, portfolios, journals)."

Response choices for the Previous Teaching Strategies were scored using a 5-point

Likert-type scale (i.e., 1 = *Never* to 5 = *Very Frequently*).

  Knowledge of ITS (KITS) domain. KITS had two subscales (Knowledge of

ADA (KNOW1) and Knowledge of UDI (KNOW2). This 15 item domain was created to

measure a nurse educator's perceived level of knowledge regarding concepts of UDI and

disability law. The domain was based on a comprehensive review of literature by the PI

and themes extracted from the ITSI instrument. Examples of the KITS subscales are:

KNOW1"I am confident in my knowledge to make adequate accommodations for

students with disabilities in my primary teaching environment" and KNOW2 "I am

confident in my understanding of Universal Design for Instruction in my primary

teaching environment." Recognizing the state of knowledge might assist Officers of

Disability Services and/or schools of nursing in training on inclusive teaching strategies

or identifying a need to change future teaching practices. KITS responses were scored

using a 5-point Likert-type scale (i.e., 1 = *Strongly Disagree* to 5 = *Strongly Agree*).

Social System Support for ITS (SSS) domain. The third SSS domain (4 items) measured nurse educators' perceptions of support for the use of ITS from the disability office, peers, nursing administration and academic institution. Nurse educators' perceptions of support for ITS might influence their willingness to adopt this pedagogy. The domain was based on a comprehensive review of literature by the PI as there was no instrument available to measure this concept. An example of an SSS item is "The dean or department chair at my nursing program supports the use of inclusive teaching strategies." Response choices for the SSS were scored using a 5-point Likert-type scale (i.e., 1 = *Strongly Disagree* to 5 = *Strongly Agree*).

Willingness to Adopt ITS (WillAdITS) scale. This domain (19 items) includes five subscales designed to examine nurse educators' perceptions and willingness to adopt inclusive teaching strategies. There was no appropriate instrument to measure nurse educators' willingness to adopt inclusive teaching strategies; as such, a new scale was created based on a comprehensive review of literature by the PI. WillAdITS responses were scored using a 5-point Likert-type scale (i.e., 1 = *Strongly Disagree* to 5 = *Strongly Agree*). Examples of the subscales include:

- Relative Advantages (WillAdITS1): "The use of inclusive teaching strategies will provide more opportunities for students to fully learn a concept."

- Compatibility (WillAdITS2): "Inclusive teaching strategies are compatible with my teaching style."

- Complexity (WillAdITS3): "I can immediately use inclusive teaching strategies with my students."

- Observability (WILLADITS4): "I have read educational research literature on the effectiveness of inclusive teaching strategies."

- Trialability (WillAdITS5): "I am willing to pilot inclusive teaching strategies after attending a workshop or conference on the topic."

Data Analysis

The database was exported from SurveyMonkey® into Statistical Package for the Social Sciences (IBM-SPSS Statistics for Windows, Version 22.0.) for data cleaning and assessment of assumptions for applied statistical techniques. The MPLUS (version 7, Muthén & Muthén 1998-2012) software was then used for data analysis because of its unique ability for calculating ordinal variables that are not normally distributed (i.e., Likert-type). Descriptive statistics were used to summarize characteristics of nurse educators. Categorical variables were dummy coded for ease of computing membership within a group (i.e., part-time verses full-time). Hierarchical multiple regression (HMR) was used to create a model reflecting linear relationships between variables in a predetermined order (steps) to assess the influence of selected independent variables on the dependent variable (Warner, 2013).

Independent variable domains were identified as (Previous Teaching Strategies, Knowledge of ITs, and Social System Support for ITS) and characteristics of nurse educators: type of institution (private/public), years of teaching experience, experiences with NSWD in the last two years (none, 1 to 5, 6 or more), professional development in-service or workshop regarding ADA and UDI in the last two years (none, one, two or more), employment status (full/part-time), primary teaching environment (classroom, clinical, online/hybrid, simulation/skills lab). The dependent variable was the Willingness to Adopt ITS domain with five subscales. In this study, selected characteristics of nurse educators were entered first (Step 1) into the model, followed by the PTS, KITS, and SSS domain subscales (Step 2). This was done to assess their

influence on WillAdITS above and beyond the effect of statistically controlling these variables (Pallant, 2010).

Results

Table 1 summarizes the characteristics of nurse educators in the study. The sample primarily consisted of full-time nurse educators teaching in the classroom. Private and public institutions were represented almost equally between the groups.

ITSinNE Reliability Estimates

Reliability for the study sample was assessed by calculating standardized Cronbach's alpha for each subscale and overall WillAdITS scale. Except for the Previous Teaching Strategies subscales, most subscales showed adequate to good reliability scores: Previous Teaching Strategies (PTS1 .52; PTS2 .68; PTS3 .74; PTS4 .44); Knowledge of ITS (KNOW 1 .87; KNOW2 .89); Social System Support for ITS (SSS .82); and, Willingness to Adopt ITS (Overall .93; subscales Relative Advantage .90; Compatibility .88; Complexity .81; Observability .70; Trialability .85).

An HMR was performed to assess the relationships between the domains to identify the best indicators of WillAdITS. The characteristics of nurse educators were entered at Step 1 and explained 6.2% of the variance in WillAdITS ($R^2 = .062$). The addition of PTS, KITS, and SSS domains in Step 2 resulted in an additional 38.6% ($R^2 \Delta = .386$) variance explained in WillAdITS. The model as a whole explained 44.8% (Adjusted $R^2 = .448$) of the variance in WillAdITS. The final model identified the best indicator variables and their contribution to ITSinNE: Knowledge of UDI ($B = .198, p < .001$), Social System Support for ITS, ($B = .182, p < .001$), Multiple Instructional Formats ($B = .195, p < .001$), and Years of Teaching ($B = .-.008, p < .001$) (See Table 2).

Discussion

This study is the first to examine nurse educators' willingness to adopt inclusive teaching strategies as framed in UDI. Overall, the domains identified in this model explained 44.8% of the variance in WillAdITS. Interestingly, none of the characteristics of a nurse educator identified in this study were statistically significant, except for years of teaching which had a negative effect on adopting inclusive teaching strategies. The best indicators contributing to this pedagogy were knowledge of UDI, social system support, use of multiple instructional formats, and years of teaching in nursing education. Knowledge of factors that influence the adoption of inclusive teaching strategies can inform schools of nursing of areas needing further development in the preparation of novice and seasoned educators to teach diverse learners. Establishing inclusive teaching strategies, knowledge of UDI, and social system support early in an educator's teaching career provide an opportunity to integrate and refine these approaches throughout a career.

