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# Generational Diversity in Associate Degree Nursing Students: Teaching Styles and Preferences in Pennsylvania

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GENERATIONAL DIVERSITY IN ASSOCIATE DEGREE NURSING STUDENTS:  
TEACHING STYLES AND PREFERENCES IN PENNSYLVANIA

A Dissertation

Submitted to the School of Graduate Studies and Research

In Partial fulfillment of the  
Requirements for the Degree of  
Doctor of Education

Jennifer V. Kitko

Indiana University of Pennsylvania

May, 2011

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Title: Generational Diversity in Associate Degree Nursing Students: Teaching Styles and Preferences in Pennsylvania

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Nursing educators face the challenge of meeting the needs of a multi-generational classroom. The reality of having members from the Veteran and Baby Boomer generations in a classroom with Generation X and Y students provides an immediate need for faculty to examine students' teaching method preferences as well as their own use of teaching methods. Most importantly, faculty must facilitate an effective multi-generational learning environment. Research has shown that the generation to which a person belongs is likely to affect the ways in which he/she learns (Hammill, 2005). Characterized by its own attitudes, behaviors, beliefs, and motivational needs, each generation also has distinct educational expectations. It is imperative, therefore, that nurse educators be aware of these differences and develop skills through which to communicate with the different generations, thereby reducing teaching/learning problems in the classroom.

This is a quantitative, descriptive study that compared the teaching methods preferred by different generations of associate degree nursing students with the teaching methods that the instructors actually use. The research study included 289 participants; 244 nursing student participants and 45 nursing faculty participants from four nursing departments in colleges in Pennsylvania.

Overall, the results of the study found many statistically significant findings. The results of the ANOVA test revealed eight statistically significant findings among Generation Y, Generation X and Baby boomers. The preferred teaching methods included: lecture, self-directed learning, web-based course with no class meetings, important for faculty to know my name, classroom structure, know why I am learning what I am learning, learning for the sake of learning and grade is all that matters. Lecture was found to be the most frequently used teaching method by faculty as well as the most preferred teaching methods by students. Overall, the support for a variety of teaching methods was also found in the analysis of the data.

## ACKNOWLEDGMENTS

Very early in my doctoral studies, I was fretting over my research topic. My youngest son (11 years old at the time) said in his usual straightforward manner, “I don’t know, Mom, but you better like it because from what I heard, you’re going to be writing about it for a long time.” Boy, was he right!

Accomplishing the successful completion of this dissertation would not have been possible without the faith, support, and guidance of many people. I wish to express my sincere appreciation to my family who spent many a night reading, editing, and brainstorming about a topic they are immensely familiar with now. During this journey, they have been there through quiet urgings, tears, joys and pains, offering endless support and encouragement, all of which I thank them from the bottom of my heart.

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## CHAPTER I

### INTRODUCTION

Nursing instructors face the challenge of meeting the needs of a multi-generational classroom. The reality of having Veterans and Baby Boomers in the same classroom with Generation X and Y students provides an immediate need for instructors to know which teaching methods students from different generations prefer and how well the teaching methods they are using accord with these preferences. Most importantly, instructors must facilitate an effective multi-generational learning environment.

The terms Veterans and Silent generation refer to people born between 1925 and 1942 (Sherman, 2003). The Veterans' life experiences include the Great Depression and World War II. Accordingly, studies have indicated that the tremendous economic and political uncertainty inherent in these events produced a generation that is typified by a strong work ethic and financial caution. The Veterans value the lessons of history. When faced with challenges, they look to the past for insight into what has worked and what hasn't (Weston, 2001). Organizational loyalty is important to this generation and they also tend to think that seniority ought to be an important factor in advancing a career (Carlson, 2005; Halfer, 2004). Respectful of authority and supportive of hierarchy, they also tend to have disciplined work habits. Although few Veterans are enrolled as nursing students, members of this generation are among the ranks of the current nursing faculty. Given the teacher-centered face-to-face educational system with which they grew up, Veterans are generally not as comfortable with using technology as are other generations (Coates, 2007).



Born between 1943 and 1960, the Baby Boomers are the largest group in the nursing workforce and many currently hold nursing leadership positions (Thrall, 2005). They grew up in a healthy post-war economy in which the nuclear family was the norm. They were encouraged to value their individualism and express themselves creatively. Often described as the most egocentric generation, they have spent their lives rewriting the rules (Zemke, Raines,& Filipczak, 2000). Known for a strong work ethic, the Baby Boomers see their work as a defining aspect of their self-worth and use this point as a way to evaluate others (Greene, 2005). The Baby Boomers make up a large number of nursing faculty. This group is extremely competitive and motivated to learn if it will help them succeed. Most of the nursing students from this generation are seeking a second career. In terms of educational experience, most Baby Boomers relate to a traditional classroom and can find it difficult working with Generation X and Y students (Coates, 2007).

Born between 1961 and 1981, Generation X constitutes a significantly smaller group than do the Baby Boomers. The structure of the American family changed during the formative years of Generation X. For example, increasing divorce rates meant that many members of this generation grew up in single-parent households (Karp, Fuller, & Sirias, 2002). This generation values a balance between family life and career, is extremely independent, and thrives on change. Generation X has been on the college scene for over a decade; however, some are first- time students. Similar to the Baby Boomers, many are seeking second careers. Resourceful and independent, Generation Xers do not like to be micromanaged (Coates, 2007). Further, they are technologically

literate, concrete thinkers who seek a balanced lifestyle, with work supporting leisure time (Fines, 2003; Lankard-Brown, 1997).

The Millennials, also known as Generation Y, were born between 1982 and 2004 (Coates, 2007). This group is the second-largest generational group (Raines, 2002). They were raised during a period when violence, terrorism and drugs became realities of life. Raised by parents who tended to provide them with very structured lives, they tend to draw close to their families for safety and security. They are a global generation and accept multiculturalism as a way of life. Technology and the instant communication made possible by cell phones have always been a part of their lives. A higher level of interest in nursing as a career among this generation has been noted, as applications to nursing programs significantly increased as they entered college (American Association of Colleges of Nursing, 2005). This generation comprises the largest number of students in college classrooms. Generation Y students have learned to work together with their peers when accomplishing a task and are very good at multi-tasking (Coates, 2007).

### **Problem Statement**

The problem under investigation was that it was not known if the teaching methods that different generations of associate degree nursing students preferred were being used by faculty in the classroom. Without this knowledge, it is difficult for nursing educators to determine how best to teach their courses. The problem in nursing education with the pedagogy used by most faculties in associate degree nursing programs is that there is a discrepancy between what students are learning, and what students need to know in order to graduate from their nursing programs as capable practitioners and pass their board exams (Delpier, 2006; Johnson & Mighten, 2005; Mikol, 2005). According to

Sandstrom (2006) and Staib (2003), while the objectives of nursing education should be on the development of critical thinking and problem-solving skills, the majority of faculty are relying solely on a lecture and examination format, where the focus of learning is on the instructor, and not on the students.

This researcher observed that most nursing faculty members within the researcher's institution were using traditional nursing pedagogy, despite research findings suggesting traditional lecture by itself, is not an effective teaching method in promoting the critical thinking and problem solving skills necessary for students to pass their nursing courses, demonstrate success on the NCLEX-RN, and ultimately perform competently within the nursing profession ( Adams, Stover & Whitlow, 1999; Giddens & Gloekner, 2005; Johnson & Mighten, 2005; and Mikol, 2005). The need for effective teaching modalities that may contribute to a nursing student's ability to demonstrate competency and knowledge of skills will provide a framework that incorporates the requirements for 21<sup>st</sup> century nursing programs and patient care. At the same time, this study provides an effective strategy to increase student performance and essentially assist those nursing programs with low scores on the NCLEX-RN to improve pre-licensure curriculum, thus increasing passing scores.

Furthermore, it was observed by this researcher that the age groups within the nursing student classroom varied greatly. For the first time in the history of nursing education, there are four generations sitting in the same classrooms, learning the same material. In the educational setting, the presence of these different generations can affect how well the information is learned. It is important, therefore, for educators to understand

differences in generational attitudes and beliefs, if they wish to be successful in educating their students.

Research has shown that the generation to which a person belongs is likely to affect the ways in which he/she learns (Hammill, 2005). Characterized by its own attitudes, behaviors, beliefs, and motivational needs, each generation also has distinct educational expectations. It is imperative, therefore, that nurse educators be aware of these differences and develop skills through which to communicate with the different generations, thereby reducing teaching/learning problems in the classroom.

### **Purpose of the Study**

This is a quantitative, descriptive study that will compare the teaching methods preferred by different generations of associate degree nursing students with the teaching methods that the instructors actually use. The resultant research data provide nursing educators with the basis for making recommendations for curricular design and reform program planning, student support and innovative teaching strategies. Improved understanding of associate degree nursing students from different generations enhances the effectiveness of nursing educators in promoting nursing student success that the program demands. In addition, this understanding leads to modification of teaching strategies to meet the unique need of the non-traditional college student. According to Swenson (2003), student learning is a major test of a program's success and it is essential to employ practices that require learners to be actively involved in their own learning.

### **Research Questions**

- 1) Which teaching methods do students from each respective generation pursuing an associate degree in nursing prefer?

- 2) Which teaching methods do educators in an associate degree nursing program use most?
- 3) Is there a relationship between the teaching methods that associate degree nursing students prefer and the teaching methods that educators employ?

### **Significance**

This research is significant because few studies to date have explored which teaching methods nursing students prefer. Likewise, few studies have examined generation as a variable in the teaching methods that students prefer or as a factor that contributes to the teaching methods that instructors in nursing education from different generations actually use. This study will add new information to the nursing education field and provide opportunities for future research in this area. Furthermore, the study provides a basis for nurse educators to better understand and more effectively respond to the educational needs of the different generations. The study also offers nurse educators the opportunity to examine their own generational biases and to consider how to better match their teaching methods to student preferences. To prepare future generations of nurses, nurse educators must look for ways to enhance the learning environment and develop teaching methods that correspond with the values, expectations, and needs of the students. The purpose is to create awareness among educators and students of the conflicts that can arise in the classroom, affecting the learning process and the students' views on education.

### **Theoretical Framework**

Based on andragogy, Knowles's adult learning theory (1980) offers a process-based learning model that offers principles for adult education. According to Knowles,

there is an important distinction between teaching adults and teaching children (Griffin, Holford, & Jarvis, 2003), such that Knowles defined andragogy as the art and science of helping adults learn, in contrast to pedagogy, the art and science of teaching children to learn. Knowles's adult learning theory, therefore, will provide a framework for examining the teaching methods that nurse educators use to enhance students' learning and the teaching methods that nursing students prefer. Based on this theory, the purpose of the instructor who is teaching adults is to assist them in making the transition from being dependent to self-directed learners.

For example, adult learners need to know why they are to learn, what they are to learn, and how they are to learn (Knowles, Holton, & Swanson, 1998). They want to be autonomous and self-directed, use their own experience as a resource, relate their learning to their own lives and value what they have learned (Knowles et al., 1998). This research study will seek to discover which teaching methods students prefer and which teaching methods educators actually use in the classroom and to explore the implications of these.

Knowles offered a specific description of the qualities that characterize adult learners. In addition to describing adults as autonomous and self-directed learners, he noted that they bring a wealth of life experience and knowledge—including career experience, family responsibilities, and previous education—to the educational arena. He indicated that adults need to connect their learning to past knowledge and experience. Knowles further described adult learners as goal-oriented, relevancy-oriented, and practical; that is, they want to understand the goal of a class and they want to achieve that goal, and they want to acquire an education that will be useful in the world.

## **Method**

This quantitative study administered two descriptive surveys in order to compare generational differences in the teaching methods preferred by associate degree nursing students and the teaching methods used by nursing instructors. One survey assesses nursing students' preferences for teaching methods and the second survey assesses faculty use of teaching methods in the classroom. Walker's Teaching Method Survey (WTMS) for both student and faculty will be used. This current research will take place at four Pennsylvania colleges that all offer an associate degree in nursing accredited by the National League of Nursing.

### **Definition of Terms**

For the purpose of this study, the following operational definitions were used (as defined by Strauss and Howe, 2007).

- Generation Y generation: The generation born between 1982 and 2004
- Generation X: The generation born between 1961 and 1981
- Baby Boomer generation: The generation born between 1943 and 1960
- Veteran generation: The generation born between 1925 and 1942

The following operational definitions were used:

*Andragogy*: As distinguished from child-oriented "pedagogy," andragogy is the art and science of facilitating adult learning, in terms of a greater emphasis on learner self-direction, application of knowledge and experience, learning readiness, orientation to the present, and problem-centeredness (Knowles et al., 2005).

*Associate degree nurses:* Learners studying for an associate nursing degree at two-year institutions. Typically, these courses of study are associated with hospital-centered or community colleges (Committee on Nursing Education, 1965).

*Baccalaureate degree nurses:* Those who are studying typically at liberal arts colleges and universities for four years in order to receive their licenses as Registered Nurses. The term also applies to students pursuing completion degrees in baccalaureate degree programs offered to two-year graduates who seek to complete their four-year degree after licensure as Registered Nurse in two years (Committee on Nursing Education, 1965).

*Associate degree nursing (ADN) program:* This is a two-year program of study in nursing, usually at a community or junior college, leading to an associate degree. Graduates of ADN programs take the NCLEX-RN (National Council Licensure Examination-Registered Nurse), the licensing exam, to become registered nurses.

*Critical thinking:* This is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action (Paul & Elder, 2008).

*Generation:* A cohort group defined as those born at a particular time who are likely to share some personality traits shaped by their age as they experience (d) the economic, social, and cultural characteristics of a given period (Strauss & Howe, 1991).

*Licensure of nurses:* A state-regulated online testing of graduates from an accredited nursing program. Results are given in terms of pass or fail, with a 95% confidence rate to meet the national standards as determined by computerized adaptive



testing and set by the National Council of State Boards of Nursing. Within the state of Pennsylvania, license renewals occur every two years upon completion and submission of proof of 30 hours of continuing education (National Council of State Boards of Nursing, 2009).

*NCLEX-RN*: The National Council for Licensure Examination for Registered Nurses is a national certification exam for nurses in the United States that tests the clinical knowledge of student nurses. It was developed by The National Council of State Boards of Nursing (NCSBN) used by state and territorial boards of nursing to assist in making licensure decisions (National Council of State Boards of Nursing, 2009).

*Nontraditional student*: The term nontraditional student is not a precise one, although age and part-time status are common defining characteristics. Specifically in this study, a nontraditional student is one who has any of the following characteristics: (a) did not immediately pursue a further course of study after high school but is now enrolled, (b) works either part- or full-time while enrolled, (c) has dependents (spouse, children, or grandchildren), (d) is a single parent, and (e) is considered financially independent for purposes of financial aid eligibility (Mahaffey, 2002).

*Nursing process*: This term emerged in the mid-1960s and describes an organized, systematic approach used by nurses to meet the specific health care needs of clients, families, and communities. Driven by critical thinking, it is often synonymous with the scientific method of problem solving (Ignatavicius & Workman, 2006).

*Pedagogy*: The definition of pedagogy is from the Greek word *ped*, which means *child*, and *agogus*, meaning *leader of* or the art, practice, or profession of teaching (Knowles, 1973, p. 42).

### **Assumptions and Limitations**

For the purpose of this study, the following assumptions were made:

1. Students enrolled in the associate degree nursing program will complete the survey.
2. Faculty teaching in the associate degree nursing program will complete the survey.
3. The principal investigator will distribute, facilitate, and collect the surveys in a timely manner.
4. The students who will complete the survey will respond honestly.
5. The sample of students chosen will understand their roles in the study.
6. The survey will reveal data that will give significant insight into the teaching method preferences that has an impact on Generation Y, Generation X, Baby Boomer and Veterans generation students who are pursuing nursing education in an associate degree nursing program within Pennsylvania.
7. The survey will reveal data that will give significant insight into the use of teaching methods by faculty who are teaching within the associate degree nursing program within Pennsylvania.
8. The advantage of a quantitative study using a survey design is that the researcher can reach a large number of participants with relatively little cost.

Limitations inherent to this study include the following:

1. The volunteer status of the participants will restrict the generalizability of the findings. Therefore, no statements will be made about relationships among the variables of study for non-volunteers.

2. In a survey that requires self-disclosure, limitations may arise because the attitude expressed may not be representative as the participant's true attitude. However, this may be mitigated by the anonymous nature of the data collection procedure.
3. The population that will be surveyed consists only of students who are currently enrolled in the associate degree nursing program in four universities located in Pennsylvania. Students from other college settings will not be part of the chosen sample.
4. The identified population and scope of the sample to be studied is a convenience sample from only the central region of the state of Pennsylvania. The findings reflected by these students may not be those of students from other locations within Pennsylvania or other states.
5. Data that will be gathered from the identified sample of students may not include certain demographic characteristics that could have an influence on the study including part versus full-time status.
6. A disadvantage of this study is the small sample size which would make generalizations difficult.
7. There may be inherent biases in gathering information through the use of a survey. Biases may occur in several ways. For example, participants tend to say "Yes" more easily than "No." Response biases may result from respondents giving the wrong information. Respondents may deliberately or unintentionally distort the truth. Respondents tend to say what they think the researcher wants to hear. Variances in response patterns may result in the misrepresentation of some variables. Research has shown that those individuals who respond to surveys have

a vested interest in the subject matter and are typically more compliant and motivated to participate. It is possible that the survey results may be skewed based on the fact that the survey is voluntary (Borden & Abbott, 2002).

8. The population that will be surveyed consists only of students from schools of nursing. Students from other schools on the campus will not be part of the chosen sample.

### **Organization of the Remainder of the Study**

The remainder of the study will be organized in the following manner. Chapter II reviews and discusses literature that is appropriate and relates to the problem that has been presented. Chapter III will outline the research methodology chosen to respond to the problem presented. Chapter IV will present and analyze the data collected using the methodology described in chapter III. The study will conclude with chapter V which will be a summary of conclusions drawn from the data presented in chapter IV and will present recommendations for future research.

## CHAPTER II

### LITERATURE REVIEW

This chapter offers a review of the literature as it relates to each variable in the research questions. Therefore, to support the research questions, as outlined in Chapter 1, the review includes reference to studies of generational differences, learning theories and adult education, generational differences in nursing students and the teaching methods they prefer, the teaching methods that faculty use, and the matching of teaching methods to student preferences.

#### **History of Nursing Education**

As this study focuses on students in associate degree nursing programs, an understanding of nursing as a profession and the curriculum required in an associate degree program is relevant. Although nursing took longer than many of the other lines of work now considered as such to be recognized as a profession, its progress toward this goal was consistent in the 20<sup>th</sup> century. During the last 50 years, nursing education has moved from being primarily hospital-based to become the purview of institutions of higher education (Hasse, 1990). In 1964, the American Nurses Association declared the associate degree to be the basic preparation required for entry into practice (ANA, 1965). Although this goal has not been reached, the ANA has reiterated the importance of advancement in education requirements for a nursing degree (ANA, 2000). Equally important is the move toward attaining a master's degree and doctoral preparation in nursing (Kalisch & Kalisch, 1987). That is, the overall goal of the ANA has been and remains that nurse be education-focused in ways that are comparable to members of the other professions.

From the second half of the 20<sup>th</sup> century, nurses have been required to cope with rapid advances in science and constantly changing technologies that have had significant impacts on day-to-day medical routines as well as on the kinds of medical procedures that are now possible. More than ever, nurses today are required to be knowledgeable, skilled practitioners who provide holistic care in an ethical and caring way. To become an expert nurse requires the acquisition of considerable education in both nursing and other scientific fields. It is only by mastering the skills required by a clinical specialty and developing critical thinking ability that a nurse is able to make the necessary clinical judgments required for expert nursing care (Benner, 2001). Certainly, members of the profession consider critical thinking to be essential to the delivery of quality care (AACN, 2002; Hasse, 1990; Lowenstein & Bradshaw, 2001). In fact, in the closing decade of the last century, the National League for Nursing (1989) required that accredited undergraduate and master's programs include the development of critical thinking as one of five outcome criteria. In accord with the National League in Nursing, the American Association of Colleges of Nursing identified the development of critical thinking and clinical judgment skills as a top curricular priority (AACN, 2002). The nursing process itself (assessment, diagnosis, statement of goals, intervention, and evaluation) provides both structure and process for applying critical thinking to nursing care. Similar to the nursing process, clinical pathways that focus on patient outcomes are a newer approach used by nurses in hospital settings. There is no doubt that rapid advances in scientific theory and technologies necessitate and will continue to necessitate that those who become nurses pursue life-long learning.