Results need to be interpreted cautiously, as this is a new instrument and new concept in nursing education; repeated studies will enhance generalizability (Warner, 2013). The Knowledge of ADA, Knowledge of UDI, Social System Support, Relative Advantage, Compatibility, Complexity, Observability and Trialability subscales showed adequate to good reliability. The wording of items in the PTS domain may need rewording for teaching strategies used in different teaching environments. For example, clickers used in the classroom versus a voice-over PowerPoint used in online learning. Lombardi's ITSI (2011b) was designed for postsecondary classroom environments and did not address the varied learning environments used in the healthcare disciplines (e.g.,

simulation/skill labs, clinical practicum). Future item development of PTS scales for

nursing classroom, clinical, simulation/skills lab, and online learning are planned.

Other limitations that should be considered are the domains selected from the DOI

theory which might not represent all of the factors influencing educators' willingness to

adopt inclusive teaching strategies. As a convenience sample, the survey required some

listerv administrators to forward the survey to nurse educators and this additional step

could have reduced the number of responses. Every attempt was made to make data

collection easy. Participants may have modified their answers to achieve a socially

desirable effect for the survey (Polit & Beck, 2012); however, the anonymous response

format was designed to reduce this limitation. The survey was sent in September and

October and contained over 50 items which could have caused survey fatigue resulting in

educators not participating or completing the survey. These areas should be considered

in subsequent research.

Conclusion

The study introduced the concept of ITS based in UDI for nursing education and

contributes to the body of nursing literature on research-based teaching strategies. A

nurse educator's previous teaching practices, knowledge and support for ITS based in

UDI were significantly related to their willingness to adopt the pedagogy. The significant

relationships between the domains suggest that educators are ready and willing to adopt

ITS, but need professional education and support for UDI as a way to incorporate these

strategies in their teaching environment. The use of UDI principles might increase

retention and graduation rates as more students are able to access content, materials, and

environments based on their learning style. The ITSinNE instrument can be used in a

collaborative effort between Offices of Disabilities Services and nursing programs to allocate specific resources for increased implementation of effective instructional design and content delivery in varied learning environments. Nurse educators are the conduit to student learning and using UDI inclusive instructional strategy is a means to greater knowledge access for all learners, with and without disabilities.

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Table 1

Characteristics of Nurse Educators in the Study

Category	*n* (%)
Gender	
Female	298 (96)
Male	13 (4)
Type of Institution	
Public	176 (57)
Private	135 (43*)*
Years Teaching in Academia	
Range, Mean	2 to 43 (13)
Age	
Range, Mean	28 to 75 (53)
Highest Degree Earned	
Baccalaureate	3 (1)
Masters	190 (61)
Doctoral	113 (36)
Preferred Not to Answer	5 (2)
Employment Status	
Full-time	276 (89)
Part-time	35 (11)
Primary Teaching Responsibility	
Classroom	196 (63)
Clinical Practicum	63 (20)
Simulation/Skills Lab	16 (5)
Online/hybrid	23 (7)
Other	13 (4)
Certified Nurse Educator	
Yes	83 (17)
No	228 (73)

Note: Percentages may not add to 100 due to rounding.

Table 2

Hierarchical Multiple Regression Model Results for Significant ITSinNE Predictors

Predictors	*B*	*SE B*	*Beta*	*Wald*	*Confidence Level*	*p*
Step 1						
Constant	4.003	.119		33.560		.001
Yrs Teaching	-.006	.003	-.115	-1.978	-.013-.001	.05
Number of Prof. Dev'p	.133	.038	.201	3.488	.055-.203	.001
Step 2						
Constant	1.079	.254		4.239		.001
Yrs Teaching	-.008	.003	-.140	-2.962	-.013-.003	.003
PTS2	.195	.052	.206	3.735	.096-.307	.001
KNOW2	.198	.043	.274	4.586	.112-.277	.001
SSS	.182	.039	.262	4.712	.107-.256	.001

Note: R^2 = .062 for Step 1; $R^2 \Delta$ = .386 for Step2; Adjusted R^2 = .448

Figure 1

Domains of ITSinNE Model

Previous Teaching Strategies

Inclusive Presentation

Multiple Instructional Formats

Accommodations

Inclusive Assessments   **Willingness to Adopt ITS**

Knowledge of ITS

Knowledge of ADA   •   Relative Advantages

Knowledge of UDI   •   Compatibility

Social System Support for ITS   •   Complexity

Social System Support   •   Observabilty

                                               •   Trialability
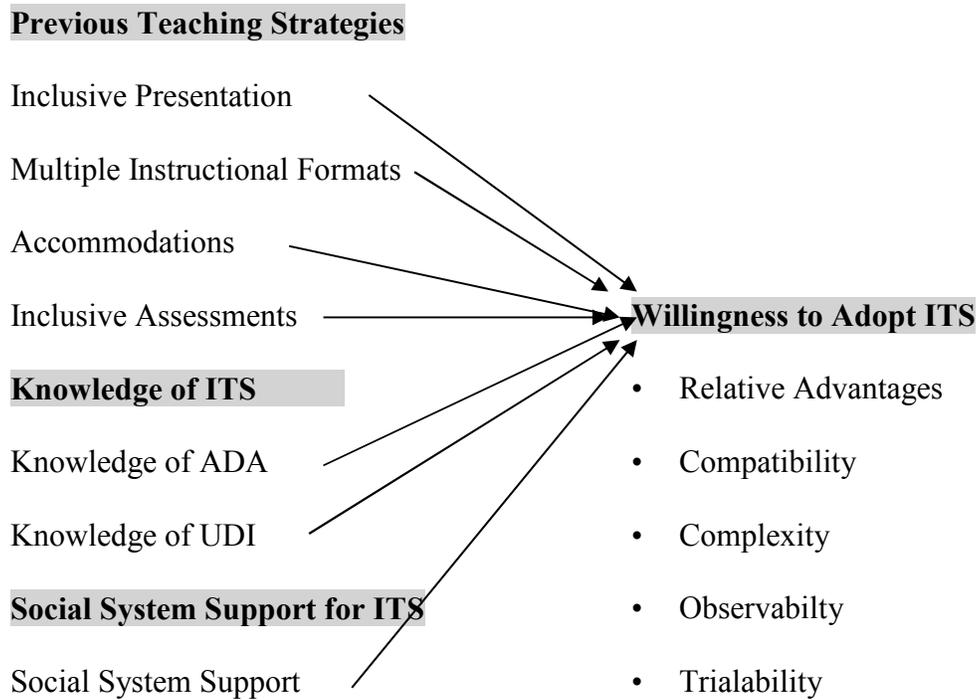
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CHAPTER FOUR APPENDIX TO DISSERTATION PROJECT

The overall characteristics of the sample, Cronbach's alphas, and hierarchical multiple regression were discussed in the second manuscript. Figure 1 in the manuscript provides a diagram of the reconstructed model and summary of the domains. Detailed results of the sample characteristics, test-retest, confirmatory factor analysis, and correlations are presented in Chapter Four as an appendix to the dissertation.