Nursing is provided in a variety of settings including acute care, critical care, and tertiary care, as well as care in community environments. Nurses practice in a variety of roles, both at a basic and advanced level. As society recognizes the importance of preventative health care, they are also becoming more involved in patient education and wellness programs.

The curricula required in associate degree nursing programs focus on the basic core requirements in nursing which are supplemented by social-behavioral and natural sciences and general education courses. The social-behavioral sciences provide a background for understanding human behavior and a basis for therapeutic interventions with clients and families and interactions with other health professionals. And, in terms of the natural sciences, which include chemistry, anatomy, physiology, microbiology, genetics, and nutrition, nurses take courses in human growth and development, pharmacology, and pathophysiology (AACN, 2002; Billings & Halstead, 1998).

The humanities and general education courses contribute to the liberal education of the nursing student, and they do vary according to the mission and orientation of the institution of higher education. Nursing care is holistic in that it addresses all aspects affecting the health of the individual's physical, psychological, social, and spiritual, as well as, ethical and legal ramifications. Schools of nursing select a conceptual framework to provide structure for the curriculum, thus ensuring a holistic, comprehensive, and integrated approach to learning.

In the associate degree nursing program, the core nursing classes build on the sciences by focusing on human growth and development, communication skills, health assessment, basic nursing skills, pharmacology and pathophysiology. These courses

provide the basis for the specialty courses required in the second and final year of the nursing program. Depending on the type of curriculum plan, concepts from core courses may be taught separately or integrated throughout the curriculum. Nursing theory and skills required by the various nursing specialties—pediatric, perinatal, adult, gerontological, psychiatric, and public health nursing—are generally part of the second year (AACN, 2002).

Students are also required to apply the theory they have learned in a practical setting wherein they demonstrate their clinical skills. Students must accurately assess patient status and apply critical thinking in order to solve the problems presented by patients. It is essential that students thoroughly understand the theory learned in the classroom and commit it to memory so that they can easily draw on it as necessary in the clinical setting.

Since this study focuses on determining the teaching methods most favored by students of different generations, it is relevant to first look at how theory is taught in a typical college classroom. Lectures remain the dominant methodology in the majority of college settings, and nursing does not differ in this respect (DeYoung, 2003).

Considerable information about theory can be covered rapidly during lectures with lecture outlines, handouts and slides providing additional support. According to Ironside (2005a), lecture is not necessarily the best method for educating students. Professors continue to use lectures because they are easy to prepare, do not require them to develop multimedia expertise, and because they at least appear to be the most efficient and economical way of addressing large classes. Other methodologies such as problem-based learning and case scenarios are used to a limited degree in undergraduate nursing



programs. Both require highly motivated, self-directed learners and necessitate the use of small groups. In addition, problem-based learning often requires more instructors to facilitate the small-group activities (Siu, Laschinger, & Vingilis, 2005).

Students' comprehension of theory is evaluated in the classroom primarily by means of formal examinations and short quizzes. Objective, multiple-choice questions remain the most popular format because it is very easy to grade them. Short-answer and essay questions are also used. Questions that test students' ability to apply theory are more desirable than are questions that test for knowledge or comprehension only. And, certainly, the former have the advantage of directly preparing students for the state licensure examination (NCLEX), the questions are expressly designed to test how well students can apply theory (Ironside, 2005a).

Grades as a measure of academic achievement are important to both student and faculty. Each school, within its university guidelines, establishes standards for passing each course, as well as for the nursing major as a whole. The standard for grade progression (GPA) in the nursing major might be the same as that required by the college or university, or it might be higher. Upon completion of the nursing program and college degree requirements, students must pass the state board of nursing licensure examination (NCLEX), the qualification that will allow them to practice legally as registered nurses.

### **Generational Cohorts**

Strauss and Howe (2007) defined a generation as a "cohort born in a 20- to 22-year span and defined by certain characteristics evinced by most members of that cohort" (p.281). Other definitions of a generation speak more to shared values and beliefs (Caudron, 1997; Coomes & DeBard, 2004; Zemke et al., 2001). Learners in today's college classroom may be drawn from the Veteran generation (1925–1942), the Baby

Boomer generation (1943–1960), Generation X (1961–1981), or the Millennial generation (1982–2004).

The age profile of the current associate degree nursing program student consists of the Veterans, Baby Boomers, Generation Xers, and the Millennials (Clausing, Kurtz, Prendeville, & Walt, 2006; Dominguez, 2003). Although multigenerational diversity is not new, the presence of four generations in the same classroom is a phenomenon that has occurred for the first time only in recent years. These generations share some common values and beliefs as well as show signs of differences integrated from the experiences of their eras (Clausing et al., 2006).

### **Veterans**

Born between 1925 and 1942, the Veterans, also known as the Silent generation, (Sherman, 2006) constitute a smaller generation than the one that preceded it (the GI generation) and they are the generation that succeeds the Baby Boomers. Comprising approximately 55 million members, this generation was born too early to serve in WWII and too late for the sexual and social revolutions of the boomers. “The Veterans widely realize that they are the generation stuffing of a sandwich between the get-it-done GIs and the self-absorbed Boom” (Strauss & Howe, p. 281). As a result, this adaptive generation was rather quiet growing up seen and not heard. Growing up in the Great depression caused them to be ambitious which lead them to be a generation with aspirations, goals, and purposes that lead to achievement, power and status. (Strauss & Howe, p. 285).

Members of this generation usually come to the classroom because they want to be there to learn new skills and/or to stave off boredom. Occasionally they attend school

as a result of a career choice. However, as many members of this generation are already at retirement age, their decisions to pursue education are usually the result of an unalloyed wish to learn about a particular subject.

A major focus for the Veteran generation was the rise of the Baby Boom generation. Veterans had looked to the previous generation, the GIs, as role models, but when the Baby Boomers began their ascent, the focus shifted to them. Instead of looking back to the GI generation, Veterans began to emulate some of the Boomer attitudes. This tendency led to the Veteran generation being described as one “characterized by jealousies and role reversals” (Strauss & Howe, p. 281).

The Veteran generation came to accept their place in life and appears to be focused more on trying to understand their world than to change it. This is not the era of the large social movement; rather it is one of looking around the world and determining how it can be made better. This is the generation once described by their own college instructors as being withdrawn and unimaginative. The Veterans grew up in difficult times with life experiences that include World War II and the Great Depression. The economic and political uncertainty of these events has led them to be hard working and financially conservative. The Veterans value the lessons of history. When faced with challenges, they look to the past for insight into what has worked and what hasn't (Weston, 2006). Organizational loyalty is important to this generation, and they feel that seniority ought to be important in advancing a career (Carlson, 2005; Halfer, 2004). They tend to be respectful of authority, supportive of hierarchy, and have disciplined work habits. Although it would seem rare for a Veteran to be enrolled as a nursing student, this generation would have nursing faculty who are still teaching. Because Veterans are very

traditional, they are accustomed to a teacher-centered classroom and are not as comfortable with using technology as other generations (Coates, 2007). Members of this generation are fueled by their internal dissatisfaction and desire to be and do something else. This generation is the fastest growing group of people learning to use the Internet for communication and entertainment.

### **Baby Boomer Generation**

The Baby Boomers, born between 1943 and 1960, are the largest group in the nursing workforce and currently occupy many nursing leadership positions (Thrall, 2005). They grew up in a healthy post-war economy. Nuclear families were the norm. They were encouraged to value their individualism and express themselves creatively. Often described as the most egocentric generation, they have spent their lives rewriting the rules (Zemke, Raines & Filipczak, 2000). Baby Boomers are known for their strong work ethic, and work has been a defining part of their self-worth and their evaluation of others (Greene, 2005). This group is extremely competitive and motivated to learn if it will help them succeed. Most of the nursing students from this generation are seeking a second career. Most Baby Boomers relate to a traditional classroom and can find it difficult working with Generation X and Y students (Coates, 2007). Boomers do not have the self-identity issues that the Veteran generation has, mostly because the world they inhabited as children and young adults was one that they had a large part in creating. They have not ever been the “ignored” generation, as the Veterans before them and Generation X after them tends to define themselves. Boomers in the classroom are achievement-oriented and internally focused. In returning to school, they tend to be

extremely grade focused and despite their enthusiasm for learning, they are anxious about returning to the classroom (Wagschal, 1997).

### **Generation X**

Generation X is a significantly smaller group than the Baby Boomers. This group was born between 1961 and 1981. The structure of the American family changed during the formative years of Generation X. Divorce rates increased and many members of this generation were raised in single-parent households (Karp, Fuller, & Sirias, 2002). This independent generation values a balance between family life and career, and thrives on change. Generation X has been on the college scene for over a decade; however, some are first-time students. Similar to the Baby Boomers, many are seeking second careers. Generation Xers are sometimes referred to as the misunderstood generation. They are the children of self-absorbed, work-obsessed Baby Boomers. Watergate, the advent of MTV, and the single-parent home all played noteworthy roles in their development (Ulrich, 2001). They are the latchkey kids who today are enraptured with the personal computer and the Internet. Gen Xers are motivated by money, believe in balance in their lives, and value free time and motivational pursuits. Generation Xers are independent, resourceful and do not like to be micromanaged (Coates, 2007). They are technologically literate, concrete thinkers who seek a balanced lifestyle, with work supporting leisure time (Ulrich, 2001).

This is the first generation to be less educated than their parents, as Gen Xers did not proceed to college immediately after high school as many of their parents and the Boomers before them did. In 1980, 37% of the Generation X had completed college

within seven years of high school graduation compared to 58% for Boomers in 1972 (Straus & Howe, 2000) .

### **Generation Y**

Generation Y, or also known as the Millennials, were born between 1982 and 2004 (Coates, 2007). This group is the second largest generational group (Raines, 2002). They were raised at a time when violence, terrorism, and drugs had become the realities of life. Raised by parents who nurtured and structured their lives, they tend to draw to their families for safety and security. They are a global generation and accept multiculturalism as a way of life. Technology and the instant communication made possible by cell phones have always been a part of their lives. A higher level of interest in nursing as a career among this generation has been noted, as applications to nursing programs significantly increased as they entered college (AACN, 2005). This generation comprises the largest number of students in college classrooms. Generation Y students have learned to work together with their peers when accomplishing a task and are very good at multi-tasking (Coates, 2007).

Generation Y have benefited from the negative attention focused on Generation X. During the 1990s, educational trends became focused on “getting back to basics, teaching values, setting standards and holding schools and students accountable (Straus and Howe, 2000). Classroom teaching itself had changed dramatically in the previous years, with a greater emphasis being placed on more active teaching methods that involve the students directly in the learning. New teaching methods mirror the andragogy theory introduced by Knowles, such that students could make decisions about their own learning, which fostered both motivation and attention to the learning task.

Generation Y students are achievement-oriented and heavily pressured to excel academically. As a result, they have a tendency to blur the lines between acceptable and unacceptable behavior in a classroom. Much attention is now focused on the “cheating epidemic,” though many Generation Y say that they are just confused as to where borrowing ends and stealing begins. The proliferation of information available on the Internet has only exacerbated problems relating to plagiarism, as Millennials tend to think that anything that is online is widely known and available for use often without citing (Mangold, 2007).

Generation Y students grew up during the high-technology revolution and are considered the ultimate challenge for educators. Generation Y value positive reinforcement and they want autonomy. They are very efficient in the use of technology and enjoy group work. . This cohort can be easily motivated, if they are provided with systematic, frequent, and immediate feedback. Like Generation X, this group sometimes displays a sense of entitlement. The use of action words and providing consistent challenges in the classroom setting will assist educators during the teaching and learning process with the Generation Y learner (Verret, 2000).

### **Learning Styles**

The term learning style describes the unique ways that individuals analyze, comprehend, and apply concepts (McDonough & Osterbrink, 2005). Various learning style models have been described in the literature, with findings based on extensive work focused on individualized instruction and the identification of individuals’ learning styles. The studies also generally state that instructional methods should complement the learning style of the individual in order to be effective. Close to the same time, Kolb

theorized that learning is a process whereby knowledge occurs as a result of some experience (Kolb, 1984). An individual first acquires the information and then processes it in a certain way. Kolb's theory is referred to as the Experiential Model of Learning and is based on work by John Dewey, Kurt Lewin, and Jean Piaget, who also described learning as occurring through experiences within the environment. The approach used for learning style research primarily focuses on environmental and emotional preferences, variations in cognitive style, and physiological influences based on sensory or perceptual preferences (Boyle, Duffy, & Dunleavy, 2003).

Learning style work was further refined through research studies and operational application of Gardner's theory of multiple intelligences. In 1983, Gardner proposed the theory of multiple intelligences (TMI) and defined seven different types of intelligences (Gardner, 1983). These are body/kinesthetic, interpersonal, intra-personal, logical/mathematical, musical/rhythmic, verbal/linguistic, and visual/spatial (Gardner, 1983) and the learning style concepts developed from it. Using the TMI as the basis for further learning style research, researchers such as Dunn and Dunn, and Kolb subcategorized learning styles based on their areas of expertise and specific application of the theory (Hall & Moseley, 2005). Hall and Moseley posited that Dunn and Dunn's learning style theory is based on the understanding that each person has biological and developmental characteristics that respond to a variety of environmental, emotional, sociological, physiological or perceptual, cognitive and instrumental variables. Recognition of and response to these variables are strong determinants of the success or failure of students' learning experiences (Dunn & Griggs, 1998).



Hall and Moseley (2005) also submit that Dunn and Dunn, as well as Kolb, have taken concepts outlined in Gardner's (1983) TMI and applied them to overall learning style concepts. Denig (2004) defines learning styles as "the manner in which each person begins to concentrate on process, internalize and remember new and difficult academic content" (p. 101). Fleming and Eames (2005) and Denig (2004) suggest that the ability and level of comprehension is dependent upon whether or not the information is provided in the same learning language used by the receiver. In order to convert information in an effective manner, the method of conveyance must be consistent with the manner in which the learner receives and processes information (Fleming, 2005; Hall & Moseley, 2005). Learning style concepts seek to "shift to a focus on the learner, rather than on the subject matter and to develop the necessary attitudes and skills for lifelong learning" (Hall & Moseley, 2005, p. 248).

### **Kolb's Experiential Learning Theory**

Kolb's experiential learning, the most referenced model both in educational research and in nursing education, describes processes whereby individuals approach and absorb information through concrete experiences and/or feelings. The latter involves experiences that deal with human situations in a personal way. Learners may be described as good at relating to themselves and as intuitive decision-makers. Kolb divided learning styles into four categories:

1. Concrete Experience (CE) or sensing/feeling. People who favor CE tend to be good at relating to others and are intuitive decision makers.

2. Reflective Observation (RO) or watching/reflecting. People who favor RO tend to focus on establishing an understanding of a point rather than on engaging in practical applications.
3. Abstract Conceptualization (AC) or thinking over feeling. People who favor AC tend to use a logical/scientific approach to solving problems
4. Active Experimentation (AE) or doing. People who favor AE tend to actively influence others, to use practical applications, and to be hands-on learners.

An individual's preference for a particular learning style depends on how the stages of learning occur as part of their growth. Kolb further suggested that students may have a preference for a particular learning style but that it is not absolute and may even change over time (Kolb, 1984).

The stages of learning are usually displayed in a dimensional grid. The horizontal axis (AE/RO) focuses on actions and how they are performed. The vertical axis (CE/AC) focuses on thought and emotional processes. The top of the vertical axis represents feelings, and the bottom of the axis represents thinking. The intersection of the axes creates four quadrants with each quadrant describing a particular learning style. These learning styles are defined as:

1. The Diverger views situations from many perspectives and uses brainstorming to generate ideas and integrates concrete experiences with reflective observation. This type is sensitive to feelings, is people-oriented, and involves him/herself in learning. This category combines CE and RO.
2. The Assimilator uses inductive reasoning to create theoretical models to solve problems, internalizes experiences through abstract conceptualization and then

processes it through reflective observation. This type tends to be more interested in the abstract rather than people. This category combines RO and AC.

3. The Converger relies heavily on hypothetical deductive reasoning or abstract conceptualization and processes this through active experimentation. This type tends to be logical and prefers to solve problems by knowing how things work. This category combines AC and AE.
  4. The Accommodator carries out plans and experiments, adapts to immediate or new circumstances, is very concrete-oriented, and processes concrete experiences using active experimentation. This type tends to be a risk-taker and learns primarily through hands-on experiences. This category combines AE and CE.
- (Kolb, 1976)

In order to determine individual learning styles, Kolb originally developed a 9-item Learning Style Inventory (LSI) in 1976. This measurement tool was later revised to an LSI with 12 items. The review of literature found Kolb's LSI to be the most frequently used learning style assessment tool, especially when determining the learning styles of nursing students. And, those nurse educators who understand Kolb's theory and apply it to their own classroom practices are thus well-equipped to identify and use teaching styles designed to promote learning.

### **Dunn and Dunn's Learning Style Model**

According to Dunn and Dunn (1992, 1993), learning styles describe the ways in which individuals concentrate on, process, internalize, and retain new and difficult information. The Dunn and Dunn Learning Style Model is based on the theory that individuals have different learning styles that draw on different strengths (Dunn, 2003).

Not only do individuals have instructional preferences but these preference can be measured reliably (Burke, Arkowitz, & Dunn, 2002). When individuals are taught in environments with resources and approaches that match their learning-style preferences, the results are statistically higher achievement and attitudinal scores when compared with scores in mismatched situations (Dunn & Dunn, 1992, 1993), indicating that preferences are strengths.

The Dunn and Dunn Model consists of five major stimuli: these are environmental, emotional, sociological, physiological and psychological variables. Each variable is further subdivided into elements (Dunn & Dunn, 1999). Environmental preferences comprise considerations such as design, temperature, noise level, and lighting. The emotional elements are conformity, motivation, the relative need for structure and persistence. Sociological preferences consist of the need for studying alone, in a pair, with peers, as a member of a team, with an authority versus a collegial figure or with varied approaches. The physiological elements are the perceptual preferences, and whether there is a need for mobility. The psychological strand refers to global versus analytic processing and reflective versus impulsive behaviors. Most individuals have strong preferences for as many as 6 to 16 elements, but there are others who have strong preferences for only 2 to 3 elements (Dunn & Dunn, 1998). The model is based on the idea that the stronger an individual's preferences for certain conditions, the stronger the effects of those conditions on academic achievement. Based on this idea, it is important to provide instruction that matches students' strongest preferences (Braio, Beasley, Dunn, Quinn, & Buchanan, 1997; Dunn, Griggs, Olson, Gorman, & Beasley, 1995). The Dunn and Dunn Learning Style Model not only assumes that most individuals are capable of

learning, but it also assumes that knowledge of learning styles can facilitate academic success (Dunn & Griggs, 1998).

### **Howard Gardner's Theory of Multiple Intelligences**

Gardner's (1993) Theory of Multiple Intelligences (TMI) outlines the existence of different intellectual strengths and weaknesses and summarizes concepts suggesting varying kinds of cognition and modes of information processing. The central theme of the TMI is based on the notion that "intelligence is the existence of basic information processing operations or mechanisms, which can deal with specific kinds of output" (Gardner, 1993, p. 64). Gardner also suggested that human intelligence should be viewed as a biophysical potential with a pluralistic nature, rather than as a general ability (Chen, 2004). Gardner (1993) posited that intelligence is of nine different kinds: linguistic, logical-mathematical, musical, spatial, bodily kinesthetic, naturalistic, interpersonal, intrapersonal, and existential. Linguistic intelligence is the ability to understand and use written and spoken communication. Logical-mathematical intelligence refers to the ability to understand and use logic and numerical symbols and operations. Musical intelligence is manifested through the ability to understand and use the concepts of rhythm, pitch, melody, and harmony. Spatial intelligence refers to the ability to orient and manipulate three-dimensional space. Bodily kinesthetic intelligence is manifested through the ability to coordinate physical movement and is associated with athletic ability. Naturalistic intelligence denotes the ability to categorize natural objects and phenomena. Interpersonal intelligence refers to the ability to understand and interact well with others. Intrapersonal intelligence describes the ability to understand and use one's own feelings, preferences, and interests in order to self-regulate and direct one's own life.