Characteristics of the Sample

A total of 311 respondents teaching in Diploma (DPL), Associate Degree (AD), RN to BSN Completion Programs (RNtoBSN), and traditional Baccalaureate Nursing Programs (BSN) were pooled for this study. The majority of the participants were female (96%, $n = 298$) and ranged in age from 28 to 75 years of age ($M = 53$). Most participants reported their highest degree earned was a masters degree, 61% ($n = 190$) followed by a doctoral degree (36%, $n = 113$), and baccalaureate degree (1%, $n = 3$), respectively. Five participants preferred not to answer (2%). Twenty-seven percent of the participants were Certified Nurse Educators ($n = 83$) through the National League for Nursing certification program. All participants were actively employed (full-time: 89%, $n = 276$: part-time: 11%, $n = 35$) at either public (57%, $n = 176$) or private/proprietary (43%, $n = 135$) institutions. The average number of years in nursing education was 13 years ($M = 13$; range, 2 to 43 years). Over half of the respondents indicated their primary teaching environment was the classroom/didactic (63%). Sixty-three percent reported their teaching responsibility was in a clinical practicum, and 16% were in simulation/skills labs. Some participants primarily taught online (7%) which included instructors teaching

hybrid classes. Table 1 in the manuscript summarizes the characteristics of nurse educators in the study.

<div align="center">**Research Questions**</div>

Research Question One

Do instruments measuring the four constructs of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Perceptions of Inclusive Teaching Strategies in Nursing Education) demonstrate acceptable estimates of reliability and validity?

Reliability

The manuscript addressed the standardized Cronbach's alpha for each subscale and overall WillAdITS scale.

The Cronbach alphas for the Previous Teaching Strategies (PTS) domains ranged from unacceptable to acceptable (Inclusive Presentation (PTS1 = .52), Multiple Instructional Formats (PTS2 = .68), Accommodations (PTS3 = .74) and Inclusive Assessments (PTS4 = .44). There are several reasons for the low reliability indexes on the PTS domain subscales: (1) participants misunderstood the items, (2) mismatched scale to item domain, (3) homogenous group as most participants were from the Midwest, and (4) only two items were retained for the accommodation subscale (Waltz, Strickland, & Lenz, 2010; Warner, 2013).

On two separate occasions, four schools of nursing participated in the test-retest of the instrument (initial test, $n = 35$; retest, $n = 5$). A \$5 charitable incentive for each

completed survey was given for both the test and retest survey. Due to the low participation in this part of the study, indicators of stable reliability were unattainable. It was hypothesized the low retest response rate was due to the length of the survey or participants' inability to recall the memorable date they created for this purpose (e.g., birthday or anniversary date). In the next study, a shorter survey and instructions prompting participants to record this data in a safe place will be included.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was used to assess the validity of the ITSinNE model as the relationships between observed indicators (e.g., items) and latent factors (e.g., domains) were theoretically based and structured on the literature (Kline, 2013; Meyer, Gamst, & Guarino, 2006; Waltz et al., 2010). In Figure 1, Analysis of Moment Structures [AMOS] (v22) created the analytical model of ITSinNE identifying domains for testing. In this phase of the project, the reconstructed model as a whole explained 41% of the variance in WillAdITS. The Previous Teaching Strategies (PTS) domains had low loading; especially, accommodation did not load. A standardized loading of > .7 is considered a good measure of their latent construct and desired (Warner, 2013). However, a coefficient >.3 is acceptable (Meyer et al., 2006). It was determined to continue with the CFA to see which items were performing poorly. This information would assist in future respecification of the model.

Figure 1

Analytical Model
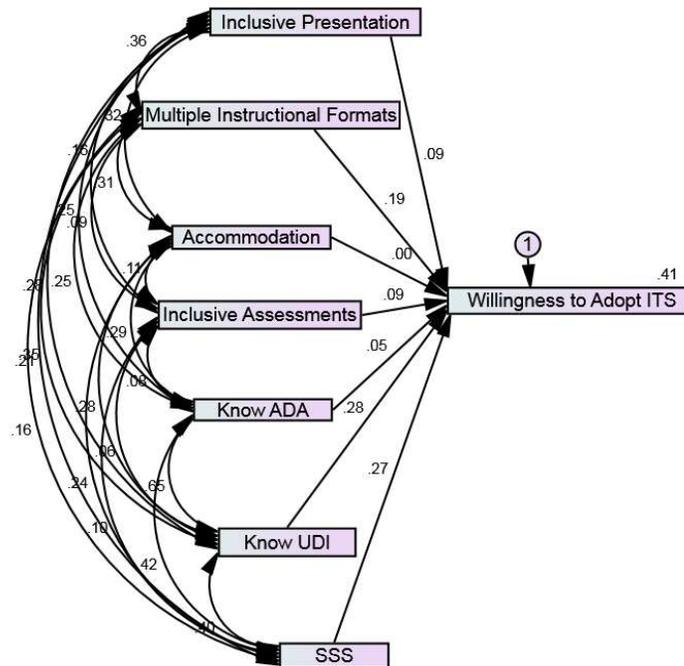
The MPLUS (version 7, Muthén & Muthén 1998-2012) was then used because of

its unique feature for calculating variables that are ordinal and not normally distributed

(i.e., Likert-type). The validation of the ITSinNE required two separate confirmatory

factor analyses (CFA) to assess the data fit due to the complexity of the model (Figure 3:

CFA Exogenous Model and Figure 4: CFA Exogenous Model).