Existential intelligence refers to the ability to contemplate phenomena or questions beyond the present such as the infinite and is evident in those individuals interested in astrology, cosmology, and philosophy (Moran, Kornhaber, & Gardner, 2006). Gardner (1993) suggested that a transition from a single-view perspective to a multiple-view perspective is required to recognize the uniqueness of individuals in regard to their cognitive functions, information-processing biases, and the educational conditions most likely to be optimal for each on the basis of these. Gardner also suggested that intelligence should be considered in a number of ways and not assessed according to rigid and linear measures. Through TMI, Gardner (1993) suggested that, in selecting teaching methods, educators should consider the individual characteristics of students. TMI is, therefore, a foundational theory that recognizes different abilities and talents of students.

### **Myers-Briggs Type Indicator (MBTI)**

Because it is understood that personality type has a direct impact on an individual's learning style, emphasis in problem-solving, and the ways in which he/she comprehends information and relates to others, personality instruments, such as the very popular Myers-Briggs Type Indicator (MBTI), are widely used both by organizations and career counselors (Hammer & Kunmerow, 1997; Quenk, 2000). MBTI (CPP, 2003) draws on Carl Jung's theory of psychological types in order to make them understandable and useful in everyday life. It has been used for many purposes, including self-understanding, stress management, team-building, organizational development, understanding learning styles, and understanding preferred communication styles (Kennedy & Kennedy, 2004). The MBTI enables individuals to look at themselves in relation to others, their work, and their overall preferred working environment (Hirsh,

1991), a philosophy that is reflected in the MBTI mission statement: “Whatever the circumstances of your life, understanding of type can make your perceptions clearer, your judgment sounder and your life closer to your heart’s desire” (Myers, 1962) MBTI (CPP, 2003) identifies four basic personality domains with two dichotomies for each domain: energizing (extrovert versus introvert), attending (sensing versus intuitive), deciding (thinking versus feeling) and living (judging versus perceiving) (Kennedy & Kennedy, 2004).

Learning styles is an important element in the academic achievement of nursing students and all students alike. The numerous studies reported in the literature support the sustained interest in learning style research. Considerable progress has been made in the last two decades but questions remain regarding how students learn the most effectively. Educators continue to search for ways to improve the teaching-learning process.

### **The Associate Degree Nursing Student**

Today, the population of students attending all types of colleges programs has grown at an extremely rapid rate. During the past two decades, the percentage of community college student population aged 18 and 19 grew from 40.4% to 49.3%. The percentage of students aged 20 to 24 enrolled in higher education grew from 24.0% to 36.1%. The population of adults who were aged 25 to 29 increased from 9.2% to 11.9% and those aged 30 to 35 increased from 6.1% to 6.9% (Shugart, 2008). The adult learner who contends with working, family commitments and commuting to school, is in the age bracket over 25 years of age (Shugart, 2008).

Overall, nationwide, 73% of the students studying for an associate degree today are considered nontraditional (AACN, 2001). The National League of Nursing (2008)

reported that 43% of all pre-licensure nursing graduates were 30 years old or older, and 16% were over 40. In addition, they reported that 24% of the presently enrolled nursing students are over 30, and 11% are over 40 years of age. Therefore, the teaching of nursing needs to focus more on the teaching of adults, rather than the teaching of recent high school graduates.

College students are increasingly older and more diverse, and they are more likely than in the past to be geographically isolated, and/or have limited time to devote to study because of job and/or family commitments (Halsne & Gatta, 2002). Levin (2007) defined nontraditional students as adults who return to school either full- or part-time while maintaining employment, family, or other responsibilities of adult life. Levin found that nontraditional students tend to be highly motivated and independent and that they are likely to prefer active learning methods and need flexible schedules and instruction.

Nontraditional students tend to select associate degree nursing programs over baccalaureate nursing degree programs because the former tend to have lower tuition rates, shorter time to completion, and more convenient locations. However, the students do also consider the reputation of the associate degree program and that of its graduates (Mahaffey, 2002). In addition, the associate programs are known for graduating older students, more males, and a greater percentage of minority students than do the baccalaureate programs (Mahaffey, 2002). The AACN (2001) also supports the idea that education must be made available to nontraditional students where they live. If students are able to stay in their own communities for schooling, not only is there a better chance that they will actually begin a degree and then finish it, there is also an increased probability that the student, now a qualified nurse, will pursue a career locally (AACN,



2001). This finding is very important for rural and minority communities in terms of the difficulties they face in both recruiting nurses and retaining them in the long term.

### **Nursing Student Learning Style Preferences**

A search of the literature over the last three decades indicates that a number of researchers have studied the learning styles of nursing students. In fact, from the early 1980s to the present, researchers have placed considerable emphasis on the learning styles of nursing students (Rassool & Rawaf, 2008; Cavanagh and Coffin, 1994). A number of studies reported using Kolb's Experiential Learning Model, Gardner's Multiple Intelligence model, and others (Braio, A., Dunn, R., Beasley, T.M., Quinn, P., & Buchanan, K., 1997; Brown, V., & DeCoster, D., 1991; Cavanagh, S.J., Hogan, K., & Ramgopal, T., 1995; Chen, J.Q., 2004; Denig, S.J., 2004; Laschinger, H.K., & Boss, M., 1989; Lohri-Posey, B., 2003). In addition, a small number of studies used the MBTI to determine personality type, although other inventories were used to assess learning preferences (Hammer, A.L., & Kummerow, J.M., 1996; Myers, I., & McCaulley, M., 1996).

Beginning in the 1980s, educators became more interested in the cognitive and learning styles of students. Numerous theoretical models were proposed, and learning style measurements were developed accordingly. The majority of nurse researchers preferred Kolb's Experiential Learning model for their investigations. In order to establish personality type some researchers used the MBTI, but learning preferences were either inferred from type theory or determined according to other measurements. The findings of the studies focusing on the learning style preferences of nursing students are useful to this investigation. The majority of studies clearly indicated that students prefer

traditional teacher-directed methods (lectures) instead of self-instructional methods. In addition, the students generally indicated that they wished their instruction offered more concrete experiences and was better organized.

Ostmoe, Van Hoozer, Scheffel, and Crowell (1984) focused on learning style rather than personality type. They surveyed two groups of baccalaureate nursing students in order to elicit their attitudes toward 28 different learning-style strategies. They concluded that the students preferred highly organized traditional teacher-directed methods over all other methods. Wells and Higgs (1990) investigated the learning styles and preferences of first- and fourth-semester baccalaureate degree nursing students using Gregorc's Style Delineator to measure learning style and Well's Learning Preference Survey to determine learning preferences. The constructs of Gregorc's model are similar to the constructs of the MBTI. Drummond and Stoddard (1992) noted that three of Gregorc's dimensions are strongly related to MBTI dimensions. Wells & Higgs (1990) found that the learning styles preferred by first-semester students were concrete sequential (sensing and judging) and abstract random (feeling and perceiving). The learning styles preferred by the fourth-semester students were abstract random and concrete sequential. There were no significant differences in predominant learning styles between the two groups. Drill and practice was the most preferred method of learning overall for both groups. First-semester students preferred group discussion, whereas the fourth-semester students preferred drill and practice. Hassett (1990) studied nursing students who were identified as either sensing or intuitive in order to determine their attitudes toward using a computer-based video instruction program. Both types showed positive attitudes toward using the computer program.

Brown and Decoster (1991) studied 221 female undergraduate and graduate nursing students and obtained results indicating that on the intuition–sensing dimension students with higher intuition scores than sensing scores showed a higher level of conceptual development than those who showed the opposite emphasis. They concluded that the intuition–sensing dimension is the most important indicator of conceptual development. These findings agreed with research conducted by Myers and McCaulley (1996). The numerous studies presented in the literature show a sustained interest in learning style research. Considerable progress has been made in the last three decades; however, questions remain regarding how students learn the most effectively, and educators continue to search for ways to improve educational processes.

In the 1980s, research into learning styles was still in an early stage of development in nursing education. According to De Tornyay's (1984) review, the studies from this period were not well conceptualized or conducted such that they cannot be relied on for accuracy and, therefore, have limited usefulness. Laschinger and Boss's (1989) study found that the majority of nursing students (59%) were concrete learners and supported Kolb's theory that concrete learners tend to choose people-oriented careers. The researchers found that such students learned best in environments that involved direct experience and suggested that faculty facilitate the learning of such students by incorporating activities such as small-group discussions, visual aids, role playing, and simulations into classroom sessions. In a similar study, Cavanaugh, Hogan, and Ramgpal (1995) also sought to examine the learning style preferences of nursing students as well as to determine if there were a relationship between learning style, gender, age, previous work experience, and educational attainment. The study involved

192 nursing students in the United Kingdom, all of whom filled out Kolb's Learning Style Inventory II (Kolb, 1985) and completed a questionnaire that asked for their demographic and biographical information. The study's results showed that students had a fairly even distribution of learning styles, with 53.7% preferring the concrete learning style and 46.3% preferring the reflective learning style (Cavenagh et al., 1995). There were no significant findings in regard to gender, age, previous work experience, or educational attainment. The findings supported the need to use a variety of learning styles as well as a variety of teaching delivery styles to encourage the students to engage in active learning.

More recently, Lohri-Posey (2003) sought to determine the learning style preferences of baccalaureate nursing students by using Felder's and Soloman's index of learning styles questionnaire. Lohri-Posey administered this survey tool to a total of 44 students, 27 of whom were baccalaureate nursing students and 17 of whom were students in the RN to BSN program. The results of this small study showed that 65% of students were active learners who preferred sensory perceptions. A total of 67% of the students preferred visual learning, and 85% preferred sequential learning, while only 33% preferred verbal learning, and 38% preferred global learning (Lohri-Posey, 2003). The study concluded that "students whose learning styles are compatible with the teaching style of the course instructor tend to retain information longer and have a more positive learning attitude" than students whose style does not match that of the instructor (Lohri-Posey, 2003, p. 54). Thus, nursing faculty should use a variety of teaching methods to meet the needs of students with different learning style preferences.

A study conducted by Salehi (2007) used Kolb's LSI questionnaire to establish the learning styles of nursing students at Isfahan Medical Sciences University. The nursing student groups demonstrated a preference for a particular learning style. The data revealed that the juniors preferred a converger learning style, whereas the senior students were in the abstract conceptualization cycle of learning. With this information, a nurse instructor can align their curriculum and employ effective teaching approaches. By matching teaching style with student preferred learning style, content retention and test scores should improve.

Rassool and Rawaf (2007) sought to examine the predominant learning style of undergraduate nursing students by administering Honey and Mumford's (2000) learning styles questionnaire to 136 students. The results also showed the reflector to be the preferred learning style of undergraduate nursing students. Rasool and Rawaf (2007) also discussed the serious consequences of a mismatch between teaching style and a student's learning style. They noted that educators should use a variety of modes of teaching and learning to meet the learning needs of students. Although many studies have focused on the learning styles of students, only a few have examined both student and educator learning styles. Joyce-Nagata (1996) conducted a study to identify the learning styles of nursing students and nursing educators and to determine the effects of teacher learning style and student learning style congruency on academic performance. The study consisted of 353 participants at two schools of nursing: 19 nurse educators and 334 nursing students. All participants completed Kolb's learning styles inventory (1984) in order to determine their preferred learning styles/preferences. The study found the majority of participants, students and educators alike, were assimilators. The study also

found no statistically significant difference in the academic performance of students when a student's learning style matched that of the educator. Joyce-Nagata (1996) concluded that further investigation was needed to determine the relationship of learning style to teaching style.

Cavanaugh, Hogan, and Ramgopal (1995) explored the learning styles of nursing students in order to determine if there were any relationships between preferred styles and the variables of gender, age, and previous employment. However, they did not find any statistically significant associations. This same study also compared the relationship between learning style and academic success (defined as completion of the program of study) and between learning style and GPA score. However, the study established no significant relationship between learning style and GPA at graduation. Nor did it establish a relationship between academic success and learning style. Stradley, Buckley, Kaminski, Horodyski, and Fleming (2002) focused on the learning styles of athletic training students. In this study, the geographic regions in which the students lived constituted a possible mediating variable. The analysis showed that geographic region did not have an impact on students' learning styles. Sandmore and Boyce (2004) took a different approach and studied collaboration between paired learning styles. In their research, they paired people of opposite learning styles (particularly AC–CE pairs) and compared their scores by means of a collaborative case study to those pairs with the same learning style (particularly CE–CE). They found that the AC–CE pairings scored significantly higher than did the CE–CE pairings, suggesting that pairing students with clinicians based upon the pair's members of each having a different learning style could benefit the student's education.

## **Generational Differences in Student Teaching Method Preferences**

The literature review shows that whereas a number of studies have examined students' learning styles (Baldwin & Sabry, 2003; Drummond & Stoddard, 1992; Joyce-Nagata, 1996; Lashinter & Boss, 1984; Lohri-Posey, 2005; Ostmoet et al, 1984; Wells & Higgs, 1990), few have investigated whether generation is a variable that significantly impacts students' teaching method preferences. The generational differences of students create a unique challenge for faculty to balance student preferences with the appropriate teaching methods for effective instruction. According to Johnson and Romanello (2005) generational diversity presents important teaching and learning considerations. To enhance the learning experiences of all generations of students, it is important for educators to become informed about the differences among the generations. Furthermore, it is equally important for instructors to acknowledge their own generational characteristics and learning styles as well as to implement a variety of teaching methods (Johnson & Romanello, 2005).

Walker, Martin, White, Elliott, Norwood, and Mangum (2006) conducted a study based on a 30-item Likert scale to compare the generations' teaching method preferences. Their sample comprised 134 nursing students enrolled in a four-year undergraduate baccalaureate nursing program in a large urban area in the southern United States. Through the survey, the students were asked to identify their preferences for certain teaching methods and other variables such as their classroom structure preferences and motivation for learning. The research was piloted and found to have a reliability coefficient (Cronbach's alpha) of 0.82 (Walker et al., 2006). The results showed no statistical significance in terms of preferences for teaching methods between Generation

X and Generation Y nursing students. However, significant implications for nursing education were discovered. The study found that the majority of students (83%) preferred the lecture over other teaching methods. The study also showed that the majority of students from both Generation X and Y preferred lectures over group work, preferred to practice and apply skills, and preferred to read the assignment prior to class and then have the professor present a lecture, and preferred case studies for learning new material (Walker et al., 2006). Students from both generations (72%) indicated a strong preference for the recounting of stories to help them learn, and 96% indicated a strong preference for hearing stories to help them learn.

### **Faculty Teaching Methods**

Lopata, Wallace, and Finn (2005) described the traditional teaching method as one in which teachers control the environment and the students. The purpose of instruction, delivered primarily in a lecture format, in such a setting is to develop academic and social skills. Evaluation usually consists of written assignments and tests that often use a multiple-choice format, fill in the blanks, and written essays. Greater emphasis is placed on dispensing and delivering information in the traditional method. This method also requires students to recite what they have memorized and draws on textbook assignments developed by the instructors. This form of teaching and learning constitutes the standard methodology of teaching and learning in classrooms. A current phrase being used within the traditional teaching method in education is the “new science of learning” (National Resource Council, 2000, p. 13) which, in essence, relies on the idea of improving the student’s ability to learn through active participation. An important focus of this new science of learning is to rethink how information is being taught and to



promote the idea that schools become more learner-centered (National Resource Council, 2000, p. 13). To care for patients with complex health problems, nurses need a strong knowledge base and cognitive skills that enable them to problem-solve in the clinical setting using learned critical-thinking strategies (Oermann, Trusdell, & Ziolkowski, 2000). Unfortunately, in many nursing education programs, methods of teaching and evaluation, both in theory and practice, focus primarily on memorizing of facts (Staib, 2003).

Schaefer and Zygmunt (2003) argued that faculty members perceive themselves as nurses whose goal is to impart information to students instead of as teachers whose goal is to help students learn how to learn. This differentiation is a common problem for nurses who become educators. How can nurse instructors view themselves as educators possessing a clinical specialty, rather than as clinicians who happen to be in a teaching role? Schaefer and Zygmunt used a descriptive correlation design with a triangulation of methods to determine how the stated teaching strategies that nurse educators claimed to use would compare with their actual teaching practices. A 40-item survey instrument, (Principles of Adult Learning Scale (PALS) featuring a 6-point Likert-type scale, was administered to a sample population of 187 faculty members to measure teaching style as either teacher-centered or student-centered. The scores were tabulated and then compared to responses obtained from a demographic questionnaire tool regarding the stated philosophies of the faculty sample. Analysis of the data showed that the total mean score of the PALS survey instrument ( $M=123.48$ ,  $SD=15.25$ ) was lower than the normal score for the instrument itself ( $M=146$ ,  $SD=20$ ), which was not statistically significant for the use of student-centered teaching strategies (Schaefer & Zygmunt, 2003). This finding suggested that the study participants supported a more teacher-centered approach.

Lectures have constituted the predominant format in nursing education, primarily as a result of the large science-based curriculum and full lecture halls (Young & Patterson, 2007). For many years, nursing instructors have felt the need to cover large amounts of information in their courses, and the most efficient method of doing this is the traditional lecture format. In this approach, the instructor presents information to the students with little or no opportunity for the students to make connections to practical experiences (Bruner, 1973; Dewey, 1944; Ironsides, 2003b; Mikol, 2005; Young & Patterson, 2007). One important drawback of this passive instructional method is that students may choose not to attend classes or may come to class unprepared because they know that the material is in the textbooks for the course. Instructors who use this teaching strategy, therefore, may notice a high level of absenteeism in their classes, which, aside from the previously stated concerns regarding the development of critical thinking skills, decreases student success.

Mikol (2005) implemented a communicative-based teaching method in her community college classroom, replacing the standard lecture format, stating, “I have not lectured in any of my classes for over 20 years” (p. 86). Ironsides (2003b) and Mikol (2005) found that lecturing emphasizes content and cognitive gain and can create passivity in students, whereas in constructivist pedagogy, the instructor uses alternative teaching methodologies that address the students’ experiences, beliefs, and understanding of the nursing literature. These strategies encourage inquiry and guide learning beyond the textbook. They also reduce the amount of content to be memorized. Young and Diekelmann (2002) suggested that instructors need to be encouraged to develop new teaching strategies that present content in a way that increases learning and retention

without overextending the students. Moreover, according to Delpier (2006), it is possible for students to learn content through a variety of methodologies that incorporate student–teacher interaction while promoting the critical thinking skills necessary to become a successful nurse.

The types of teaching methods used by instructors depend on many variables, including the extent to which they are familiar with different strategies. According to Strauss and Howe (1991), the kind of teaching methods with which an instructor has been familiarized as a student will in turn affect how that instructor will teach others. For example, according to the literature review, the traditional lecture, which follows the pedagogical model of teacher-centered education, is the most used teaching method in classrooms today. Many faculty use lectures as a primary teaching method in part because they are most familiar with it. According to Hartman, Dziuban, and Brophy-Ellison (2007), approximately 80% of college instruction relies on this format. Therefore, because the lecture has traditionally constituted a foundational teaching method of instruction and because its use continues to be widespread, all four generations have been exposed to this teaching format.

The lecture does have the advantage of providing a way to cover large amounts of information in a limited amount of time. Young and Dickelmann (2002) observed that the lecture is a “strategy teacher’s use when they want to efficiently cover a great deal of information” (p. 405). A method that should involve reflective thinking on the part of the instructor, the lecture can be improved over time with practice and experience (Dickelmann, 2002). However, a key disadvantage of the lecture is that its format requires only the instructor to be active; it does not encourage active interaction between

the instructor and the students or among the students themselves. Adams and Gilman (2002) noted that most educators think the lecture format “leaves a lot to be desired in terms of student–faculty interaction” (p. 282). To combat this problem, instructors need to incorporate the use of active learning methods such as questioning, discussion, case studies, writing activities, and concept mapping into the lecture format.

Adams and Gilman (2002) incorporated active learning with the development of a new teaching method for a maternal and child nursing course. This teaching method consisted of students listening to pre-recorded audiotape lectures on their own time and then participating in interactive activities such as games and case studies during class. Overall, Adams and Gilman (2002) found that both students and faculty strongly favored this method, such that 43 of 56 students indicated that they preferred active participation in class over the traditional lecture delivery.