Figure 2

CFA: Exogenous Model
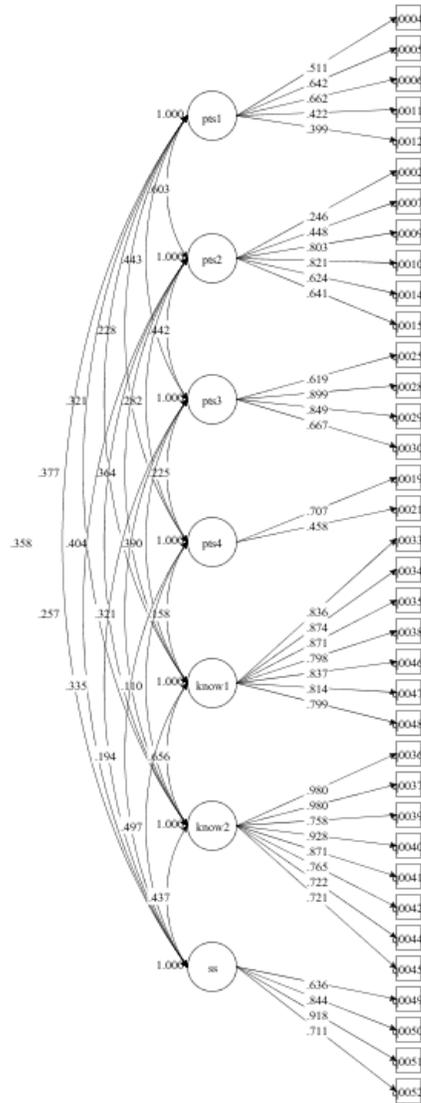
Figure 3

CFA: Endogenous Model
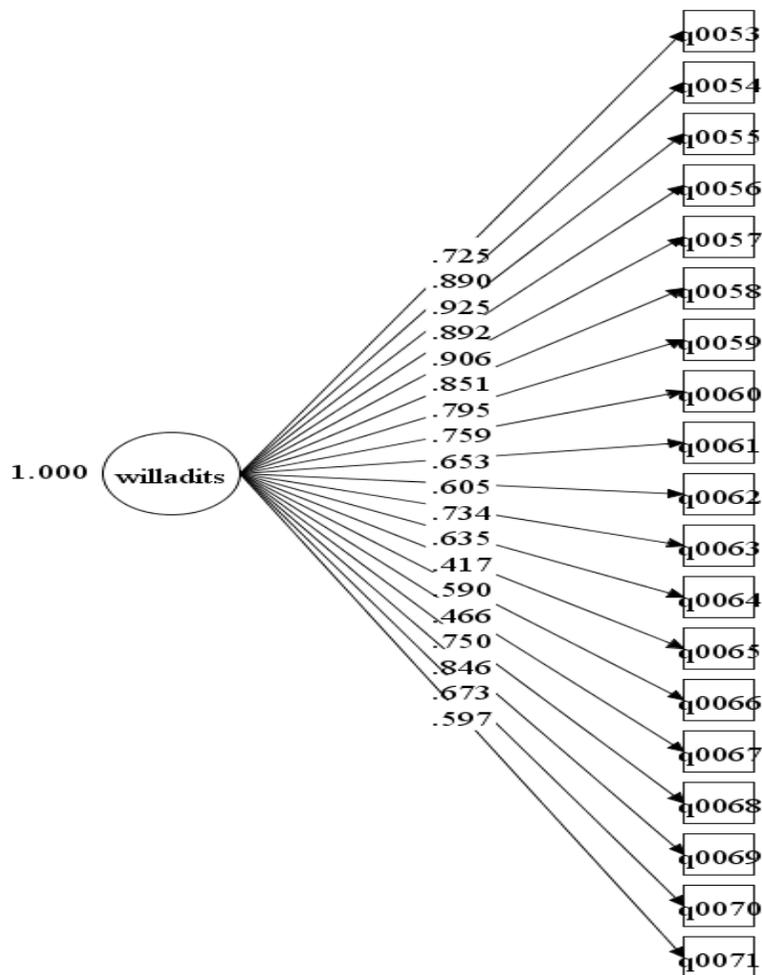
The testing of a model follows a sequence of five steps: (1) specification,

(2) identification, (3) estimation, (4) evaluation and, (5) respecification (Meyer et al.,

2006). In the specification step, the model, variables, and relationships between them are

denoted by one- and two-way arrows and geometrical symbols (see Figures 3 and 4)

(Kääriänen et al., 2011). The exogenous variables (independent variables: domains,

factors, error terms) are identified by arrows pointing away from the variable and

endogenous variables (dependent variables, observed, measured items) are recognized by arrows pointing towards the variable (Meyer et al., 2006; Warner, 2013).

After specification, parameters needing to be estimated were identified (e.g., factor loadings, covariance of the measurement errors, variances of the factor, covariance between factors, as applicable) (Waltz et al., 2010). The latent domains needed to be "scaled" as a way to provide a measurement scale to a variable that is not observed (Meyers et al., 2006). In both the endogenous and exogenous model, the variance was fixed to the latent domain unity of 1.0. To assess if there was enough information to determine unique estimates for the parameters, the number of observations was subtracted from the number of parameters to obtain the degrees of freedom for the model (Kline, 2013). The CFA models used in this study were identified as unidirectional (single directions) (Maruyama, 1998; Waltz et al., 2010).

Parameter estimation is the third step of the process that entails a mathematical operation to reduce the difference between the data and model-implied variance-covariance matrices; it is referred to as a "fitting function" testing a model (Brown, 2015). The diagonally weighted least squares (DWLS) approach was used because it yields more robust estimates and standard errors for ordinal and non-normal multivariate distributed variables (Mîndrilă, 2010). MPLUS produces polychonic correlations matrix by only using the diagonal of weights in inversion during the analysis (Mîndrilă, 2010).

The fourth step was evaluating the fit of the hypothesized measurement model with the data (Kline, 2013). To evaluate the ITSinNE model the following criteria were used; the chi-square statistic (χ^2), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), goodness-of-fit index (GFI), and weighted root mean square

residual (WRMR). The χ^2 tests the null hypotheses that there was no difference between the sample and model-implied covariance matrix (Waltz et al., 2010). A p value greater than .05 is desired as this reflects that the data fits the model versus an alternative model. A χ^2 needs to be interpreted cautiously, as this statistic is sensitive to large sample size and multivariate skewness (Floyd & Widaman, 1995; Kline, 2013; Meyers et al., 2006; Waltz et al., 2010). The RMSEA assessed the average residuals between the theoretical and observed variance estimated for the population (Meyers et al., 2006). Byrne (1998) stated that RMSEA is considered the "most informative criteria in covariance structure modeling" (as cited in Meyers et al., 2006, p. 559). Values less than .08 are desired; however, <.10 is also acceptable (Kääriänen et al., 2011; Kline, 2013; Meyers et al., 2006).

TLI is a comparative fit index containing a penalty function when parameter estimates do not substantially improve the model fit (Brown, 2015). The TLI value close to 1.0 indicates a good fit, but TLI can have values outside of the range of 0 to 1 (Brown, 2015). The GFI is comparable to the R^2 in multiple regression and is the proportion of variance in the observed correlation/covariance accounted for by the theoretical model (Meyers et al., 2006). A value close to 1.0 indicates a perfect fit (Meyers et al., 2006; Kline, 2013; Waltz et al., 2010). WRMR is used to evaluate model fit with categorical observed variables and uses a weighted variance approach (Muthén & Muthén, 1998-2012). A WRMR with an index < 1.0 indicates a good fit (Muthén & Muthén, 1998-2012). The WRMR is an experimental fit statistic and should not be considered when the other fit statistics appear good (Muthén, 2010).

Table 3 summarizes the results of the goodness-of-fit indices for the exogenous and endogenous models.

Table 3

Goodness-of-Fit Indices for the Exogenous and Endogenous Models.

$n = 311$	χ^2	RMSEA	GFI	TLI	WRMR
Exogenous Model	0.00	.08	.96	.95	1.642
Endogenous Model	0.00	.18	.89	.87	2.65

The results of the CFA demonstrated the exogenous model fit the sample and model-implied covariance matrix based on the RMSEA, GFI, and TLI indexes. The endogenous model did not meet model fit based on the first analysis. However, when the endogenous model domain was opened-up (released) and each subscale was allowed to stand on its own, model fit indexes improved ($\chi^2 = 0.00$; RMSEA = .098; GFI = .97; TLI = .96; WRMR = 1.24). This supports that the construct validity of the ITSinNE could be improved with slight model modification and respecification (Meyers et al., 2006; Waltz et al., 2110).