Pugsley and Clayton (2003) found similar results in their study of the differences in attitudes of students taught using traditional lectures and those taught with interactive teaching methods. The study’s participants comprised 25 juniors and 19 seniors enrolled in a nursing research course. The juniors were taught using an experiential model of teaching that included interactive teaching methods such as hands-on problem solving activities, mini-research projects, and class discussions, whereas the seniors received the traditional lecture teaching method. At the end of the course, all the participants completed a 15-item survey to measure their attitudes toward and perceptions of nursing research. The juniors showed a significantly more positive attitude ( $p=.001$ ) toward nursing research than did the seniors. Overall, the results indicated that attitudes toward and appreciation of nursing research increased when students were exposed to a variety

of interactive teaching methods.

Educators must also consider the efficacy of the traditional lecture in regard to any given generation. According to Oblinger (2003), “the lecture tradition of colleges and universities may not meet the expectations of students raised on the internet and interactive games” (p. 44). This can create what is referred to in the literature as a teaching style mismatch between student and instructor. In other words, “an imbalance between students’ expectations of the learning environment and what they find in colleges and universities” (Oblinger, 2003, p. 44)

Johnson and Mighten (2005) sought to identify the most effective teaching methods for nursing students by comparing two teaching strategies: lecture only versus lecture notes combined with structured group discussion. The study consisted of 169 nursing students taking a medical surgical nursing course at an urban college of nursing. The students were divided into two groups: a control group (N=88) and an experimental group (N=81). The control group received lectures as the only teaching method for the entire course, while the experimental group received lecture notes one week in advance and then participated in group discussions focused on the material during class. Overall, the experimental group had significantly higher examination scores with fewer course failures than did the control group. The findings of this study support the need for a variety of teaching methods. However, classroom time and preparation time are both limited, and using various teaching methods can be challenging. According to Amerson (2006), instructors often have concerns about being able to cover all the material in a given time and feel the need to rely on lectures to accomplish their goals. Yet, it is quite clear that using lectures to the exclusion of all other methods does not facilitate all

students' learning. When lectures are not supplemented by other teaching methods such as discussions or in classroom interactive activities, the instructor cannot know in a timely way if students are comprehending the material. Amerson (2006) stated that with adequate planning and "willingness of the educator to step outside the normal traditions of the classroom more student learning needs and preferences can be met" (p. 196).

Storytelling is a valuable tool used in nursing education that can be instrumental in developing skills that are critical in clinical settings. Davidhizar and Lonser (2003) reported that stories assist nursing students in listening and collecting data. The simplicity and familiarity of the storytelling format and the immediate gratification associated with reaching a story's end are powerful tools in contextualizing and humanizing nursing knowledge. Students, therefore, learn to make connections between their patients' cultural beliefs and ethical nursing practices.

For educators who are looking for creative ways to engage students in teaching materials, Schwartz and Abbott's (2007) study, in which they examined patients in community settings, is salutary. For this study, instructors and students met with people in homeless shelters and senior centers. The researchers designed semi-structured interviews and encouraged participants to tell their stories. Themes of listening, partnership, and solidarity emerged (Schwartz & Abbott, 2007). The students found that they learned much more about their patients' needs by listening instead of asking specific questions or conducting examinations. In another study that looked at the effectiveness of more inventive teaching methods, Dupain and Maguire (2007) required nursing students to create a digital story about a health topic using digital video equipment. The process of creating a realistic scene incorporating knowledge from textbooks and classroom

teaching methods is an active learning method that helps students better understand and recall learned information. Research has shown that regardless of the subject matter, students working in small groups tend to learn more and retain material longer than when it is presented using other instructional strategies (Dupain & Maguire, 2007).

Arhin and Johnson-Mallard (2003) studied Generation Y in order to establish its prevalent learning styles and concluded that there is a need for educators to “explore different and innovative teaching strategies” (p. 121). The researchers used case study activities to determine the ability of different teaching styles to meet the needs of Generation Y. In the study, junior nursing students taking an obstetrics course created individual case studies, which they then presented to the class. Instructed to be as creative as possible, students were encouraged to take control of their own learning and to actively engage their colleagues by trying out strategies designed to capture and maintain the class’s attention (Arhin & Johnson-Mallard, 2003). The project was deemed a success due to excellent student participation and because of the independence that students assumed in directing their own learning. As a result, this project became a requirement of the curriculum. According to Arhin and Johnson-Mallard (2003), although Generation Y learners pose new challenges, it is important to take into consideration the unique characteristics this generation has to offer and integrate those factors into modern curriculum and teaching strategies.

A tool widely used in nursing education, concept mapping, is a method of integrating and relating information through drawings that systematically represent the meanings of ideas (Schuster, 2000). However, there has been limited research on their use in nursing education; this is probably because their use as a method to help students

organize material and facilitate critical thinking is relatively new. However, Abel and Freeze (2006) found that concept mapping is effective in helping nursing students develop critical thinking skills in preparation for their clinical work. Daley (2001) analyzed linkages between theoretical material and clinical nursing practice and found that students had difficulty aligning the nursing process with clinical preparation and theory. Laight (2004) examined the use of concept mapping in a large class setting as a preferred learning style of pharmacology students and evaluated its effectiveness in reaching all types of learners. The results of this study showed that a statistically significant majority of students considered the pre-prepared concept maps to be useful educational tools. However, there was no statistical significance between the usefulness on their learning; and, there was no statistical significance between the usefulness of the concept maps and the student's preferred learning styles. Overall, the concept maps were found to be useful to students' learning and appealed to students with a variety of learning styles, such that concept maps are a flexible teaching strategy in a large-classroom setting that "promote student engagement and learning" (Laight, 2004, p. 232).

Arhin and Cormier (2007) used a combination of transformative narrative and techno-literacy teaching methods to meet the needs of newer generations of students. The first approach, known as transformative pedagogy, allows students to "critically analyze ideas through a process of collaborative dialogue" and includes the use of teaching methods such as group discussion and debate. Narrative pedagogy is an interpretive approach to learning and uses role playing, case studies, simulations, storytelling, and journaling. These teaching methods allow students to more actively engage in the learning environment. The techno-literacy approach, which involves the use of



technology and digital communication, appeals to the learning styles of Generation Y students and improves learner autonomy and cooperation (Arhin & Cormier, 2007).

## **Summary of Chapter II**

Nursing student enrollment spans four generations creating a generational phenomenon. This presents a unique challenge for the faculty when trying to balance the learning needs of the Generation Y, Generation X, Baby Boomer and Veteran generation students. The review of the literature revealed characteristics and learning preferences for each of the generations as well as specific characteristics of nursing students. Twenty first century nursing education calls for a shift in paradigms from teacher-centered learning to student-centered learning. The need to meet the different generations of learners includes combining traditional pedagogy and a variety of teaching methods. While nurse educators tend to use more teachers centered learning approaches such as lecture, research supports that student-centered learning facilitates the development of critical thinking skills. The principles of adult learning and teaching styles use to improve learning skills will provide an improvement in the nursing classroom.

## CHAPTER III

### METHODOLOGY

This chapter will describe the data collection methods and procedures used to answer the research questions of this study. It is a quantitative study that will use a survey to determine the generational differences in teaching method preferences of nursing students and nursing faculty in four associate degree nursing programs within Pennsylvania. The chapter is divided into the following sections: (a) research design, (b) description of the setting, (c) description of the population and sample, (d) instruments, (e) ethical considerations, (f) data collection procedures, (g) and data analysis methods.

#### **Research Design**

To examine the preferred teaching methods of different generations of nursing students and the teaching methods nursing faculty use at four Pennsylvania nursing schools, a descriptive study was employed using quantitative strategies. Purposeful criterion sampling, as described by Patton (1990), was used to secure participants for this study. This method allowed the researcher to locate cases that “meet some predetermined criterion of importance” (p.176). For the purpose of this study, the criterion used required that a participant be a student currently enrolled in an associate degree nursing program at an accredited nursing program at a college or university. The current research is intended to provide new knowledge potentially useful to nurse educators in their development of teaching methods.

Study findings from quantitative research methods and techniques are generated from statistical analyses of numerical data that are used to test hypotheses to arrive at conclusions (Neuman, 2006). The use of surveys is an appropriate means to gather data in

quantitative research (Creswell, 2009). Creswell indicated that survey research is an efficient and cost-effective method to facilitate the collection of quantifiable data from a large sample and to generalize the results to a larger population. Conversely, qualitative results are generally applicable only to the participants in the study (Creswell, 2009). While qualitative research methods are appropriate for a continuous, interactive process of data collection by the investigator who seeks to discover unknown variables, quantitative methods are appropriate when the investigator seeks to identify known and measurable variables prior to executing a research study about those variables (Neuman, 2006). The quantitative method was selected for the current study because the quantifiable variables were identified and statistical analysis was possible within the constraints of a limited amount of time (Neuman, 2006).

### **Description of Setting**

The setting for this research will include four colleges or universities within Pennsylvania that offer associate degree nursing programs. Most associate degree nursing programs follow the same associate degree curriculum and semester schedule. While teaching methods may vary among instructors across the campus sites, course objectives and content are the same. The associate degree in nursing is the only pre-licensed R.N. nursing program offered except for two sites that, in addition, offer the accelerated baccalaureate program. Since the focus of the study was on associate degree nursing students, the students in this accelerated baccalaureate program were excluded from this study sample. However, faculty who teach in both programs were permitted to participate in the study.

## **Population and Sample**

According to Creswell (2005), in purposeful sampling, researchers intentionally select individuals and sites to learn about or understand the central phenomena. This study will use a purposive sampling of associate degree nursing students and nurse faculty from four colleges or universities in Pennsylvania. The identified population for this study included male and female students currently enrolled in an accredited associate degree nursing program at colleges or universities in the state of Pennsylvania. All nursing students (first and second year) enrolled in the associate degree nursing program (ADN) at each of the four nursing schools were asked to complete the student survey. The study also asked all nursing faculty who taught in the same ADN programs as the students to complete the faculty survey.

Much consideration went into the decision about an acceptable sample size for the current study because the power to detect statistical significance, associations, and relationships is influenced by sample size (Sproull, 2003). Several suggested methods for deciding on sample size are based on the precision or tolerance for sampling error desired by the investigator (Creswell, 2005). Sproull (2003) warned that errors in sample size could influence the internal and external validity of the research. Ultimately, in this research, the sample size was 289 participants (244 student participants and 45 faculty participants).

## **Instruments**

The survey tools that were used in the research study include two 30-item Likert scale surveys; one for student participants and one for faculty participants. The survey called “Walker’s Teaching Method Survey” (WTMS) was used in a study conducted by

Walker et al (2006) to examine the teaching method preferences and expectations of students from different generations. Walker's survey was found to have a reliability coefficient, Cronbach's alpha of .82 as well as construct validity from a panel of fifteen experts in nursing education (Walker, et al, 2006). Permission to use, modify and adapt the original survey tool was obtained by Dr. Walker prior to the study (Appendix A).

### **Student Survey**

The original survey was modified based on the review of literature to include more specific examples of teaching methods that students from different generations may have a preference for, as well as a section for students to choose their top five teaching method preferences into the classroom. Additional demographics including: age and year in current nursing program were added to the survey.

### **Faculty Survey**

The faculty survey asked questions related to the same types of teaching methods to which student participants were asked to respond. However, instead of asking faculty to rank their preference for teaching methods, the faculty survey asked participants to rank their actual use of teaching methods in a classroom setting. Additional demographics added to the faculty survey included age and years of teaching experience.

### **Construct Validity and Reliability of Survey Tools**

The 30-item Likert scale was developed in 2004 by Dr. Jean Walker. The survey identifies (a) preference for lecture in relation to skills and difficult to comprehend information, (5 items) Questions 1,2,4,6,21 (b) preference for group work, within the confines of class time or outside of class time, (4 items) Questions 3,5,7,8 (c) ability to read complex material, comprehend the material, and self-direct learning, (6 items)

Questions 9,10,11,12,13,29 (d) preference for case study, (3 items) Questions 14, 15, 23 (e) preference for web-based learning in totality or enhanced only, (3 items) Questions 16, 17, 18 (f) classroom structure preference with faculty knowing names of students, trusting faculty, handouts, overheads and audio-visuals (5 items) Questions 19, 20, 22, 25, 28 (g) motivation for learning in terms of knowing the outcome of learning, or for the importance of the grade (4 items) Questions 24, 26, 27, 30.

Content validity was established for the survey by a pilot project among 15 nurse educators for expert content review and to develop and refine the survey. These experts have more than 50 years of collective teaching experience. Members of the expert pilot group provided feedback concerning clarity and readability of the survey to establish content validity.

Pilot data for the WTMS were also collected from 50 graduate nursing students to determine validity. Construct validity was determined for the 30-item scale with inter-item correlations completed including item means, variances, and correlations for the pilot and study samples. No items were eliminated and three items were revised to enhance clarity from the pilot survey. Multivariate statistics with a common factor analysis were also utilized to demonstrate construct validity for the seven subscales of items. Subscale scores ranged from 1 to 5 (mean = 4.6, SD = .39) Seventy-eight percent on the inter-item correlations fell between .30 and .70 therefore meeting the criteria for new scale development (Nunnally & Bernstein, 1994). The reliability coefficient for the survey, Cronbach's alpha, was determined to be .82, indicating a sound internal consistency for the scale. Burns and Grove (2007) state that "A reliability of 0.08 is

considered the lowest acceptable coefficient for a well-developed measurement tool. For a newly developed instrument, a 0.70 is considered acceptable” (p. 365).

The WTMS was determined to be an effective new scale to measure perceptions of teaching methods. However, further evidence of validity is needed to determine successive verification by repeated use of the instrument. Burns & Grove (2007) state that “each time a researcher uses an instrument; more knowledge is gained about the validity” (p. 366).

### **Ethical Considerations**

Prior to implementing the research study, approval was obtained from each of the participating four colleges’ Institutional Review Board (IRB) and from Indiana University of Pennsylvania. Permission to conduct the study will be obtained from each Dean of Nursing. All surveys were distributed with a cover letter outlining the purpose, methodology and procedure for obtaining data in the study (see Appendix D for cover letter example.) At the top of each student and faculty survey, all participants will be informed of the purpose of the study. Survey responses were anonymous. No names of the participants were recorded on the survey. Information that was obtained did not identify the participants. During the data collection procedures, the researcher provided students and faculty with a description of the study, procedures, risks, benefits, duration, aspects of protection of information and confidentiality, rights as a participant and the voluntary nature of participating. Informed consents for both students and faculty are found in Appendix A.

This research study did not pose any risk or discomfort to participants. All participation in the survey was voluntary. All surveys are anonymous and no student or

faculty participants were identifiable by name or college attended. All survey responses are confidential and were kept in a secure location. The benefit to the participant was the ability to participate in a research study which will add knowledge to the overall body of nursing education.

### **Data Collection Procedure**

Participants for this study were recruited by contacting the Dean of Nursing from each of the four schools of nursing. After obtaining IRB approval, letters explaining the purpose of the research study and contact information of the researcher were attached to the surveys. In each case, the principal investigator visited the school of nursing, spoke with the nursing faculty about the research study and implemented the surveys in person. Upon approval to conduct the study, the principal investigator coordinated the schedule for data collection with each campus nursing chairperson at the four schools of nursing. Following approved procedures, course instructors were contacted by the researcher, explained the purpose of the study and informed consent to participate in the study was obtained. All four nursing school faculty teaching the fall 2010 nursing course agreed to participate in the study. The researcher then coordinated directly with the course faculty to schedule visits to each campus to complete the data collection.

Following a thorough explanation of the study, a signed consent was obtained from participants prior to implementation of the survey. Individual surveys for both nursing students and nursing faculty will be used to collect data in this study. Following consent, each participant will complete the survey. Anticipated time to complete the survey will be 10 minutes. All nursing faculty and nursing students from each of the four nursing schools in the study were invited to participate in the survey, however



participation was optional. Nursing faculty in each ADN program was asked to fill out the faculty survey. The principal investigator was given permission by the course instructor to explain the survey and distribute the survey to the nursing students prior to the nursing class. All data was compiled and statistical analysis was completed using Predictive Analytics SoftWare (PASW) version 17.0.

### **Data Analysis Methods**

Both descriptive and inferential statistical procedures, using Predictive Analytics SoftWare (PASW) version 17.0 was used to answer the research questions. This program is efficient and useful for both descriptive and correlative analysis necessary to meet the goals of this research study. Descriptive statistics were used to summarize characteristics of the defined demographic groups specifically looking at distribution in terms of frequency, percentages, and mean values.

### **Summary of Chapter III**

This quantitative and descriptive research study examined the preferred teaching methods of associate degree nursing students and faculty preferred teaching methods. The setting for the study included four colleges or universities in Pennsylvania each with an associate degree nursing program. Approval for each IRB was obtained from each college or university prior to initiation of the study. All nursing faculty and nursing students from each of the four schools of nursing in the study were invited to participate in the survey, however participation was optional. The research study included a total of 289 participants; 45 nursing faculty and 244 nursing students. Walker's Teaching Method Survey (WTMS) (Walker et al, 2006) is a 30 item Likert scale survey tool and was

implemented in this study, after approval to given. Analysis of all data was completed utilizing Predictive Analytics SoftWare (PASW) version 17.0.

## CHAPTER IV

### RESULTS

The purpose of this quantitative study was to determine (a) the teaching methods preferred by students from each respective generation pursuing an associate degree, (b) the teaching methods that educators in associate degree nursing programs use most, and (c) the extent to which the teaching methods used by nursing faculty are consistent with the teaching methods preferred by associate degree nursing students.

This chapter discusses the statistical tests used to analyze the data, the results of the data analysis, and the significant findings of the research study for each of the three questions. The research study comprised a total of 289 participants: 45 faculty members and 244 associate degree nursing students from four different colleges in Pennsylvania. Permission to conduct the study was obtained from the four nursing departments and the Internal Review Board process was completed. This chapter also includes discussions of the study sample, descriptive statistics, data analysis, content analysis, and reliability and results.

#### **Characteristics of the Sample**

The population for this study comprised associate degree nursing students and nursing faculty. Eligible research participants ( $n = 244$ ) were drawn from a convenience sample of nursing students enrolled in four associate degree programs in Pennsylvania. The inclusion criterion was enrollment in the nursing program, and the exclusion criterion disqualified students under the age of 18 years ( $n = 0$ ). Each student participant was asked to complete a student survey which included questions about demographics

and 33 questions related to specific teaching method preferences (see Appendix B for Walkers Student Survey).

A total of 45 nursing faculty members from four associate degree nursing programs in Pennsylvania participated in the study. All nursing faculty participants were currently teaching in the associate degree nursing programs in which the student participants were enrolled. Each faculty participant was asked to complete a faculty survey, which consisted of questions that collected demographic data and 33 questions related to specific teaching method preferences (see Appendix C for Walkers Faculty Survey).

### **Reliability Analysis**

Dr. Jean Walker developed the 30-item Likert scale used in the survey on which this study is based in 2004, shortly before administering it to respondents. The survey identifies (a) preference for lecture in relation to skills and difficult to comprehend information (5 items: Questions 1, 2, 4, 6, 21) (b) preference for group work within the confines of class time or outside of class time (4 items: Questions 3, 5, 7, 8); (c) ability to read complex material, comprehend the material, and self-direct learning (6 items: Questions 9, 10, 11, 12, 13, 29); and (d) preference for case study (3 items: Questions 14, 15, 23); (e) preference for web-based learning either as the only method of education and in combination with other methods) (3 items: Questions 16, 17, 18); (f) classroom structure preference with faculty knowing the students' names, trusting faculty, handouts, overheads and audio-visuals (5 items: Questions 19, 20, 22, 25, 28); (g) motivation for learning in terms of knowing the outcome of learning, or for the importance of the grade (4 items: Questions 24, 26, 27, 30).

The survey's content validity was established through a pilot project in which 15 nurse educators subjected preliminary versions of the survey to an expert content review, thereby developing and refining the survey. The experts who contributed to the pilot project have more than 50 years of collective teaching experience, and they provided feedback concerning the clarity and readability of the survey in order to establish content validity.

Pilot data for the Walker Teaching Methods Survey (WTMS) were also collected from 50 graduate nursing students in order to determine validity. Construct validity was determined for the 30-item scale with inter-item correlations completed including item means, variances, and correlations for the pilot and study samples. No items were eliminated, and three items were revised in order to make them more clear. Multivariate statistics with a common factor analysis were also used to demonstrate the construct validity for the seven subscales of items. Subscale scores ranged from 1 to 5 ( $M = 4.6$ ,  $SD = .39$ ). In addition, 78% of the inter-item correlations fell between .30 and .70 which meets the criteria for new scale development (Nunnally & Bernstein, 1994). The reliability coefficient for the survey, Cronbach's alpha, was determined to be .82, indicating that the scale was internally consistent. This level of consistency surpasses the requirements of Burns and Grove (2007) who stated that "A reliability of 0.08 is considered the lowest acceptable coefficient for a well-developed measurement tool. For a newly developed instrument, a 0.70 is considered acceptable" (p. 365).

Even though initial reviews suggested that the Walker Teaching Methods Survey (WTMS) is an effective new scale for measuring perceptions of teaching methods, further evidence of validity is needed. Such evidence can only be secured through repeated use

of the instrument. As Burns and Grove (2007) stated, “each time a researcher uses an instrument; more knowledge is gained about the validity” (p. 366).

### **Recruitment**

Following approval of the study design from the Internal Review Board for the Protection of Human Rights at the Indiana University of Pennsylvania, the researcher contacted chairpersons of the four nursing departments in Pennsylvania chosen for this study. During this contact, a date for data collection was decided. Copies of the survey tool were presented prior to data collection for review. A mutually agreed upon date and time was set with the nursing department chairpersons for collecting data from the nursing students and the nursing faculty at the various nursing classrooms and faculty meetings. The nursing chairperson approved the time and location for the data collection. The letter explaining the details of this study (see Appendix D), the informed consent form (see Appendix A), and the survey tool (see Appendices B, C) were handed out to the nursing students and faculty. All participants were assured both orally and in writing that their responses would remain confidential.

After greeting the prospective participants, the researcher indicated that she would be glad to address any concerns and answer any questions. However, neither the nurses nor the faculty members asked any questions. They all read the letter and agreed to participate in the study. The participants understood that by filling out the survey they were agreeing to participate in the survey. In addition, an interesting nursing article was made available as a reading assignment for those who chose not to participate in the survey.

After providing their responses, the participants passed the surveys to the front of the classroom where the principal investigator collected them. Given that the survey did not ask participants to provide any identifying information, there was very little chance that any of the surveys could be connected with particular participants. The entire data collection lasted took place over a period of three months, with the surveys being administered on a different day for each of the four nursing departments. On the day of administering the survey, the principal investigator hand-carried the completed surveys to her office and immediately added the data to an Excel spreadsheet. The completed surveys were then stored in a locked home office cabinet.

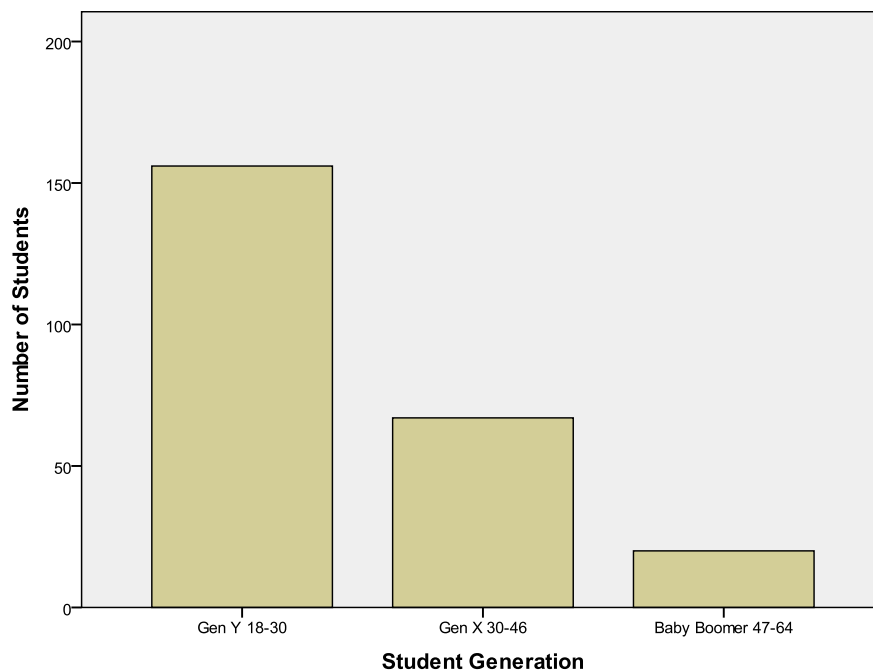
The Microsoft Excel software spreadsheet database became the first place of entry for data obtained from the Walker Survey tool. The information provided by each participant was entered directly into the spreadsheet, thereby creating an organized sheet of data. Based on the order in which the data from each survey was entered, each participant was assigned a unique number. The Predictive Analytics SoftWare (PASW) version 17.0 analyzed the data, and inferential statistics were used in this process.

### **Instrument Analysis**

The Walker survey was easy to use, and participants took fewer than 10 minutes to complete the form. Each of the 30 items of the Walker tool was linked to a different subscale of preferred teaching methods (Walker et al. 2006). A series of socio-demographic variables were gathered for each nursing student that included age and their year in the nursing program (first or second year). Individual scoring on each of the 30-item surveys resulted in scores that ranged from 1 to 4 on a Likert-type scale.

## Student Generational Cohorts

The first question asked each student participant to state his/her exact age. During the data analysis, each participant's age was categorized into a specific generation cohort based on Strause and Howe (2001) definition of a length of a generation: Veteran (Silent), Baby Boomer, Generation X, and Generation Y. The results of the student generations represented in the study are outlined in Figure 1.



*Figure 1.* Number of students from each generation.

All the students indicated their ages on the survey and were included in the data for this category. The survey results categorized the students as follows: Generation Y ( $n = 156$ , 63.9%), Generation X ( $n = 67$ , 27.5%), and Baby Boomer ( $n = 20$ , 8.2%). There were no respondents from the Veteran generation. Therefore, the data analysis examined only differences among Generation X, Generation Y, and the Baby Boomers.



### Student Year in Nursing Program

All student participants were asked to identify their current year in their undergraduate associate degree nursing program. Students chose from the following options: First-year nursing student and second-year nursing student. Table 1 sets out the distribution of the data for this variable.

Table 1. *Percentage of Students in Each Year of the Nursing Programs*

	Student	Frequency	Percent	Cumulative
	year			percent
Valid	1 <sup>st</sup> year	125	51.2	51.4
	2 <sup>nd</sup> year	118	48.4	100.0
	Total	243	99.6	
Missing		1	.4	
Total		244	100.0	

The results showed a total of 125 student participants (51.2%) were first-year students. The second-year student respondents totaled 118 (48.4%). One student participant did not indicate his/her current year and was, therefore, not included in the results.

### Descriptive Results of the Student Survey

The student survey asked participants to rank their preferences for teaching methods used in the classroom and to rank the importance of specific classroom preferences on a 4-point Likert scale. The Likert scale used in the student survey was a modified version of Walker's Teaching Method's Survey (WTMS) developed by Walker et al. for the research study "Generational(Age) Differences in Nursing Students' Preferences for Teaching Methods" (2004). Number 1 on the scale corresponded to no

preference for a specific teaching method, 2 indicated an occasional preference, 3 indicated a frequent preference, and 4 indicated always preferring a certain teaching method.

### **Descriptive Statistics for Questions 1–23 of the Student Survey**

The first 23 questions on the student survey asked participants to rank their preferences for specific teaching methods. These teaching methods comprised lecture, application of skills in the classroom, group work versus individual work, case studies, visual aids, listening versus actively participating in group discussions, drawing or making diagrams of concepts on the board, having a web-based course or a course that combined web-based education and the traditional classroom, storytelling, reading the assignment before versus after class, having handouts provided versus taking their own notes, classroom interaction with professor and peers, use of technology, games and having classroom structure and guidance by the professor.

Students were also asked to rank their preferences for the use of a variety of teaching methods. The mean and standard deviations for questions 1–23 on the student survey are shown in Table 2.

Table 2. *Descriptive Statistics for Questions 1–23 on the Student Survey*

Question	n	Mean	SD
Q1 I prefer to hear lecture on unfamiliar subjects	244	2.93	.920
Q2 I prefer to hear lecture on subject matter that I already have some knowledge about	244	2.88	.773
Q3 I enjoy practicing skills or hands on material that I have learned	244	3.67	.594
Q4 I do not need to practice skills that I have learned about in lecture	244	1.40	.644

Question	n	Mean	SD
Q5 I prefer group work to lecture	244	2.08	.882
Q6 I prefer lecture to group work	244	2.76	.869
Q7 It is important to me to perform group assignments outside of class time	244	1.98	.860
Q8 It is important to me to perform group work inside of class time	244	2.49	.833
Q9 I am able to read new material and gain all that I need to know	244	2.11	.744
Q10 I am able to read material and then prefer to hear an expert share their opinion or experience on the subject	244	3.10	.788
Q11 I am a self-directed learner and require little motivation to study	244	2.36	.943
Q12 I can read well and comprehend material easily	244	2.63	.802
Q13 I struggle to read and comprehend material	244	1.91	.809
Q14 I prefer a case study in order to learn	244	2.16	.729
Q15 I can learn from case studies	244	2.11	.888
Q16 I prefer a totally web-based course of study without class meetings	244	1.58	1.025
Q17 I need to have classroom interaction with peers and faculty	244	3.10	.807
Q18 I prefer a combination of web-based study along with classroom study	244	2.38	.805
Q19 I learn from hearing stories of actual events from faculty	244	3.32	.702
Q20 I prefer handouts to follow along with the lecture	244	3.63	.636
Q21 I prefer faculty lecture from the outline posted on the overhead or visual screen	244	3.21	.910

Question	n	Mean	SD
Q22 It is important for faculty to learn my name	244	3.11	.954
Q23 I prefer to have lecture along with other teaching strategies, such as group or case study	244	3.26	.839

Overall, students had a high preference ( $M > 3.0$ ) for the following teaching methods: enjoy practicing skills or hands-on material that I have learned ( $M = 3.67$ ,  $SD = .594$ ); able to read new material and gain all that I need to know ( $M = 3.10$ ,  $SD = .788$ ); need to have classroom interaction with peers and faculty ( $M = 3.10$ ,  $SD = .807$ ); learn from hearing stories of actual events from faculty ( $M = 3.32$ ,  $SD = .702$ ); prefer handouts to follow along with lecture ( $M = 3.63$ ,  $SD = .636$ ); prefer faculty lecture from outline posted on the overhead screen ( $M = 3.21$ ,  $SD = .910$ ); important for faculty to learn my name ( $M = 3.11$ ,  $SD = .954$ ); and prefer lecture along with other teaching strategies such as group work or case studies  $M = 3.26$ ,  $SD = .839$ ).

Four teaching methods received mean scores of less than 2.9 but greater than 2.5, indicating that the majority of students preferred them: prefer to hear lecture on unfamiliar subjects ( $M = 2.93$ ,  $SD = .920$ ); hear lecture on subject matter with some knowledge already ( $M = 2.88$ ,  $SD = .773$ ); prefer lecture to group work ( $M = 2.76$ ,  $SD = .869$ ); and read well and comprehend material easily ( $M = 2.63$ ,  $SD = .802$ ).

Seven teaching methods received mean scores of less than 2.49 but greater than 2.0, indicating that more students preferred them than did not prefer them: prefer group work to lecture ( $M = 2.08$ ,  $SD = .882$ ); group work inside of class time ( $M = 2.49$ ,  $SD = .833$ ); able to read new material and gain what I need to know ( $M = 2.11$ ,  $SD = .744$ ); self-directed learner and needs little motivation to study ( $M = 2.36$ ,  $SD = .943$ ); prefer case

study in order to learn ( $M = 2.16$ ,  $SD = .729$ ); learn from case studies ( $M = 2.11$ ,  $SD = 1.025$ ); and prefer a combination of web-based study along with classroom study ( $M = 2.38$ ,  $SD = .805$ ).

Four teaching methods had mean scores of less than 1.99, indicating that the student participants had a low preference for them: do not need to practice skills that I have learned about in lecture ( $M = 1.40$ ,  $SD = .644$ ); important to perform group assignments outside of class time ( $M = 1.98$ ,  $SD = .860$ ); struggle to read and comprehend material ( $M = 1.91$ ,  $SD = .809$ ); and prefer a totally web-based course of study without class meetings ( $M = 1.58$ ,  $SD = 1.025$ ).

Overall, the results indicated that the students had the highest preference for practicing skills or using hands-on material ( $M = 3.67$ ,  $SD = .594$ ) and the lowest preference for not needing to practice skills learned in lecture ( $M = 1.40$ ,  $SD = .644$ ). In regard to the item “actively participate in group work outside of class time” ( $M = 1.98$ ,  $SD = .860$ ), slightly fewer students preferred to participate inside the classroom ( $M = 2.49$ ,  $SD = .833$ ) than outside of the classroom.

Overall, the students showed a close preference for hearing a lecture on unfamiliar subjects ( $M = 2.93$ ,  $SD = .920$ ) and hearing a lecture on subject matter that they already had knowledge about ( $M = 2.88$ ,  $SD = .773$ ). Two questions on the survey asked students to rank their preferences for web-based study with no classroom meetings and a combination of web-based study with some classroom meetings. The students indicated a very low preference for having a web-based course of study with no classroom meetings ( $M = 1.57$ ,  $SD = 1.025$ ). They showed a slightly higher preference

for courses that combined web-based study with classroom meetings ( $M = 2.38$ ,  $SD = .805$ ).

### **Descriptive Statistics for Questions 24–30 on the Student Survey**

Items 24–30 on the survey asked students to rank the importance of specific issues in the classroom environment. The items of importance were as follows: have a grade attached to all papers, case studies and outside work, classroom structure and guidance from faculty, knowing the bottom line or end results, importance of why I am learning the material, trusting faculty to tell me what I need to know, learning for learning's sake, and the grade I receive is all that really matters. Table 3 shows the mean and standard deviations for items 24–30 on the student survey.

Table 3. *Descriptive Statistics for Questions 24–30 on the Student Survey*

Question	N	M	SD
Q24 It is important to have a grade attached to papers, case studies, and other outside work	244	3.26	.778
Q25 It is important to have a great deal of classroom structure and guidance from faculty	244	3.27	.698
Q26 It is important to know the bottom-line or end-result before I learn	244	2.95	.844
Q27 It is important to know why I am learning material	244	3.43	.679
Q28 I trust faculty to tell me what I need to know	244	3.33	.697
Q29 I like learning just for learning sake	244	2.84	.848
Q30 grade I receive is all that really matters	244	1.98	.881

The students ranked four questions from this section of the survey as highly important; each with a mean greater than 3.0 as follows: important to know why I'm

learning the material ( $M = 3.43$ ,  $SD = .697$ ); trust faculty to tell me what I need to know ( $M = 3.33$ ,  $SD = .697$ ); great deal of classroom structure and faculty guidance ( $M = 3.27$ ,  $SD = .698$ ); and important to have grades attached to papers and other outside work ( $M = 3.26$ ,  $SD = .77$ ). Two questions had means greater than 2.5 but less than 3.0, indicating that the majority of students viewed them as important for the classroom environment: important to know the bottom line or end result before I learn ( $M = 2.95$ ,  $SD = .844$ ) and learning for learning's sake ( $M = 2.84$ ,  $SD = .848$ ). The lowest result was obtained for the grades I receive is all that really matters ( $M = 1.98$ ,  $SD = .881$ ).

### **Most Preferred Teaching Methods Chosen by Students**

One part of the survey asked students to check the five teaching methods they preferred the most to help them learn. Students were given the following methods to choose from: lecture, case studies, storytelling, hands-on activities, activities with technology, worksheets, handouts, visual aids, group activities, diagramming, games, and group discussion. Teaching methods that were marked by the students were coded as “yes,” and those that were not marked were coded as “no.” Table 4 shows the most preferred teaching methods of all the students surveyed.

Table 4. *Students' Preferred Teaching Methods*

Method	%
Lecture	71.3
Case studies	52.5
Internet	48.4
Tests	45.1
Handouts	41
Hands-on activities	36.1
Game	35.7
Out-of-class group work	33.2
In-class group work	31.1

The data showed that the students chose two teaching methods frequently, with lecture being the most preferred at 71.3% (n = 244). The second most preferred teaching method was case studies at 52.5 (n = 244).

### **Least Preferred Teaching Methods Chosen by Students**

A total of nine teaching methods were preferred by less than 50% of all the student participants. The least preferred teaching methods were the internet, self-study, tests, handouts, worksheets, and hands-on activities, games, group work outside of class, and group work in class. Table 5 shows students' least preferred teaching methods.

Table 5. *Students' Least Preferred Teaching Methods*

Teaching Method	f	%
In-class group work	76	31.1
Out-of-class group work	81	33.2
Games	87	35.7
Hands-on-activity	88	36.1
Worksheets	91	37.3
Handouts	100	41
Tests	110	45.1
Self-Study	117	48
Internet	118	48.4

The results of the survey found that 118 (48.4%) students chose Internet activities and 117(48%) students chose self-study as a preferred teaching method. Other teaching methods chosen by student participants were handouts (n = 100, 41%); worksheets (n = 91, 37.3%); hands-on activities (n = 88, 36.2%); games (n = 87, 35.8%); group work outside of class (n = 81, 33.2%); and group work inside of class (n = 76, 31.1%).

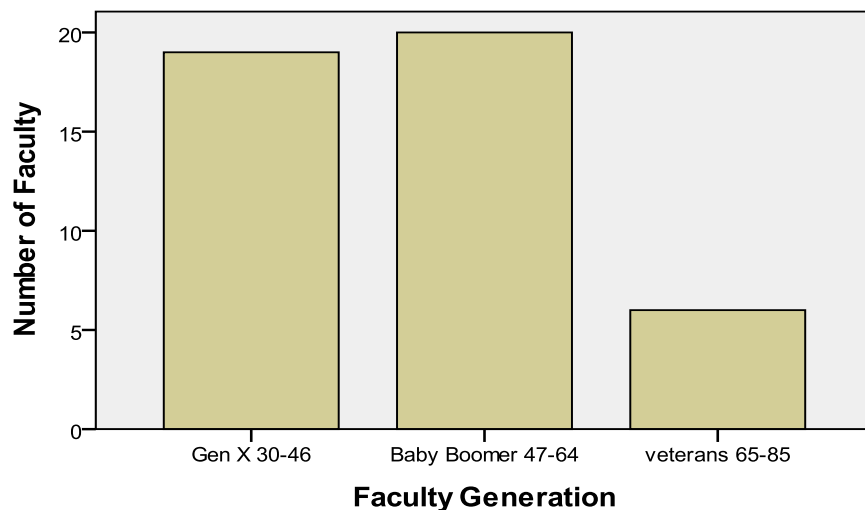


### Faculty Demographics

A total of 45 nursing faculty from four Pennsylvania universities participated in the study. All nursing faculty participants were currently teaching in the associate degree nursing programs in which the student participants were enrolled. The faculty survey asked participants to provide demographic information as well as to indicate the teaching methods that they were actually using in the classroom (Appendix B for faculty survey). Each faculty survey asked participants to disclose the following demographics: age in years and number of years of teaching experience in nursing education.

### Faculty Generational Cohorts

The generations of faculty were categorized in the same way as the student generations using Strauss & Howe (1991) definitions of generations: Veterans (Silent), Baby Boomers, Generation X, and Generation Y. The generations represented among the nursing faculty surveyed are depicted in Figure 2.