In reviewing the results, the standardized domain loadings for the exogenous model (range .25 to .98) and initial endogenous model (range .42 to .93) were statistically significant ($p < .01$). A standardized loading of > .7 is desired and most of the items met this criterion or were very close to it (Warner, 2013). Some of the PTS items might not be a strong indicator of their domain. Standardized error estimates for both the exogenous and endogenous models were similar in magnitude, except for the PTS4 items which were slightly higher. The critical ratios for each item were determined by dividing the unstandardized regression estimate by the standard error, interpreted as a z score

(Meyers et al., 2006). *Z* scores greater than 1.96 indicate statistical significance and this was achieved for all items in both CFA models (Meyers et al., 2006). The endogenous model did not have correlations because of the way the CFA was constructed using the two model approach. The majority of the correlations in the exogenous model ranged from .11 to .6 and were statistically significant ($p < .05$); KNOW2 with PTS4 hovered near statistical significance at $p = .09$.

Respecification is the last step in which the researcher reviews the matrixes and decides to either add coefficients between factors and indicators variable or delete non-significant items (Meyers et al., 2006). All decisions need to be supported by the literature. Respecification was not part of this project.

Research Question Two

What are the relationships between selected demographic variables (Characteristics of Nurse Educator) and variables (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments) within the Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments Model?

Table 4 summarizes statistically significant correlations between characteristics of nurse educators and domain subscales. Table 5 summarizes the correlations between the domains.

Table 4

Correlations between Characteristics of Nurse Educators and Domains of ITSinNE

	PTS 1	PTS 2	PTS 3	PTS 4	KNOW 1	KNOW 2	SSS	Will AdITS¤
Years Teaching	.026	-.003	.087	.034	.177**	.076	-.025	-.111*
Employment	.159	.131	.064	.025	.146	.069	.057	-.037
Institution type	-.035	-.007	-.026	-.191	-.058	.026	.111	.004
Number of Prof. Dev'p	.246	.296	.241**	.004	.359	.292	.385	.213
Number of NSWD	.112	.189	.152**	-.197	.128	.080	.008	-.003
Sim/Skills Lab	.027	-.156	-.050	-.334	-.101	-.065	-.052	-.161
Clinical	.042	-.214	-.081**	.027	-.151	-.156	-.024	-.052
Online	.143	.251	.258**	.413	.169	.177	.067	.161

Note: Correlations for referenced groups: full-time was referenced to part-time; public was referenced to private; teaching in the last 2 years: 1 to 5 nursing students with disabilities (NSWD) and 6 or more was referenced to no experiences with NSWD; attending in the last 2 years: 1 in-service or 2 or more professional in-services was referenced to none; and, primary teaching environment: clinical, simulation (sim)/skills lab (Lab) or online environments were referenced to the classroom.
*$P \leq .05$ **$P \leq .01$ ¤Overall scale

Table 5

Correlations between ITSinNE Domains

	PTS 1	PTS 2	PTS 3	PTS 4	KNOW 1	KNOW 2	SSS	Will AdITS
PTS1	-							
PTS2	.360	-						
PTS3	.320	.307	-					
PTS4	.157	.090	.107	-				
KNOW1	.253	.255	.290	.079	-			
KNOW2	.279	.348	.278	.061	.651	-		
SSS	.206	.162	.244	.102	.422	.401	-	
WillAdITS	.322	.392	.257	.170	.430	.525	.465	-

All statistically significant correlations between characteristics of nurse educators (demographics) and domain subscales from the hierarchical multiple regression (HMR) are described; however, they need to be interpreted with caution because most of the characteristics of nurse educators are nominal variables. Converting continuous variables to nominal variables was necessary after reviewing the varied results with a statistician. It was hypothesized participants either did not understand the question or answered to achieve social desired effect.

WillAdITS was positively correlated with all previous teaching strategies, knowledge of ITS, and SSS for ITS domains. There was also a positive correlation between WillAdITS and attendance at two or more professional in-services. Surprisingly, years as a nurse educator negatively correlated with WillAdITS ($r = -.111$, $p < .05$). For years of teaching, there was a small positive correlation with confidence in ADA knowledge ($r = -.117$, $p < .01$).

Correlations need to be interpreted with caution because most of the characteristics of nurse educators are nominal variables. The correlations between domains and teaching environment are referenced to other teaching environments. For example, attending professional in-services was positively correlated to providing accommodations relative to educators not attending in-services. Having taught NSWD in the last two years was positively correlated to providing accommodations relative to educators not having the opportunity to teaching NSWD. There was a negative correlation for clinical educators providing accommodations relative to instructors teaching in other settings. There was a positive correlation for online educators providing accommodation relative to instructors in other environments.

Research Question Three

Is one variable (Previous Teaching Strategies, Knowledge of Inclusive Teaching Strategies, Social System Support for Inclusive Teaching Strategies, and Characteristics of a Nurse Educator) a better indicator for the willingness to adopt inclusive teaching strategies in nursing educational settings (Willingness to Adopt Inclusive Teaching Strategies)? The second manuscript addressed research question three in the proposal.

CHAPTER FIVE APPENDIX TO DISSERTATION PROJECT

The purpose of this study was to examine the psychometric properties of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Education Instrument (ITSinNE) with the specific aim to measure the characteristics and relationships influencing nurse educators' willingness to adopt inclusive teaching strategies. The second manuscript discussed the results of the Cronbach's alphas, hierarchical multiple regression, limitations, future research and implications for nursing education. Chapter five discusses correlation results, strengths of the study, recommendations for instrument refinement, and implications for nursing research and practice.

Correlations Results

The results from the correlations revealed that the ITSinNE domain structures were associated with nurse educators' willingness to adopt ITS. Experienced nurse educators had lower willingness to adopt ITS. This could be attributed to the increased workload assumed with tenure or established teaching practices (Levey, 2014). Additionally, years of teaching was correlated in an educator's confidence in ADA knowledge. It was postulated an increased exposure to ADA information and application was related to increase teaching experience.

Attendances at professional in-services were correlated to providing accommodation relative to educators not attending continuing education on this topic. This could possibly be an outcome of required in-services at academic institutions or greater exposure to NSWD over the course of time. Having the opportunity to teach NSWD was correlated to providing accommodation relative to educators not teaching

NSWD. It was reasoned this was an expected outcome as students with documented

disabilities are provided accommodations under ADAAA (2008). Being a clinical

instructor was negatively related to making for NSWD. This might be related to the

limited information on this topic in clinical learning environment. Educators teaching

online were positively correlated with providing accommodations relative to educators

teaching in other environments. This was attributed to online educators having more

resources and technology support from instructional design teams employed by their

academic institution to manage learning management systems (e.g., Blackboard, Desire 2

Learn).

Study Strengths and Recommendations

The use of MPLUS strengthened the study because it had the capability to address

the non-normality and ordinal nature of the data. In addition, the sample size was

adequate to perform a CFA and there was no missing data which required imputation.

The Previous Teaching Strategies (PTS) domains did not demonstrate adequate reliability

indices. Refining the UDI teaching strategies inventory (Previous Teaching Strategies,

PTS1, PTS2, PTS3, PTS4) portion of the instrument to a nurse educator's primary

teaching environment might place the item in context for the participant. For example, "I

begin each session with an outline/agenda of the topics to be covered for the day in my

primary teaching environment" could be modified to "I begin each session with an

outline/agenda of the topics to be covered in simulation." The internal consistency will

improve for the PTS domain by adding more items to the subscales; especially, to the

assessment subscale domain.

Implications for Nursing Research

The ITSinNE study contributed to nursing research by applying selected elements of Rodgers DOI theory to nursing education. The selected elements were characteristics of the adopter (nurse educator), characteristics of prior conditions (previous teaching strategies, knowledge status, and social system support) and characteristics of the innovation. Characteristics of a nurse educator (years of teaching, employment status, type of institution, primary teaching environment, and number of NSWD and professional development encounters in the last two years) revealed demographic variables were not the best indicator of educators' willingness to adopt ITS. An exception to this was years of teaching, which had a negative relationship to the pedagogy and supports the need for schools of nursing to consider including experienced educators in inclusive teaching strategies and UDI professional development in-services. When framing a future study in nursing education based on Rodgers' theory (2003), other characteristics of a nurse educator need to be identified.

The previous teaching strategies scale quantified teaching practices used by nurse educators in a variety of learning environments. Focusing the scale to educators' primary teaching environment can provide greater information for the design of professional development programs to complement current teaching practices. Knowledge of UDI was identified as an indicator of educators' willingness to adopt ITS and programming based on UDI principles and application and can be the conduit for ITS adoption. Social system support was the strongest indicator of willingness to adopt ITS, reflecting the supportive culture of the institution and nursing administration at which nurse educators

were employed. Identifying factors of a supportive culture could motivate educators'

adoption and diffusion of ITS.

Implications for Nursing Practice

Students educated in a curriculum based in UDI might use inclusive teaching

practices during future patient teaching interactions; especially, when assessing and

addressing health literacy. Health literacy is defined as an individual's ability to obtain,

process, and comprehend health information, services, and systems (Center for Disease

Control and Prevention: Health Literacy, 2014; U.S. Department of Health and Human

Services [USDHHS], 2015). It is estimated over 90 million adults living in the United

States have low health literacy impacting health knowledge, healthcare utilization, and

patient outcomes, which adds between $106 billion to $238 billion to healthcare costs

each year (Dickens, Lambert, Cromwell, & Piano 2013; Macabasco-O'Connell & Fry-

Bowers, 2011; Mitchell, Sadikova, Jack, & Paasche-Orlow, 2012; Parnell, McCulloch,

Mieres, & Edwards, 2014). The IOM (2004), Agency for Health Care Research and

Quality [AHRQ] (2014), Quality and Safety Education for Nurses [QSEN] (2011), and

USDHHS (2015) identified health literacy as a priority for the improvement of patient

safety and outcomes. There are no studies on UDI as a teaching strategy to enhance

health literacy.

Healthcare organizations and nursing education are striving to educate healthcare

providers to develop, promote, and use of innovative strategies to address diverse levels

of health literacy (USDHHS, 2010). Nursing education integrating UDI in health literacy

curricula could improve accessibility and engagement of health education for patients

with multiple ways of learning**.** A search of the following databases: Academic Search

Complete, Cumulative Index to Nursing and Allied Health Literature (CINAHL),

Education Resources Information (ERIC), and Health Sources: Nursing /Academic

Edition, from 2001 to 2015 using the terms "universal design for instruction" and "health

literacy," "information literacy," or "health knowledge" did not produce literature

regarding the use of UDI in nursing education as an approach to patient health literacy.

Additionally, the database search did not populate studies or literature on UDI and health

literacy using the same search terms and dates.

Universal designed health literacy instruction could be an innovative approach for

patients' access to and comprehension of health knowledge and safe health practices.

Furthermore, human resources and hospital educators need to consider the use of UDI

principles when developing orientation and professional in-services to address diverse

ways new hires or experienced employees learn. The lack of research on the impact of

inclusive teaching strategies based on UDI principles and health literacy heightens the

need for the further study of UDI principles in nursing practice and education.

Conclusion

Refinement of the instrument will capture greater variance in inclusive teaching

strategies in nursing education. The concept of inclusive teaching strategies based in

UDI is not well known in nursing education. Professional development is the first step in

improving the concept of UDI practices in nursing education. This is the first study

based on UDI in nursing education and contributes to the research base for teaching

strategies across teaching environments in nursing. Continued instrument refinement and

dissemination of the current finding are ways to diffuse inclusive teaching strategies in

nursing education. The second manuscript expounds upon other strengths, limitations

and recommendations for future development of the ITSinNE.

APPENDIX A

EMAIL INVITATION TO THE STUDY

Dear Nurse Educators,

You are invited to participate in a study on nurse educators' willingness to adopt inclusive teaching strategies conducted by Janet A. Levey, a doctoral student at Marquette University. Your participation in this study will help to examine inclusive learning environments for teaching and preparing a diverse student body for today's nursing practice.

You were selected to participate in this one-time study because you are a nurse educator associated with a professional nursing organization listserv. To be included in this study you must currently be working as a nurse educator and have taught in a nursing program for at least two years in either the classroom or clinical setting. It is approximated this one-time survey will take 20 minutes to complete.

As a participation incentive, I will make a charitable donation of $5 to either the American Cancer Society or Paws with a Cause for each completed survey. Once you have completed the survey, select the charity to which you would like the donation to be made.

The survey will be open from August 11, 2014 to September 8, 2014. Linking and completing the survey indicates you consent to participate in the study. Your participation in this anonymous study is voluntary and you may stop at any time. There are no direct risks to taking the survey more than what would be anticipated with activities of daily living or using a computer. After you complete the questionnaire, a short demographic survey will need to be completed.

Data is anonymously stored in Advanced SurveyMonkey® provided by Marquette University College of Nursing Research Office. Access to this service is only accessible by authorized researchers with a password. All researchers using this service are under confidentiality agreements and will only access authored surveys. Files will be kept for five years following the completion of the study and possible secondary analysis. All files will be destroyed according to the policies of the Marquette University College of Nursing Research Office.

This study is approved by Marquette University's Institutional Review Board. If you have any questions, please contact me by email (janet.levey@marquette.edu) or phone (262-242-1425). If you have any questions regarding your rights or participation in this

study, please contact Marquette University's Office of Research Compliance at (414) 288-7570.

Clicking on the link below indicates your consent to participate.
https://www.surveymonkey.com/s/WillingnesstoAdoptInclusiveTeachingStrategiesinNursingEducationalEnvironments
Thank you for your time and consideration of participation in this research study.