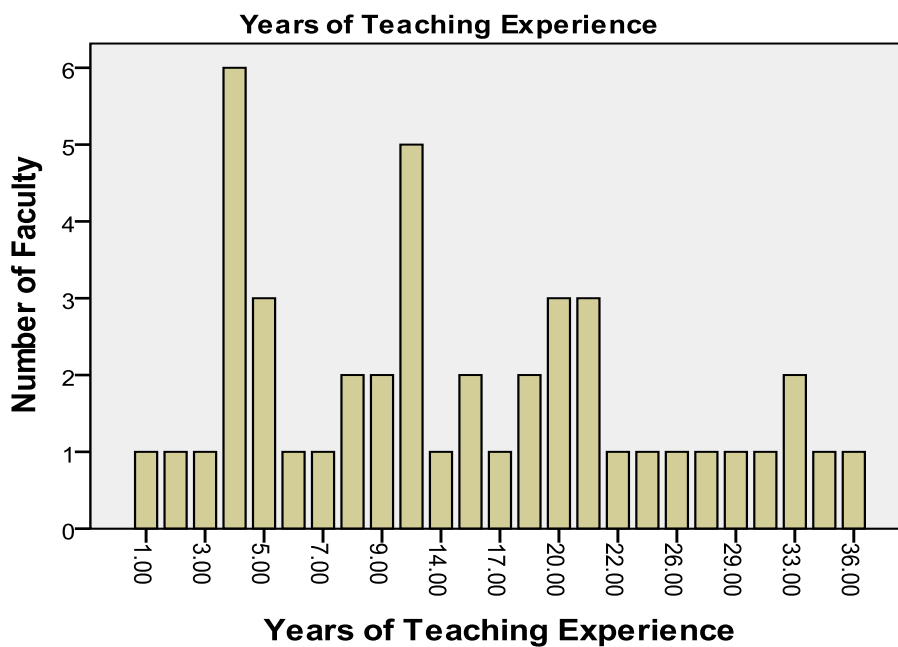


*Figure 2. Number of faculty members from each generation*

The data showed that the only generation with no representation among the nursing faculty was Generation Y. However, there is a nearly even distribution for faculty within the Baby Boomer generation and Generation X. A total of 19 (42.2%) faculty were from Generation X, and 20 (44.4%) were from the Baby Boomer generation. Only six (13.3%) were from the Veterans generation.

### **Faculty Years of Teaching Experience**

All the faculty participants were asked to state the number of years of experience they had in nursing education including both full-time and part-time experience. The years of faculty experience ranged from less than a year to thirty- six years with a mean of 15.21 years. Figure 3 shows the extent of faculty teaching experience in years.



*Figure 3.* Faculty years of experience.

### **Descriptive Results of the Faculty Survey**

The faculty survey was based on the same 4-point Likert scale and the same questions as the student survey. However, instead of ranking their preferences for

teaching methods, faculty members were instead asked to rank the teaching methods they were actually using in the classroom. Therefore, number 1 on the scale indicated never using a specific teaching method, 2 indicated occasionally using a teaching method, 3 indicated frequently using a teaching method, and 4 indicated always using a certain teaching method.

### **Descriptive Statistics for Questions 1–23 on the Faculty Survey**

The first 23 questions on the faculty survey asked faculty participants to rank their use of specific teaching methods. These teaching methods comprised the following: lecture, application of skills in the classroom, group work versus individual work, case studies, visual aids, encouraging active participation in group discussions, drawing out concepts on the board, teaching a web-based course or a combination web-based and traditional classroom course, sharing personal stories, encouraging students to complete an assignment over the reading before versus after class, providing handouts versus having students taking their own notes, encouraging classroom interaction with professor and peers, using technology in the classroom, using games, and providing lots of classroom structure and guidance. The faculty members were also asked to rank their use of a variety of teaching methods. The means and standard deviations of items 1–23 on the faculty survey are shown in Table 6.

Table 6. *Means and Standard Deviations of Items 1-23 on the Faculty Survey*

Question	n	Mean	Std. deviation
Q1-I lecture (speak) on topics while my students listen, take notes, and answer questions	45	3.22	.765
Q2-Students apply skills in the classroom that were covered in the reading assignment	45	3.00	.603

Question	n	Mean	Std. deviation
Q3-Students work in groups with peers on an assignment	45	2.42	.722
Q4-I use case studies to help students apply new concepts learned	45	2.84	.705
Q5-I use visual aids when teaching new concepts	45	3.40	.653
Q6-I have students work individually on an assignment	45	2.62	.747
Q7-I encourage all students to participate in class discussions	45	3.57	.722
Q8-I draw on the board to help students visualize new concepts	45	2.44	.893
Q9-I teach a web-based course of study without class meetings	45	1.62	.886
Q10-I tell personal stories of my experience on the topic I am teaching	45	3.22	.794
Q11-I have students complete an assignment over the reading prior to class	45	2.44	.893
Q12- I provide handouts for students to take notes on while listening to me lecture	45	3.35	.933
Q13-I encourage classroom interaction among students and myself as the professor	45	3.51	.786
Q14-I use a combination of web-based study and classroom study	45	2.11	1.027
Q15-I expect students to read the assignment prior to coming to class where I discuss key points and share my experience on a topic	45	3.33	.768
Q16-I provide activities that involve the use of technology during class to teach new concepts	45	2.82	.805
Q17-I spend more time lecturing than having students work in groups with their peers	45	3.00	.797

Question	n	Mean	Std. deviation
Q18-I facilitate active participation of all students in classroom discussion	45	3.40	.719
Q19-games to teach and/or review new material	45	2.15	.737
Q20-I expect students to wait and read the assignment until after class has been held	45	1.22	.471
Q21-I provide a lot of classroom structure and guidance for students	45	3.00	.768
Q22-ect students to take their own notes during class versus providing handouts	45	2.20	1.05
Q23-I use a variety of teaching methods in the classroom	45	2.95	.796

The results of the faculty survey found eight teaching methods with a mean greater than 3.0. The faculty members indicated that they used the following teaching methods most frequently in classroom settings: encourage all students to participate in class discussions ( $M = 3.57$ ,  $SD = .722$ ); encourage classroom interaction among the students and the professor ( $M = 3.51$ ,  $SD = .786$ ); use visual aids when teaching new concepts ( $M = 3.40$ ,  $SD = .653$ ); facilitate active participation of all students in classroom discussion ( $M = 3.40$ ,  $SD = .719$ ); provide handouts for students to take notes on while listening to lecture ( $M = 3.35$ ,  $SD = .933$ ); expect students to read the assignment prior to class ( $M = 3.33$ ,  $SD = .768$ ); lecture on topics while students listen and take notes ( $M = 3.22$ ,  $SD = 3.22$ ); and tell personal stories of my experiences ( $M = 3.22$ ,  $SD = .794$ ).

The faculty ranked three teaching methods at 3.0: students apply skills in the classroom that were covered in the reading assignment ( $M = 3.00$ ,  $SD = .603$ ); spend more time lecturing than having students work in groups with peers ( $M = 3.00$ ,  $STD =$

.797); and provide a lot of classroom structure and guidance for students ( $M = 3.00$ ,  $SD = .768$ ).

Four teaching methods had means of less than 2.9 but greater than 2.5, indicating that these were the methods used most often by the faculty participants in the classroom setting. These teaching methods consisted of the following: use of a variety of teaching methods in the classroom ( $M = 2.95$ ,  $SD = .796$ ); use of case studies to help students apply new concepts learned ( $M = 2.84$ ,  $SD = .75$ ); provide activities that involve the use of technology during class to teach new concepts ( $M = 2.82$ ,  $SD = .805$ ); and encourage students to work individually on an assignment ( $M = 2.62$ ,  $SD = .747$ ).

The following six teaching methods had mean scores of less than 2.49 but greater than 2.0, indicating that more faculty used these than did not. The teaching methods in this category were as follows: draw on board to help students visualize a new concept ( $M = 2.44$ ,  $SD = .893$ ); have students complete an assignment over reading prior to class ( $M = 2.44$ ,  $SD = .893$ ); students work in groups with peers on assignments ( $M = 2.42$ ,  $SD = .722$ ); expect students to take their own notes during class versus providing handouts ( $M = 2.20$ ,  $SD = 1.057$ ); use games to teach or review new material ( $M = 2.155$ ,  $SD = .737$ ); and use a combination of web-based study and classroom study ( $M = 2.11$ ,  $SD = 1.027$ ). Expecting students to take their own notes during class versus providing handouts and use of a combination of web-based study and classroom study both had a standard deviation greater than 1.0. These values indicate that faculty participants were very disparate in terms of the frequency with which they used of each of these teaching methods.

There were only two teaching methods that the faculty indicated using very little or not at all with a mean of less than 2.0. These included teaching a web-based course of study without class meetings ( $M = 1.62$ ,  $SD = .886$ ) and expecting students to wait and read the assignment until after class had been held ( $M = 1.22$ ,  $SD = .471$ ). Overall, the faculty participants chose encouraging all students to participate in class discussions ( $M = 3.57$ ,  $SD = .722$ ) as the most frequently used teaching method. The least-used teaching method was having students wait to read the assignment until after class ( $M = 1.22$ ,  $SD = .471$ ).

For group discussion as a teaching method, faculty ranked facilitating the active participation of all students in classroom discussion ( $M = 3.40$ ,  $SD = .719$ ) and facilitating active participation of all students in classroom discussion ( $M = 3.00$ ,  $SD = .797$ ) as highly used teaching methods. Also ranked highly, though less so, by the faculty were encouraging students to work individually on assignments ( $M = 2.63$ ,  $SD = .747$ ) and having students work in groups with peers on an assignment ( $M = 2.42$ ,  $SD = .722$ ). These results indicated that faculty have students work in groups in the classroom more often than they have them work individually.

In terms of expectations related to students' reading assignments, the results indicated that the faculty rate assigning reading assignments as a teaching method and expecting students to read the assignment prior to class ( $M = 3.33$ ,  $SD = .768$ ) more highly than expecting the students to wait and read assignments until after class has been held ( $M = 1.22$ ,  $SD = .471$ ).

Two questions on the survey asked faculty to rank how frequently they teach a web-based course with no classroom meetings ( $M = 1.62$ ,  $SD = .886$ ) and how frequently

they teach a combination of web-based study with some classroom meetings ( $M = 2.11$ ,  $SD = 1.027$ ). The results indicated that more faculty teach a combination of both web-based and classroom meetings; however, the standard deviation for the combination of web-based and classroom meetings was greater than 1.0 due to the wide disagreement among faculty participants in their use of this teaching method.

### **Descriptive Statistics for Questions 24–30 on the Faculty Survey**

Questions 24–30 asked faculty about the importance of specific aspects of the classroom environment including the importance of the following: knowing the students' names; having all papers and coursework count toward a grade; telling students why they need to learn each new concept; having students participate in group assignments with their peers during class time; telling students what they need to know; and emphasizing the grade each student receives is all that matters. Table 7 sets out the mean and standard deviations for questions 24 through 30 on the faculty survey.

Table 7. *Descriptive Statistics for Questions 24–30 on the Faculty Survey*

Question	N	Mean	Std. Deviation
Q24-It is important for me to know each of my students' names	45	3.73	.539
Q25-It is important to have all papers and course work count toward a grade	45	2.84	.998
Q26-It is important to discuss with my students why they need to learn each new concept	45	3.44	.659
Q27-It is important to have students participate in group assignments with their peers during class time	45	2.35	.802
Q28-I tell students what they need to know	45	2.68	.792



Q29-I emphasize learning just for learning's sake	45	2.51	1.014
Q30-I emphasize the grade each student receives is all that really matters	45	1.40	.750

The results found the majority of faculty ranked two questions as very important with a mean of greater than three. The two statements of most importance included: knowing each student's name ( $M = 3.73$ ,  $SD = .539$ ) and importance to discuss with students why they need to learn each new concept ( $M = 3.44$ ,  $SD = .659$ ). Three questions had means greater than 2.5, but less than 2.9, indicating the majority of faculty viewed them as important. The following included: importance to have all papers and course work count towards a grade ( $M = 2.84$ ,  $SD = .998$ ); telling students what they need to know ( $M = 2.68$ ,  $SD = .792$ ) and emphasizing learning just for learning sake ( $M = 2.51$ ,  $SD = 1.01^*$ ). The only question ranked as not important by a majority of faculty included emphasizing that the grade is all that really matters ( $M = 1.40$ ,  $SD = .760$ ).

### **Most Used Teaching Methods as Chosen by the Faculty**

The last section of the faculty survey asked faculty to mark the five teaching methods they used most in the classroom. Faculty were given the following teaching methods to choose from: Lecture, case studies, storytelling, hands-on activities, activities with technology, worksheets, handouts, visual aids, group activities, diagramming, games, group discussion. Teaching methods chosen by faculty on the faculty survey were coded as a "yes" and those not chosen were coded as a "no". All faculty participants responded by filling in the top five teaching methods they used most frequently; therefore, the results reflected all 45 faculty participants. Table 8 depicts the teaching methods faculty indicated using most frequently.

Table 8. *Most Used Teaching Methods Chosen by the Faculty*

Teaching method	f	%
Lecture	43	96.5
Story telling	37	82.2
Case studies	34	75.6
Visual aids	23	51.1
Handouts	21	46.7

The top teaching methods chosen by faculty included lecture, storytelling, case study, visual aids and handouts. The faculty surveyed indicated lecture was the most frequently used teaching method (n = 43, 95.6%). The second most used teaching method was storytelling (n = 37, 82.2%). Case studies (n = 34, 75.6%) was the third most used teaching method. Visual aids (n = 23, 51.1%) was the fourth most used teaching methods and handouts (n = 21, 46.7%) was the fifth most used teaching method.

#### **Least Used Teaching Methods as Chosen by Faculty**

Seven teaching methods were chosen by less than 50% of all faculty participants; indicating faculty do not use these teaching methods as frequently. Table 9 depicts the data for the least used teaching methods chosen by faculty.

Table 9. *Least Used Teaching Methods Chosen by the Faculty*

Teaching Method	f	%
Group discussion	18	40
Group activities	11	20.4
Hands-on activities	9	20
Diagramming	8	17.8
Internet	8	17.8
Worksheets	6	13.3
Games	4	8.9

The least used teaching methods included group discussion, hands-on activities, group activities, diagramming, activities with technology, worksheets and games. The results of the survey found eighteen faculty chose group discussion (40%) as a preferred teaching method. Nine faculty chose hands-on activities (20%) and eleven faculty chose group activities (24.4%). Diagramming (n = 8, 17.8%) and activities with technology (n = 8, 17.8%) were chosen equally. Other teaching methods not as frequently used by faculty included: Worksheets (n = 6, 13.3%) and games (n = 4, 8.9%).

### **Research Question #1**

Which teaching methods do students from each respective generation pursuing an associate degree in nursing prefer? To determine the answer to the first research question, an analysis of variance (ANOVA) was preformed. If a variable was found to have a statistically significant difference, Tukey HSD post hoc tests were run to determine where the differences were between the different generations of associate degree nursing students. The sample size of the student participants included representation from three of the four current generations: Veterans, Baby Boomers, Generation X and Generation Y. The majority of student were from Generation Y with a sample size of 156 (63.9%); Generation X with a sample size of 67(27.5%); and Baby Boomers with a sample size of 20 (8.2%). There were no student participants in the Veteran generation group so no data available for analyses.

The results of the survey found some distinct differences as well as a few similarities among the preferred teaching methods of the three generational groups. The first grouping identifies preferences for lecture in relation to skills and difficulty in

comprehending information. Table 10 depicts the differences in statistics among Baby Boomers, Generation X and Generation Y in the five teaching methods.

Table 10. *Differences between Generation X, Generation Y, and Baby Boomer Nursing Students: Preference for Lecture in Relation to Skills*

Cohort		Q1-prefer to lecture on unfamiliar subjects	Q2-prefer lecture on subject matter knowledge	Q4-do not need to practice skills after lecture	Q6-prefer lecture to group work	Q21-prefer lecture from the outline posted
Gen Y N=156	Mean	2.78	2.87	1.37	2.69	3.23
	SD	.932	.784	.604	.891	.930
Gen X N=67	Mean	3.16	2.92	1.55	2.94	3.17
	Sd	.863	.744	.764	.814	.919
Baby Boomer N=20	Mean	3.25	2.85	1.20	2.70	3.20
	SD	.786	.812	.410	.801	.767
Total N= 243	Mean	2.93	2.88	1.41	2.76	3.21
	SD	.920	.773	.645	.867	.912

The results of the survey data found Baby Boomer students had a higher preference for traditional lecture as a teaching method with a mean of 3.25 (SD = .786) than Generation X (M = 3.16, SD = .863) and Generation Y (M = 2.78, SD = .932). The application of skills in the classroom was another variable in the data analysis that revealed a slight difference among Baby Boomers, Generation X and Y students. The results of the study found Generation X had a slightly higher preference for the application of skills as a teaching method (M = 2.92, SD = .744) compared to Generation Y (M = 2.87, SD = .784) and Baby Boomers (M = 2.85, SD = .812) preference for lecture in relation to application of skills.

The data also found differences among the three generational groups of students related to preference for group work, within the confines of class time or outside of class time. This cluster of data included Questions 3, 5, 7, and 8. Table 11 depicts the differences in statistics for these group-related variables among Baby Boomers, Generation X and Y students.

Table 11. *Differences between Generation X, Generation Y and Baby Boomer Nursing Students: Group Work Preference*

Cohort		Q3-enjoy practicing skills learned	Q5-prefer group work to lecture	Q7-prefer group work outside class time	Q8- prefer group work inside class time
Gen Y N=156	Mean	3.67	2.14	1.98	2.47
	SD	.602	.946	.834	.845
Gen X N=67	Mean	3.68	1.98	1.94	2.53
	SD	.498	.748	.902	.858
Baby Boomer N=20	Mean	3.70	2.0	2.10	2.55
	SD	.732	.759	.967	.604
Total N=244	Mean	3.67	2.09	1.98	2.49
	SD	.585	.881	.862	.830

The preference for enjoying practicing skills or hands-on material that students have learned was only slightly higher for the Baby Boomers ( $m = 3.70$ ,  $SD = .732$ ) than for Generation Y ( $m = 3.673$ ,  $SD = .602$ ) and Generation X ( $m = 3.686$ ,  $SD = .498$ ). A similar question asked if students preferred group work to lecture; for this question, Generation Y's preference for group work ( $m = 2.141$ ,  $SD = .946$ ) was slightly higher than the Baby Boomers' ( $m = 2.05$ ,  $SD = .759$ ) and Generation X's ( $m = 1.985$ ,  $SD =$

.748) preference for this method. The data showed that Generation X had a lower preference for working in groups to listening to lecture. When asked whether they preferred working in groups work during class time versus outside of class time, students from the Baby Boomer generation indicated a higher preference for this teaching method with a mean of 2.55 (SD = .604) compared to Generation X (M = 2.53, SD = .858) and Generation Y (M = 2.47, SD = .845). It appears that the least-preferred teaching method in this survey was group work outside of the classroom: Generation Y (M = 2.14, SD = .946); Baby Boomers (M = 2.09, SD = .881), and Generation X (M = 1.98, SD = .748).

The differences in preferences for the ability to read complex material, comprehend the material, and self-directed learning, (6 items) were examined by Questions 9, 10, 11, 12, 13, and 29 are shown in Table 12.

Table 12. *Differences between Generation X, Generation Y, and the Baby Boomers Nursing Students' Ability to Read Complex Material, Comprehend the Material, and Self-Direct Learning*

Cohort		Q9- read new material and gain all that I need to know	Q10- read material and hear an expert share their story	Q11-self-directed learner and require little motivation to study	Q12-read well and comprehend material easily	Q13- struggle to read and comprehend material	Q29-like learning just for learning sake
Gen Y N=157	Mean	2.07	3.07	2.21	2.58	1.91	2.72
	SD	.749	.804	.917	.810	.790	.899
Gen X N= 67	Mean	2.23	3.14	2.55	2.71	1.94	2.91
	SD	.780	.783	.989	.831	.832	.668
Boomer N=20	Mean	2.00	3.25	2.90	2.70	1.90	3.50
	SD	.561	.716	.718	.656	.911	.688
Total	Mean	2.11	3.10	2.36	2.63	1.91	2.84

The item whereby students considered themselves as able to read new material and gain all they need to know resulted in Generation X ( $m = 2.238$ ,  $SD = .780$ ) coming in slightly higher than Generation Y ( $M = 2.07$ ,  $SD = .749$ ) and the Baby Boomers ( $m = 2.00$ ,  $SD = .561$ ). Baby Boomer students ( $M = 3.25$ ,  $SD = .716$ ) indicated a higher preference for their ability to read material and then hear an expert share their opinion on the subject matter than did students from Generation X ( $M = 3.14$ ,  $SD = .783$ ) and Generation Y ( $M = 3.07$ ,  $SD = .804$ ). Baby Boomers were the generation that reported needing little motivation to study, with its student members considering themselves to be self-directed learners ( $M = 2.900$ ,  $SD = .718$ ), which is higher than both Generation X ( $M = 2.55$ ,  $SD = .718$ ) and Generation Y ( $M = 2.21$ ,  $SD = .917$ ). All three groups gave similar responses when asked if they could read and understand the material easily: Generation X ( $M = 2.71$ ,  $SD = .831$ ); Baby Boomers ( $M = 2.700$ ,  $SD = .656$ ), and Generation Y ( $M = 2.58$ ,  $SD = .810$ ). When students were asked to respond to indicate if they struggled to read and comprehend the material, the results were as follows: Generation X ( $M = 1.94$ ,  $SD = .832$ ), Generation Y ( $M = 1.91$ ,  $SD = .790$ ), and Baby Boomers ( $M = 1.900$ ,  $SD = .911$ ). The Baby Boomer students ranked learning for the sake of learning higher than did Generation Y and Generation X students. The Baby Boomers had a mean of 3.50 ( $SD = .688$ ) compared with a mean of 2.91 ( $SD = .668$ ) for Generation X and a mean of 2.72 ( $SD = .899$ ) for Generation Y.