Sincerely,

Janet A. Levey, MSN, RN-BC, CNE
Marquette University PhD Student

APPENDIX B

EMAIL REMINDER

Dear Nurse Educator,

This is a friendly reminder that you were sent an invitation to participate in an online study on nurse educators' beliefs, practices, and willingness to adopt universal design principles conducted by Janet A. Levey, a doctoral student at Marquette University. Your participation in this study will help to examine inclusive teaching strategies for teaching and preparing a diverse student body for today's nursing practice.

As a participation incentive, I will make a charitable donation of $5 to either the American Cancer Society or Paws with a Cause for each completed survey. Once you have completed the survey, select the charity to which you would like the donation to be made.

The SurveyMonkey® link will close in one week on September 8, 2014. Clicking on the link below indicates your consent to participate.

Thank you for your time and consideration of participation in this research study.

Sincerely,

Janet A. Levey, MSN, RN-BC, CNE
Marquette University PhD Student

APPENDIX C

WILLINGNESS TO ADOPT INCLUSIVE TEACHING STRATEGIES IN NURSING EDUCATIONAL ENVIRONMENTS INSTRUMENT

Previous Teaching Strategies Scale

The purpose of these questions is to obtain information on teaching strategies you currently use when teaching. Each item has five possible responses ranging from *never* to *very frequently*. Please choose the response that best reflects your level of agreement with the statement.

Operational definitions:

Inclusive teaching strategies are defined as teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments.

A learning environment in nursing education includes the classroom, clinical, simulation and skills lab settings.

1. I put my lecture notes online for all students in my primary teaching environment (e.g., Blackboard or faculty web page on Blackboard or another website).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

2. I post electronic versions of course handouts for all students in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

3. I repeat the question back to my students before answering in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

4. I begin each session with an outline/agenda of the topics to be covered for the day in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

5. I summarize key points throughout each session for all students in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

6. I connect key points with larger course objectives during each session in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

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

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

8. I use interactive technology to facilitate class communication and participation in my primary teaching environment (e.g., discussion board, clickers).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

9. I present course information in multiple formats in my primary teaching environment (e.g., lecture, text, graphics, audio, video, hands-on exercises).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

10. I create multiple opportunities for engagement in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

11. I survey my primary teaching environment in advance to anticipate any physical barriers.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

12. I include a statement in my syllabus inviting students with disabilities to discuss their needs with me in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

13. I make a verbal statement in class inviting students with disabilities to discuss their needs with me in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

14. In addition to lecture, I use a variety of instructional formats, such as small groups, peer assisted learning, and hands-on activities in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

15. I supplement class sessions and reading assignments with visual aids in my primary teaching environment (e.g. photographs, videos, diagrams, interactive simulation).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

16. I provide all students with a written transcript of a video in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

17. I allow all students to use technology in my primary teaching environment (e.g., text-to-speech screen readers, SMART Board interactive whiteboards, Livescribe Smart Pens Tablets, Personal Digital Assistants [PDAs], iPads).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

18. I use closed/open captioning when showing videos or tutorials in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

19. I allow students to demonstrate their knowledge and skills in ways other than traditional tests and exams in my primary teaching environment (e.g., written essays, portfolios, journals).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

20. I allow students to express comprehension in multiple ways in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

21. I am flexible with assignment deadlines in my course(s) for any students who express a need in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

22. I allow all students to remediate a quiz in my primary teaching environment (e.g., earn points back for providing the rationale for the correct answer).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

23. I use collaborative testing as a way of supporting multiple ways of learning during an assessment in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

The purpose of these questions is to obtain information on teaching strategies you currently use when teaching. Each item has five possible responses ranging from *never* to *very frequently*. Please choose the response that best reflects your level of agreement with the statement. The phrase "documented disability" refers to the accommodation specified for a student by the disability office at your academic institution.

1. I allow students with documented disabilities to use technology to complete assessments even when such technologies are not permitted for use by students without disabilities in my primary teaching environment (e.g., amplified stethoscope, laptop).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

2. I provide copies of my lecture notes or outlines to students with documented disabilities in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

3. I provide copies of my overheads, handouts, and/or PowerPoint presentations to students with documented disabilities in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

4. I allow students with documented disabilities to digitally record (audio or visual) in my classroom, simulation or skills lab teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

5. I make individual accommodations for students who have documented disabilities in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

6. I arrange extended time on assessments for students who have documented disabilities in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

7. I provide all students with a documented disability a written transcript of a video in my primary teaching environment.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

8. I allow students with documented disabilities to use technology even when such technologies are not permitted for use by students without disabilities in my primary teaching environment (e.g., text-to-speech screen readers, SMART Board interactive whiteboards, Livescribe Smart Pens Tablets, Personal Digital Assistants (PDAs), iPads).

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

9. I communicate with faculty or clinical sites in advance to anticipate any physical barriers when selecting an assignment for a student with a documented disability.

___Never   ___Very Rarely   ___Occasionally   ___Frequently   ___Very Frequently

The purpose of these questions is to obtain information on your confidence level related to topics of inclusive teaching strategies in nursing education. Each item has five possible responses ranging from *strongly disagree* to *strongly agree.* Please choose the response that best reflects your level of agreement with the statement.

1. I am confident in my understanding and application of The Americans with Disabilities Act (1990) and The Americans with Disabilities Act Amendment Act (2008) in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

2. I am confident in my responsibility as an instructor to provide or facilitate disability related accommodations in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

3. I am confident in my knowledge to make adequate accommodations for students with disabilities in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

4. I am confident in my understanding of Universal Design for Instruction in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

5. I am confident in my application of Universal Design for Instruction when teaching in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

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

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

Knowledge of Inclusive Teaching Strategies Scale

The purpose of these questions is to obtain information on your knowledge of inclusive teaching strategies in nursing education. Each item has five possible responses ranging from *strongly disagree* to *strongly agree*. Please choose the response that best reflects your level of agreement with the statement. The phrase "documented disability" refers to the accommodation specified for a student by the disability office at your academic institution.

Operational definitions:

Inclusive teaching strategies are defined as teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments.

A learning environment in nursing education includes the classroom, clinical, simulation and skills lab settings.

1. I know how to create accessible course materials for use in my primary teaching environment.

    ___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

2. I know how to use inclusive lecture/discussion strategies in my primary teaching environment.

    ___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

3. I know how to use inclusive assessment strategies in my primary teaching environment.

    ___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

4. I know how universal design for instruction supports multiple ways of learning in my primary teaching environment.

    ___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

5. I know how assistive technology is used by students in my primary teaching environment (e.g., text-to-speech screen readers, SMART Board interactive whiteboards, Livescribe Smart Pens Tablets, Personal Digital Assistants [PDAs], iPads)

    ___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

6. I know how to use inclusive instructional approaches that would reduce the need for student-specific accommodations in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

7. I know how accommodations support access to learning for students with documented disabilities in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

8. I know how The Americans with Disabilities Act (1990) and The Americans with Disabilities Act Amendment Act (2008) are applied in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

9. I know how the disabilities services at my institution can support nursing students with disabilities in my primary teaching environment.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

10. I know what types of services are provided by the Disability Services Office on my campus.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

Social System Support for Inclusive Teaching Strategies Scale

The purpose of these questions is to obtain information on your level of support to adopt inclusive teaching strategies in your current teaching environment. Each item has five possible responses ranging from *strongly disagree* to *strongly agree*. Please choose the response that best reflects your level of agreement with the statement.