The data regarding the students' preference for case study, (3 items) Questions 14, 15, and 23, showed some differences among the three different generations. The

differences in statistics for case study preferences as a preferred teaching method for these generations are depicted in Table 13.

Table 13. *Differences between Generation X, Generation Y, and the Baby Boomer Nursing Students: Case Study Preferences*

Cohort		Q14-prefer a case study in order to learn	Q15-learn from case studies	Q23-prefer to have lecture with other teaching strategies, ie. group work or case study
Gen Y N=157	Mean	2.14	2.12	3.28
	SD	.716	.896	.842
Gen X N=67	Mean	2.17	2.07	3.23
	SD	.777	.892	.889
Baby Boomer N=20	Mean	2.25	2.15	3.20
	SD	.716	.875	.615
Total N=244	Mean	2.16	2.11	3.26
	SD	.731	.890	.837

Using case studies in order to learn was slightly more preferred by Baby Boomers students with a mean of 2.25 SD = .731 than by Generation X students who had a mean of 2.17 (SD = .777) and Generation Y students who had a mean of 2.14 (SD = .716). Baby Boomer students indicated a higher preference for the use of case studies in order to learn with a mean of 2.15 (SD = .875) compared to Generation Y (M = 2.14, SD = .896) and Generation X (M = 2.17, SD = .892). The data regarding the students' preference for the lecture used with other teaching strategies, showed that Generation Y had only a slightly higher preference for this method with a mean of 3.288 (SD = .842) than did Generation X (M = 3.23, SD = .889) and the Baby Boomers (M = 3.20, SD = .615).



Generation X, Generation Y, and the Baby Boomers all indicated a low preference for a totally web-based course of study without class meetings. The group statistics for preference for web-based learning in totality or enhanced only (3 items: Questions 16, 17, 18) are shown in Table 14.

Table 14. *Differences between Generation X, Generation Y, and the Baby Boomer Nursing Students: Web-Based Learning*

Cohort		Q16-prefer a totally web-based course of study without class meetings	Q17-need to have classroom interaction with peers and faculty	Q18-prefer a combination of web-based study along with classroom study
Gen Y N=157	Mean	1.46	3.16	2.31
	SD	.675	.801	.77
Gen X N=67	Mean	1.77	2.91	2.53
	SD	.813	.829	.893
Baby Boomer N=20	Mean	1.31	3.25	2.40
	SD	.477	.716	.680
Total N=244	Mean	1.53	3.10	2.38
	SD	.717	.809	.806

The means for Generation Y, Generation X, and the Baby Boomers showed that all three generations had a low preference for a totally web-based course of study with no classroom meetings. The data showed that the Baby Boomers had a mean of 1.31 (SD = .717) whereas Generation X had a mean of 1.77 (SD = .8130) and Generation Y had a mean of 1.46 (SD = .675). The results were slightly different for the combination of web-based study with classroom study as a teaching method. A combination course was

preferred overall by each of the three generations. However, Generation X had a slightly higher preference for a combination web-based study and classroom study with a mean of 2.53 (SD = .893) as compared to the Baby Boomers with a mean of 2.400 (SD = .680) and Generation Y with a mean of 2.31 (SD = .777). The most preferred teaching method within this grouping of items was classroom interaction with peers and faculty. Having classroom interaction with their peers and faculty was most highly preferred by the Baby Boomers with a mean of 3.25 (SD = .716) as compared to Generation Y (M =3.16, SD = .801) and Generation X (M =2.91, SD = .829).

Questions 19, 20, 22, 25, and 28 asked students about their classroom structure preferences with reference to faculty knowing the students' names, trusting faculty, handouts, overheads and audio-visuals. The preferred teaching methods were learning from hearing stories about actual events, using handouts used to help them follow a lecture, the importance of faculty learning the students' names, having a great deal of classroom structure and guidance from faculty, and trusting that the faculty will tell the students what they need to know. The results for each question are shown in Table 15.

Table 15. *Differences between Generation X, Generation Y, and the Baby Boomers: Classroom Structure*

Cohort		Q19-learn from hearing stories of actual events from faculty	Q20-prefer handouts to follow along with the lecture	Q22-important for faculty to learn my name	Q25-classroom structure and guidance from faculty	Q28-trust faculty to tell me what I need to know
Gen Y	Mean	3.36	3.62	3.25	3.38	3.40
N= 157	SD	.719	.674	.914	.647	.698

Gen X	Mean	3.31	3.65	2.86	3.05	3.19
N=67	SD	.678	.591	.990	.756	.679
BabyBoomer	Mean	3.10	3.60	2.90	3.15	3.30
N=20	SD	.640	.502	.967	.745	.732
Total	Mean	3.32	3.63	3.11	3.27	3.33
N=244	SD	.703	.637	.954	.699	.699

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Learning from stories of actual events from faculty was more highly preferred by Generation Y students with a mean of 3.36 (SD = .747) as compared to Generation X (M =3.31, SD = .678) and the Baby Boomers (M =3.10, SD = .640). The next most preferred teaching method within this grouping was the preference for using handouts to follow along with lecture. Generation X showed only a slightly higher preference for this method with a mean of 3.65 (SD = .591) as compared to Generation Y with a mean of 3.62 (SD = .674) and the Baby Boomers with a mean of 3.60 (SD = .502). The importance of the faculty learning the students' names was ranked as more important by Generation Y students with a mean of 3.25 (SD = .914) than students in Generation X with a mean of 2.86 (SD = .990) and the Baby Boomers with a mean of 2.90 (SD = .967). Having a great deal of classroom structure and guidance from faculty was more highly preferred by Generation Y with a mean of 3.38 (SD = .647) than by Generation X with a mean of 3.05 (SD = .756) and the Baby Boomers with a mean of 3.15 (SD = .745). Generation X and Y students expect the faculty to tell them what they need to know. However, students from Generation Y had a higher mean of 3.40 (SD = .698) than did Generation X with a mean of 3.19 (SD = .679) and the Baby Boomers with a mean of 3.30 (SD = .732) for this particular question.

The results from questions 24, 26, 27, and 30 analyze the students' motivation for learning in terms of knowing the outcome of learning and the importance of the grade also found generational differences. The questions were as follows: importance of having a grade attached to papers, case studies and other outside work, importance of knowing the bottom-line or end result, importance of knowing why I am learning the material, and the grade I receive is all that really matters. The results for each question are shown in Table 16.

Table 16. *Differences between Generation X, Generation Y, and the Baby Boomers: Motivations for Learning*

Cohort		Q24- important to have a grade attached to papers, case studies, and other outside work	Q26- important to know the bottom-line or end-result before I learn	Q27- important to know why I am learning material	Q30-grade I receive is all that really matters
Gen Y N=157	Mean	3.34	3.03	3.55	2.11
	SD	.733	.856	.603	.908
Gen X N=67	Mean	3.14	2.76	3.23	1.80
	SD	.821	.799	.740	.783
Baby Boomer N=20	Mean	3.15	2.95	3.15	1.65
	SD	.875	.825	.812	.812
Total N=244	Mean	3.27	2.95	3.43	1.99
	SD	.772	.844	.679	.881

Having all papers, case studies, and other outside work count toward a grade was also ranked higher by Generation Y students, for whom the mean was 3.34 (SD = .733);

however, the mean was only slightly higher than that for Generation X ( $M = 3.14$ ,  $SD = .733$ ) and the Baby Boomers ( $M = 3.15$ ,  $SD = .875$ ). There was a larger difference in the means among the three generations in regard to how students ranked the importance of knowing the bottom line or the end result before they learn. Generation Y ranked this type of classroom management and teaching method as more important with a mean of 3.03 ( $SD = .856$ ) than did Generation X with a mean of 2.76 ( $SD = .799$ ) and the Baby Boomers with a mean of 2.95 ( $SD = .825$ ). Understanding the importance of knowing why the material is being learned was ranked higher by Generation Y with a mean of 3.55 ( $SD = .63$ ) than by Generation X students, who had a mean of 3.23 ( $SD = .74$ ) and the Baby Boomers, who had a mean of 3.15 ( $SD = .812$ ). Generation Y students had a higher preference for the idea that the grade received is all that really matters with a mean of 2.11 ( $SD = .908$ ) as compared to Generation X with a mean of 1.80 ( $SD = .783$ ) and the Baby Boomers with a mean of 1.65 ( $SD = .812$ ).

### **Analysis of Variance Results**

One-way ANOVA was used to determine statistically significant findings among Generation Y, Generation X, and the Baby Boomers in regard to their preferred teaching methods. The statistical significance of each item of the survey is shown in Table 17. The eight items found to be statistically significant at a p value of  $< .05$  are identified by an asterisk in Table 17. If a variable was found to be statistically significantly different among the generations, a Tukey HSD post hoc test was run in order to determine exactly where the difference between the generations lay. The F value, degree of freedom, and error, and significance for each question is outlined in Table 17.

Table 17. *Analysis of Variance Between Generation Y, Generation X and Baby Boomers*

		Sum of Squares	df	Mean Square	F	Sig.
Q1-prefer to lecture on unfamiliar subjects	Between Groups	9.13	2	4.56	5.60	.004*
	Within Groups	195.53	240	.81		
	Total	204.66	242			
Q2-lecture on subject matter that I already have some knowledge about	Between Groups	.16	2	.08	.13	.875
	Within Groups	144.61	240	.60		
	Total	144.77	242			
Q3-enjoy practicing skills or hands on material that I have learned	Between Groups	.01	2	.00	.02	.974
	Within Groups	82.94	240	.34		
	Total	82.96	242			
Q4-do not need to practice skills that I have learned about in lecture	Between Groups	2.39	2	1.19	2.91	.056
	Within Groups	98.45	240	.41		
	Total	100.84	242			
Q5-prefer group work to lecture	Between Groups	1.17	2	.58	.75	.471
	Within Groups	186.83	240	.77		
	Total	188.00	242			
Q6-prefer lecture to group work	Between Groups	2.96	2	1.48	1.98	.140
	Within Groups	179.19	240	.74		
	Total	182.15	242			
Q7-important to me to perform group assignments outside of class time	Between Groups	.39	2	.19	.26	.766
	Within Groups	179.53	240	.74		
	Total	179.93	242			
Q8-important to me to perform group work inside of class time	Between Groups	.24	2	.12	.17	.838
	Within Groups	166.50	240	.69		
	Total	166.74	242			
Q9-able to read new material and gain all that I need to know	Between Groups	1.51	2	.75	1.36	.257
	Within Groups	133.25	240	.55		
	Total	134.77	242			
Q10-able to read material and then prefer to hear an expert share their opinion or experience on the subject	Between Groups	.73	2	.36	.58	.557
	Within Groups	150.48	240	.62		
	Total	151.21	242			
Q11-self-directed learner and require little motivation to study	Between Groups	11.44	2	5.72	6.70	.001*
	Within Groups	204.95	240	.85		
	Total	216.40	242			
Q12-read well and	Between Groups	.84	2	.42	.65	.521

comprehend material easily	Within Groups	155.55	240	.64		
	Total	156.40	242			
Q13-struggle to read and comprehend material	Between Groups	.04	2	.02	.03	.963
	Within Groups	158.30	240	.66		
	Total	158.35	242			
Q14-prefer a case study in order to learn	Between Groups	.20	2	.10	.19	.826
	Within Groups	129.21	240	.53		
	Total	129.41	242			
Q15-learn from case studies	Between Groups	.13	2	.06	.08	.918
	Within Groups	191.86	240	.79		
	Total	192.00	242			
Q16-prefer a totally web-based course of study without class meetings	Between Groups	5.64	2	2.82	5.69	.004*
	Within Groups	118.51	239	.49		
	Total	124.16	241			
Q17-need to have classroom interaction with peers and faculty	Between Groups	3.54	2	1.77	2.74	.066
	Within Groups	154.87	240	.64		
	Total	158.42	242			
Q18-prefer a combination of web-based study along with classroom study	Between Groups	2.34	2	1.17	1.81	.166
	Within Groups	155.06	240	.64		
	Total	157.40	242			
Q19-learn from hearing stories of actual events from faculty	Between Groups	1.27	2	.63	1.28	.277
	Within Groups	118.39	240	.49		
	Total	119.66	242			
Q20-prefer handouts to follow along with the lecture	Between Groups	.06	2	.03	.07	.926
	Within Groups	98.34	240	.41		
	Total	98.40	242			
Q21-prefer faculty lecture from the outline posted on the overhead or visual screen	Between Groups	.16	2	.08	.09	.906
	Within Groups	201.27	240	.83		
	Total	201.44	242			
Q22-important for faculty to learn my name	Between Groups	8.20	2	4.10	4.64	.011*
	Within Groups	211.31	239	.88		
	Total	219.52	241			
Q23-prefer to have lecture along with other teaching strategies, such as group work, or case study	Between Groups	.21	2	.10	.15	.859
	Within Groups	169.39	240	.70		
	Total	169.61	242			
Q24-important to have a	Between Groups	2.06	2	1.03	1.73	.178

grade attached to papers, case studies, and other outside work	Within Groups	141.93	239	.59		
	Total	144.00	241			
Q25- have a great deal of classroom structure and guidance from faculty	Between Groups	5.29	2	2.64	5.60	.004*
	Within Groups	113.23	240	.47		
	Total	118.52	242			
Q26-important to know the bottom-line or end-result before I learn	Between Groups	3.60	2	1.80	2.56	.079
	Within Groups	168.89	240	.70		
	Total	172.50	242			
Q27-important to know why I am learning material	Between Groups	6.55	2	3.27	7.47	.001*
	Within Groups	105.21	240	.43		
	Total	111.76	242			
Q28-trust faculty to tell me what I need to know	Between Groups	2.01	2	1.00	2.07	.128
	Within Groups	115.87	239	.48		
	Total	117.88	241			
Q29-like learning just for learning sake	Between Groups	10.95	2	5.4	8.02	.001*
	Within Groups	163.08	239	.68		
	Total	174.03	241			
Q30-grade I receive is all that really matters	Between Groups	7.03	2	3.51	4.66	.010*
	Within Groups	180.95	240	.75		
	Total	187.98	242			

*Note: \* Indicates a statistically significant value*

The following sections discuss each of the eight questions for which the responses showed significant differences together with the corresponding ANOVA results.

### **Lecture**

The first statistically significant finding was in students' preference for lecture, which was found to be statistically significant at  $p = .004$ . The results of the survey data found that the Baby Boomer students had a higher preference for traditional lecture as a teaching method with a mean of 3.25 ( $SD = .786$ ) than Generation X ( $M = 3.16$ ,  $SD = .863$ ) and Generation Y ( $M = 2.78$ ,  $SD = .932$ ). The difference among the generations may be because of Baby Boomers' preference for traditional/structured teaching



methods. The review of the literature suggested that Generation Y and Generation X students prefer active learning strategies such as simulations with peer collaboration (Carlson, 2005; Johnson & Romanello, 2005).

The analysis of the students' preference for the traditional lecture format found a significant difference between the generations. The F-test value for the lecture as a preferred teaching method was  $F(2, 240) = 5.60$ , which was found to be statistically significant at  $p = .004$ . As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the difference in generations of students occurred. Table 18 depicts the results of the post hoc tests. The Tukey post hoc test found that Generation Y had a statistically significant difference with the Generation X at  $p = .011$  and that no other pairs differed significantly.

Table 18. *Tukey HSD Post Hoc Test: Preference for Lecture*

Generation	Comparison Generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	-.382*	.132	.011*
	Baby Boomer	-.468	.214	.076
Generation X (30–46)	Gen Y	.382*	.132	.011*
	Baby Boomer	-.086	.230	.926
Baby Boomer (47–64)	Gen Y	.468	.214	.076
	Gen X	.086	.230	.926

### **Self-Directed Learner**

The second statistically significant finding was in regard to students who considered themselves to be self-directed learners requiring little motivation to study:  $F(2,240) = 6.70$  was found to be statistically significant at  $p = .001$ . The survey data showed

that the Baby Boomers reported needing little motivation to study and considered themselves self-directed learners ( $M = 2.90$ ,  $SD = .718$ ) to a greater extent than did Generation X ( $M = 2.55$ ,  $SD = .718$ ) and Generation Y ( $M = 2.21$ ,  $SD = .917$ ).

The analysis of the students' preference for the importance of being a self-directed learner and required little motivation to study showed a significant difference among the different generations. Tukey HSD post hoc tests were calculated to determine where the difference in generations of students occurred. Table 19 shows the results of the post hoc test for the application of skills. Tukey post-hoc comparisons of the three generational groups indicated Generation X and Generation Y are significantly different at the .037 level. No other comparisons were significant.

Table 19. *Tukey HSD Post Hoc Test-Preference for Self-Directed Learner*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	-.334	.134	.037*
	Baby Boomer	-.682	.219	.006
Generation X (30–46)	Gen Y	.334	.134	.037*
	Baby Boomer	-.347	.235	.304
Baby Boomer (47–64)	Gen Y	.682	.219	.006
	Gen X	.347	.235	.304

### **Web-Based Learning with No Classroom Meetings**

The third statistically significant finding among the three generations was the preference for a totally web-based course of study without class meeting with an F (2,240) 5.696,  $p = .004$ . The means for Generation Y, Generation X, and the Baby Boomers found that all three generations had a low preference for totally web-based

courses of study with no classroom meetings. The Baby Boomers had a mean of 1.31 (SD = .717) whereas Generation X had a mean of 1.77 (SD = .813), and Generation Y had a mean of 1.46 (SD = .675). Table 20 shows the results of the post hoc test for web-based learning with no classroom meetings. Tukey HSD tests showed there are significant differences between Generation X and Generation Y at the .007 level and between Baby Boomers and Generation X at the .033 level.

Table 20. *Tukey HSD Post Hoc Test Preference for Web-Based Course with No Class Meetings*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	-.314	.102	.007*
	Baby Boomer	.145	.171	.671
Generation X (30–46)	Gen Y	.314	.102	.007*
	Baby Boomer	-.460	.183	.033*
Baby Boomer (47–64)	Gen Y	-.145	.183	.671
	Gen X	-.460	.183	.033*

### **Faculty Knows My Name**

The fourth statistically significant finding in preferred teaching methods among the three generations was the importance for faculty to learn my name  $F = (2, 240) p = .011$ . The importance of the faculty learning my name was ranked as more important by students in Generation Y with a mean of 3.25 (SD = .914) than students in Generation X with a mean of 2.86 (SD = .990) and Baby Boomer Generation with a mean of 2.90 (SD = .967). Table 21 shows the results of the post hoc test for the importance of knowing students names. The Tukey HSD post hoc test found a significant difference between Generation Y and the Generation X at the  $p = .013$  level. An examination of the mean

scores determined that Generation Y had a higher preference for professor knowing the students' names than did either the Baby Boomers or Generation X.

Table 21. *Tukey HSD Post Hoc Test Preference for Important for Faculty to Know My Name*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	.392	.138	.013*
	Baby Boomer	.356	.223	.249
Generation X (30–46)	Gen Y	-.392	.138	.013*
	Baby Boomer	-.036	.240	.987
Baby Boomer (47–64)	Gen Y	-.356	.223	.249
	Gen X	.036	.240	.987

### Classroom Structure

The fifth statistically significant finding was the preference for a great deal of classroom structure and guidance from faculty  $F = (2,240)5.60, p = .004$ . Having a great deal of classroom structure and guidance from faculty was more highly preferred by Generation Y with a mean of 3.38 ( $SD = .647$ ) as compared to Generation X with a mean of 3.05 ( $SD = .756$ ) and the Baby Boomers with a mean of 3.15 ( $SD = .745$ ). Table 23 shows the results of the post hoc test for the classroom structure and guidance from faculty. The Tukey HSD post hoc test found a significant difference between Generation X and the Generation Y at the  $p = .004$  level.