Operational definitions:

Inclusive teaching strategies are defined as teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments.

A learning environment in nursing education includes the classroom, clinical, simulation and skills lab settings.

1. At my academic institution, there are professional development workshops or tutorials on inclusive teaching strategies.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

2. The dean or department chair at my nursing program supports inclusive teaching strategies.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

3. My academic institution supports the use of inclusive teaching strategies in all learning environments.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

4. My nurse educator colleagues use inclusive teaching strategies in their learning environments.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

Willingness to Adopt Inclusive Teaching Strategies in Nursing Educational Environments

The purpose of these questions is to obtain information on your willingness to adopt inclusive teaching strategies in your current teaching environment. Each item has five possible responses ranging from *strongly disagree* to *strongly agree*. Please choose the response that best reflects your level of agreement with the statement.

Operational definitions:

Inclusive teaching strategies are defined as teaching pedagogies that enable all students to access and engage in learning throughout the nursing curriculum and environments.

A learning environment in nursing education includes the classroom, clinical, simulation and skills lab settings.

1. Improvement in outcomes for my nursing program will be one of the benefits derived from the cost of implementing inclusive teaching strategies in the curriculum.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

2. Using inclusive teaching strategies will provide multiple ways of content delivery to diverse learners in nursing education.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

3. Inclusive teaching strategies will engage my students in authentic learning.

    ___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

4. The use of inclusive teaching strategies will provide more opportunities for students to fully learn a concept.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

5. Inclusive teaching strategies are congruent with nursing education best practice teaching pedagogies.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

6. Inclusive teaching strategies are compatible with my teaching style.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

7. Inclusive teaching strategies are compatible with my students' learning styles.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

8. Inclusive teaching strategies are applicable with the learning environments in nursing education.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

9. It will be easy to implement inclusive teaching strategies into my teaching environments.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

10. It will not take me long to learn inclusive teaching strategies.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

11. I can immediately use inclusive teaching strategies with my students.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

12. I have observed students enjoying multiple ways of learning a subject or skill performance.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

13. I have observed my peer(s) implementing inclusive teaching strategies in their courses.

___Strongly Disagree   ___Disagree   ___Neutral   ___Agree   ___ Strongly Agree

14. I have read educational research literature on the effectiveness of inclusive teaching strategies.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

15. I have been mentored in the use of inclusive teaching strategies in my learning environments.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

16. I am willing to pilot inclusive teaching strategies before implementing them in my learning environments.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

17. I am willing to pilot inclusive teaching strategies after attending a workshop or conference on the topic.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

18. I am willing to adopt inclusive teaching strategies if an expert would mentor me in this teaching approach.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

19. I am willing to adopt inclusive teaching strategies if given release time to implement this pedagogical approach into my future courses.

___Strongly Disagree ___Disagree ___Neutral ___Agree ___ Strongly Agree

Demographic Survey

1. Gender (Check one.)
___Male
___Female

2. What year were you born?
___ (Fill in the blank.)

3. What is the highest degree you have earned? (Check one.)
___Baccalaureate Degree
___Master's Degree
___Doctorate/PhD
___Prefer not to answer

4. Are you a certified nurse educator (CNE)? (Check one.)
___Yes
___No

5. In what state do you teach?
___(Fill in the blank.)

6. Total number of years employed as a nurse educator.
___(Fill in the blank.)

7. What level is your primary teaching responsibility?
___Associate Degree Students
___Baccalaureate Degree Students
___RN to BSN Completion Degree Students
___Master's Degree Students
___Doctorate/PhD Degree Students
___Other (Please describe.)

8. In the past two years, estimate how many nursing students with documented disabilities you have taught.
___ (Fill in the blank.)

9. In the past two years, estimate how many professional development training sessions you have attended on accommodations or ADA law? (A professional development training session is defined as attending a workshop at a conference or in-service at your primary place of employment.)
___ (Fill in the blank.)

10. In the past two years, estimate the number of professional development training sessions you have attended on inclusive teaching strategies? (A professional development training session is defined as attending a workshop at a conference or in-service at your primary place of employment.)
___ (Fill in the blank.)

11. What is your employment status? (Check one.)
___Part-time (less than 35 hours per week)
___Full-time (35 or more hours per week)

12. Type of degree programs offered at your primary place of employment? (Check all that apply.)
___Associate Degree
___Baccalaureate Degree
___RN to BSN Completion Degree
___Master's Degree
___Doctorate/PhD
___Other (Please describe.)

13. Type of academic institution at which you are primarily employed (Select one.)
___Private
___Public
___Proprietary

14. In what environment do you perform your primary teaching responsibilities? (Select one.)
___ Classroom/Didactic
___ High Fidelity Simulation/Skills Lab
___ Clinical Practicum (Practicum is any patient care environment where students demonstrate the integration of theory into practice under the supervision of an instructor or preceptor.)
___Online/distance learning
___Other (Please describe.)

APPENDIX D

LETTERS OF PERMISSION

S I M O N   &   S C H U S T E R

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New York, NY 10020

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agnes.fisher@simonandschuster.com

Agnes Fisher
Director
Permissions Department

March 18, 2014

Janet A. Levey
10107 North Concord Drive
Mequon, WI 53097
Janet.levey@marquette.edu

Dear Ms. Levey:

In reply to your letter of March 10th, you have our permission to reproduce two figures, 5-1, p 170 and 6-1, p 222 from DIFFUSION OF INNOVATIONS, 5th Edition by Everett M. Rogers, in your doctoral dissertation and in all copies to meet degree requirements at Marquette University. Reapply for permission for all subsequent uses

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Sincerely,

UNIVERSITY OF
MARY WASHINGTON

where great minds get to work

February 6, 2014

Dear Ms. Levey,

We are pleased to grant you permission to reproduce the table of the nine Principles of UDI in your doctoral dissertation focusing on nursing students with disabilities and curriculum access.

We request that you please use the following citation:

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Best of luck!

Sincerely,
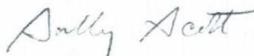
Sally S. Scott

Director, Disability Resources

Associate Professor of Education

University of Connecticut
Neag School of Education

Department of
Educational Psychology

September 4, 2013

Marquette University Institutional Review Board
P.O. Box 1881
Milwaukee, WI 53201-1881

To Whom it may concern:

I agree to grant permission to Janet Levey, doctoral student at Marquette
University in Nursing, to use the Inclusive Teaching Strategies Inventory
(ITSI) and demographic survey. As the author of the instrument and survey, I
will allow Ms. Levey to modify them as she sees fit to use for her research in
nursing education.

I agree to review any modifications that Ms. Levey makes prior to
administration and data collection.

Kind regards,

Allison Lombardi, PhD
Assistant Professor

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