Table 22. *Tukey HSD Post Hoc Test Preference for Classroom Structure*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	.324	.100	.004*
	Baby Boomer	.234	.163	.323

Generation X (30–46)	Gen Y	-.324	.100	.004*
	Baby Boomer	-.090	.175	.864
Baby Boomer (47–64)	Gen Y	-.234	.163	.323
	Gen X	.090	.175	.864

### **Know Why I am Learning the Material**

The sixth statistically significant finding was the importance of knowing why I am learning material with  $F(2,240) = 7.47, p = .001$ . Understanding the importance of knowing why the material is being learned was ranked higher by Generation Y with a mean of 3.55 ( $SD = .63$ ) than by Generation X students with a mean of 3.23 ( $SD = .74$ ) and the Baby Boomers with a mean of 3.15 ( $SD = .812$ ). Table 23 shows the results of the post hoc test for knowing why I am learning. The significant differences were between generation Y and Generation X (.003) and between Generation Y and Baby Boomers (.027).

Table 23. *Tukey HSD Post Hoc Test Preference for Knowing Why I Am Learning*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	.318	.097	.003*
	Baby Boomer	.407	.157	.027*
Generation X (30–46)	Gen Y	-.318	.096	.003*
	Baby Boomer	.088	.168	.858
Baby Boomer (47–64)	Gen Y	-.407	.157	.027*
	Gen X	-.088	.168	.858

### Learning for Learning Sake

The seventh statistically significant finding was found in the teaching method preferred by the Baby Boomers students who ranked learning just for the sake of learning higher than Generation Y and X students with a mean of 3.50 (SD = .688) for Baby Boomers compared to a mean of 2.91 (SD = .668) for Generation X and a mean of 2.72 (SD = .899) for Generation Y. There was a significant effect for this preferred teaching method at the  $p < .05$  level for the three generations  $F = (2,240) 8.02$ ,  $p = .00$ . Table 24 shows the results of the post hoc test for learning for the sake of learning. Generation Y differed from Baby Boomers at the  $< .001$  level.

Table 24. *Tukey HSD Post Hoc Test-Preference for Learning for Learning's Sake*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	-.181	.120	.292
	Baby Boomer	-.770	.196	.001*
Generation X (30–46)	Gen Y	.181	.120	.292
	Baby Boomer	-.589	.210	.015*
Baby Boomer (47–64)	Gen Y	.770	.196	.001*
	Gen X	.589	.210	.150

### Grade is all That Matters

The final statistically significant finding in preferred teaching methods among the three generations was the importance of the grade received is all that really matters  $F = (2,240) 4.66$ ,  $p = .01$ . Generation Y students had a higher preference for thinking that the grade received is all that really matters with a mean of 2.11 (SD = .908) as compared to Generation X with a mean of 1.80 (SD = .783) and the Baby Boomers with a mean of

1.65 (SD = .812). Table 25 shows the results of the post hoc test for the grade is all that really matters. Generation X and Generation Y differed at the  $p=.041$  level. No other comparisons were significant.

Table 25. *Tukey HSD Post Hoc Test Preference for Grade is All That Really Matters*

Generation	Comparison generation	Mean difference	SE	P
Generation Y (18–30)	Gen X	.309	.126	.041*
	Baby Boomer	.465	.206	.064
Generation X (30–46)	Gen Y	-.309	.126	.041*
	Baby Boomer	.155	.221	.761
Baby Boomer (47–64)	Gen Y	-.465	.206	.064
	Gen X	-.155	.221	.761

## Research Question # 2

Which teaching methods do educators in an associate degree nursing program use most? To determine the answer to research question 2, descriptive statistics from items 1–30 on the faculty survey and the percentages of the faculty’s choices for teaching methods were analyzed. Table 26 and Table 27 show the means and standard deviations for items 1–30 on the faculty survey.

Table 26. *Descriptive Statistics of Faculty Preferred Teaching Methods 1-23*

Question	N	Mean	Std. deviation
Q1-I lecture (speak) on topics while my students listen, take notes, and answer questions	45	3.22	.765
Q2-Students apply skills in the classroom that were covered in the reading assignment	45	3.00	.603
Q3-Students work in groups with peers on an assignment	45	2.42	.722

Question	N	Mean	Std. deviation
Q4-I use case studies to help students apply new concepts learned	45	2.84	.705
Q5-I use visual aids when teaching new concepts	45	3.40	.653
Q6-I have students work individually on an assignment	45	2.62	.747
Q7-I encourage all students to participate in class discussions	45	3.57	.722
Q8-I draw on the board to help students visualize new concepts	45	2.44	.893
Q9-I teach a web-based course of study without class meetings	45	1.62	.886
Q10-I tell personal stories of my experience on the topic I am teaching	45	3.22	.794
Q11-I have students complete an assignment over the reading prior to class	45	2.44	.893
Q12- I provide handouts for students to take notes on while listening to me lecture	45	3.35	.933
Q13-I encourage classroom interaction among students and myself as the professor	45	3.51	.786
Q14-I use a combination of web-based study and classroom study	45	2.11	1.027
Q15-I expect students to read the assignment prior to coming to class where I discuss key points and share my experience on a topic	45	3.33	.768
Q16-I provide activities that involve the use of technology during class to teach new concepts	45	2.82	.805
Q17-I spend more time lecturing than having students work in groups with their peers	45	3.00	.797



Question	N	Mean	Std. deviation
Q18-I facilitate active participation of all students in classroom discussion	45	3.40	.719
Q19-games to teach and/or review new material	45	2.15	.737
Q20-I expect students to wait and read the assignment until after class has been held	45	1.22	.471
Q21-I provide a lot of classroom structure and guidance for students	45	3.00	.768
Q22-ect students to take their own notes during class versus providing handouts	45	2.20	1.05
Q23-I use a variety of teaching methods in the classroom	45	2.95	.796

*Table 27. Descriptive Statistics of Faculty Preferred Teaching Methods 24-30*

Question	N	Mean	Std. deviation
Q24-It is important for me to know each of my students' names	45	3.73	.539
Q25-It is important to have all papers and course work count toward a grade	45	2.84	.998
Q26-It is important to discuss with my students why they need to learn each new concept	45	3.44	.659
Q27-It is important to have students participate in group assignments with their peers during class time	45	2.35	.802
Q28-I tell students what they need to know	45	2.68	.792
Q29-I emphasize learning just for learning sake	45	2.51	1.014
Q30-I emphasize the grade each student receives is all that really matters	45	1.40	.750

The results of the analysis for questions 1–23 on the faculty survey found that the teaching method with the highest mean was for encouraging students to participate in group discussion ( $M = 3.57$ ,  $SD = .722$ ). The responses to items 1–23 indicated that the faculty used this teaching method more frequently than any other teaching methods. Similarly, the second highest mean was for encouraging classroom interaction between the students and the professor ( $M = 3.51$ ,  $SD = .786$ ).

For items 1–23 on the survey, the results showed that the faculty’s least used teaching method was having students wait to read the assignment until after class with a mean of 1.22 ( $SD = .977$ ). All the other results for items 1–23 are shown in Table 29. The analysis of questions 24–30 on the faculty survey showed that the faculty rated knowing each student’s name ( $M = 3.73$ ,  $SD = .539$ ) as being the most important item. The least important item for faculty was emphasizing to each student that the grade is all that really matters ( $M = 1.4$ ,  $SD = .750$ ). The rest of the questions in this section of the survey (24–30), as shown in Table 30, received nearly equal ranking from the faculty as to their level of importance, all having means greater than 2.51.

In order to further analyze research question 2, data from the faculty’s choice for the five most used teaching methods were reviewed. The percentages of the teaching methods that the faculty reported using were all examined. The results, including the number of faculty who chose each teaching method and the related percentages, are shown in Table 28.

Table 28. *Reported Use of Teaching Methods by Faculty*

Choices	N	%
Lecture	43	96.5
Case study	34	75.6

Story telling	37	82.2
Hands-on activities	9	20
Internet	8	17.8
Worksheets	6	13.3
Handouts	21	46.7
Visual aids	23	51.1
Group activities	11	24.4
Diagramming	8	17.8
Games	4	8.9
Group discussion	18	40

The data showed that the majority of the faculty used four teaching methods (> 50%): lecture with n = 43, (96.5%); case studies with n = 34, (75.6%); and storytelling with n = 37, (82.2%); and visual aids. Table 29 shows the four teaching methods used.

Table 29. *Most Used Teaching Methods Chosen by Faculty*

Teaching method	f	%
Lecture	43	96.5
Story telling	37	82.2
Case study	34	75.6
Visual aids	23	51.1

The results showed that eight teaching methods were used by less than 50% of the faculty: hands-on activities, internet activities, worksheets, handouts, group activities, diagramming, games, and group discussion. These teaching methods are shown in Table 30.

Table 30. *Least Used Teaching Methods Chosen by Faculty*

Teaching method	f	%
Games	4	8.9
Worksheets	6	13.3
Internet	8	17.8
Diagramming	8	17.8
Hands-on activities	9	20.0
Group activities	11	24.4
Group discussion	18	40.0
Handouts	21	46.7

### **Research Question # 2 Summary**

The results of the data analysis for question number three found faculty indicated group discussion ( $M=3.57$ ,  $SD=.722$ ) as being the most preferred teaching method in the classroom. Furthermore, faculty choice for the most used teaching method was lecture  $n=43$  (96.5%). Lecture and group discussion were both found in the data analysis as being used in the classroom by faculty more frequently than other teaching methods. However, the results of the data analysis as well as the findings in the review of literature strongly support the use of a variety of teaching methods in the classroom.

### **Research Question #3**

How, if at all, are the teaching methods used by nursing faculty consistent with the preferred teaching methods of associate degree nursing students? To analyze research question 3, the descriptive statistics for item 1–30 as well as the top five teaching methods on the faculty survey were compared with the student responses for each of these items. Table 31 shows the comparison of the means and the standard deviations for items 1–30 on the faculty and student surveys.

Table 31. *Comparison of Means and Standard Deviations for Faculty and Student Data for Questions 1–30*

Questions 1–30	Faculty use M(SD)	Student use M(SD)
Q1 – lecture	3.22(.765)	2.93(.920)
Q2 – apply skills in classroom	3.0(.603)	2.88(.773)
Q3 – work in groups	2.42(.722)	3.67(.594)
Q4 – case studies	2.84(.705)	2.16(.729)
Q5 – visual aids	3.4(.653)	3.217(910)
Q6 – work individually	2.62(.747)	2.766(.869)
Q7 – class participation	3.57(.722)	1.98(.860)
Q8 – board work	2.44(.893)	1.98(.860)
Q9 – web-based only	1.62(.886)	1.53(.717)
Q10 – story telling	3.22(.794)	3.10(.788)
Q11 – assignments prior to class time	2.44(.893)	2.36(.943)
Q12 – handouts	3.35(.933)	3.63(.636)
Q13 – classroom interaction	3.51(.786)	3.10(.807)
Q14 – web-based study and classroom study	2.11(1.027)	2.38(.805)
Q15 – read assignment prior to class	3.33(.768)	2.11(.744)
Q16 – technology during class	2.82(.805)	3.26(.839)

Q17 – more lecture than group work	3.00(.797)	3.21(.910)
Q18 – active participation	3.4(.719)	1.40(.644)
Q19 – games	2.15(.737)	3.26(.839)
Q20 – read assignment after class	1.22(.471)	2.63(.802)
Q21 – classroom structure and guidance	3.0(.768)	3.21(.910)
Q22 – own notes vs. handouts	2.2(1.057)	3.63(.636)
Q23 – teaching method variety	2.95(.796)	3.26(.839)
Q24 – know our names	3.73(.539)	3.26(.775)
Q25 – all work counts toward a grade	2.84(.998)	3.27(.698)
Q26 – know why they need to learn	3.44(.659)	3.33(.698)
Q27 – group assignments during class time	2.35(.802)	2.49(.883)
Q28 – tell what is needed to know	2.68(.792)	3.33(.698)
Q29 – learning for learning's sake	2.51(1.014)	2.83(.849)
Q30 – grade is all that really matters	1.4(.750)	1.98(.881)

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The comparison of the data showed that students had a higher mean preference for 14 of the 30 items (methods) on the survey than the mean of the faculty's use of those

methods. The 14 teaching methods were as follows: work in groups, work individually, handouts, web-based study with classroom meetings, technology, more lecture than group work, games, read assignments after class, classroom structure and guidance, taking own notes, teaching variety, all work counts for a grade, telling what is needed to know, learning for learning's sake, and grade is all that matters. The remaining teaching methods were found to have a higher mean for faculty: lecture, applying skills, case studies, visual aids, class participation, board work, web-based only, storytelling, assignments prior to class, classroom interaction, read assignments prior to class, active participation, knowing the names of students, and group assignments during class time.

### **Lecture**

Faculty had a high preference for the lecture with a mean of 3.22 ( $SD = .765$ ). A total of 40 faculty indicated that they either always ( $n = 17, 37.8\%$ ) or frequently ( $n = 23, 51.1\%$ ) preferred to use lecture as a teaching method. Even though the student mean was lower ( $M = 2.93, SD = .920$ ) for this teaching method, the majority of students ( $n = 79, 32.4\%$ ) indicated that they always preferred lectures and 85 (34.8%) indicated frequently preferring the lecture method. The results, therefore, showed that faculty members prefer using lecture in the classroom setting and students prefer the use of lecture as a teaching method.

### **Apply Skills**

The preference for applying skills in the classroom from the reading assignment ranked higher for faculty with a mean of 3.0 ( $SD = .603$ ) than for students with a mean of 2.88 ( $SD = .773$ ). For this teaching method, 29 faculty (64.4%) indicated frequently using the category apply skills as a teaching method with eight (17.8%) always using this

teaching method. In comparison, students indicated preferring this teaching method in the classroom with a mean of 2.88 ( $SD = .773$ ) Overall, 104 (42%) students responded that they frequently preferred applying skills in the classroom, and 57 (23.4%) responded that they always preferred to do so. Therefore, the results indicated that the majority of faculty are using this method to an extent that is quite closely matched to student preference.

### **Work in Groups**

Having the students work in groups was ranked by the majority of faculty as a teaching method that they used occasionally ( $n = 23$ , 51.1%) or frequently ( $n = 16$ , 35.6%) in the classroom setting with a mean of 2.42( $SD = .722$ ). Overall, students had a higher mean for working in groups ( $M = 3.67$ ,  $SD = .594$ ) as compared to faculty use of this teaching method. The majority of students reported that they occasionally ( $n = 110$ , 45.1%) or frequently ( $n = 49$ , 20.1%) preferred to work in groups with their peers on an assignment. Thus, the data indicated that the faculty surveyed indicated using this teaching method less than the students would prefer.

### **Case Studies**

Case studies were found to be used on a frequent ( $n = 22$ , 48.9%) or occasional ( $n = 17$ , 33.3%) basis by the majority of faculty with a mean of 2.84 ( $SD = .705$ ). Students showed a similar preference in ranking this teaching method, although their mean was 2.16 ( $SD = .729$ ). The majority of students indicated an occasional ( $n = 126$ , 51.6%) or frequent ( $n = 70$ , 28.7%) preference for using a case study to apply new concepts. Therefore, the results showed that faculty members are using this teaching method to a slightly greater extent than the students would prefer.



## **Visual Aids**

The use of visual aids was preferred by students with a mean of 3.21 ( $SD = .910$ ). A total of 120 (49.2%) students indicated always preferring visual aids, whereas 70 (28.7%) indicated frequently preferring it. Although the mean for faculty use was much higher ( $M = 3.40$ ,  $SD = .653$ ) than the mean for students, the results showed that the majority of the faculty surveyed indicated frequently or always using visual aids when teaching in the classroom. A total of 19 faculty (42.2%) indicated that they frequently used visual aids, and 22 (42.2%) indicated that they always did so. Four (8.9%) faculty reported that they did not use visual aids at all. The results of the data analysis indicated that the faculty strongly preferred the use of visual aids in the classroom whereas the students reported a lower preference.

## **Individual Work**

The results showed that students' preference for working individually on an assignment and faculty use of this teaching method were similar. The faculty mean was 2.62 ( $SD = .747$ ), and the student mean was 2.76 ( $SD = .869$ ). The majority of students preferred to work individually on an assignment either occasionally ( $n = 91$ , 37.3%) or frequently ( $n = 73$ , 29.9%). The majority of the faculty indicated that they instructed their students to work individually either occasionally ( $n = 21$ , 46.7%) or frequently ( $n = 17$ , 37.8%). The results of the data analysis showed that the faculty surveyed indicated using this teaching method slightly less than the students would prefer.

## **Class Participation**

Overall, students ranked their preference for listening versus participating during class discussions as lower with a mean of 1.98 ( $SD = .860$ ) than did the faculty with a

mean of 3.57 ( $SD = .722$ ). One hundred and ten (45.1%) students indicated occasionally preferring to participate in class discussion while 84 students (34.4%) indicated that they always preferred this teaching method. In comparison, the faculty reported using this teaching method to a greater extent than the students would prefer given that the student mean for this method was 3.57 ( $SD = .722$ ). The majority of the faculty ( $n = 31$ , 68.9%) indicated that they always encouraged students to participate in class discussions, and ten (22.2%) indicated frequently encouraging students to participate in class. The results for this teaching method showed that the faculty members did encourage active participation in the classroom even though the students surveyed expressed a comparatively lower preference for it.

### **Board Work**

Having the professor draw on the board as a way of teaching new concepts was a preferred teaching method by students with a mean of 1.98 ( $SD = .860$ ). The data showed that the majority of students either occasionally ( $n = 103$ , 42.2%) or frequently ( $n = 87$ , 35.7%) preferred this teaching method. However, the faculty reported that they did not use this teaching method to a great extent—in fact, the mean was 2.44 ( $SD = .893$ ). The majority of the faculty indicated that they only occasionally used this teaching method ( $n = 22$ , 48.9%), with 11 (24.4%) indicating that they frequently explained concepts by drawing on the board. The results of this data comparison found that although students indicated low preference for the professor to draw concepts on the board, the majority of faculty used this teaching method only occasionally.

### **Web-Based Course Without Class Meetings**

The preference for a totally web-based course and the faculty use of a web-based course both had low means in both groups. The overall mean for the student preference for web-based courses was 1.53 ( $SD = .717$ ) with the overwhelming majority of students indicating either that they did not prefer this teaching method at all ( $n = 142, 58.8\%$ ) or that they preferred it occasionally ( $n = 75, 30.7\%$ ). The faculty reported using totally web-based course with a mean of 1.62 ( $SD = .886$ ) with 27 (60%) indicating that they do not use this teaching method at all. Only ten faculty (22.2%) indicated using it occasionally. The comparison of data between the students and faculty found that both had low preferences for totally web-based courses with no classroom meetings.

### **Story Telling**

The results of the data analysis found that storytelling was highly preferred by students and used to a great extent by faculty as a teaching method. Overall student preference for this teaching method was high with a mean of 3.10, ( $SD = .788$ ). The majority of students either frequently ( $n = 104, 42.6\%$ ) or always ( $n = 111, 45.5\%$ ) preferred this teaching method. The faculty use of storytelling had a mean of 3.22 ( $SD = .794$ ) and was, therefore, very close to the student preference. The results showed that the majority of the faculty frequently ( $n = 21, 46.7\%$ ) or always ( $n = 18, 40\%$ ) shared personal stories related to their experience on the topic being taught. Therefore, the results for this teaching method found faculty's extensive use of this teaching method was in line with the students' strong preference for it.

### **Assignments Outside of Class Time**

Both students and faculty ranked completing an assignment over the reading prior to class as low in preference. Students, though, had a lower preference for completing assignments outside of class time with a mean of 2.36 ( $SD = .943$ ) than the faculty use of it, which had a mean of 2.44 ( $SD = .893$ ). The majority of students reported that they either occasionally ( $n = 106, 43.4\%$ ) preferred this method or did not prefer it at all ( $n = 78, 32\%$ ) as a way to help them learn new concepts. The faculty largely indicated that they did not have student's complete assignments over the reading prior to class with 17 faculty members ( $37.8\%$ ) indicating that they did this frequently and 16 ( $35.6\%$ ) indicating that that used the method occasionally. Overall, the results found that this teaching method was not preferred by students.

### **Handouts**

With a mean of 3.63 ( $SD = .636$ ), having handouts provided to them in class was the students' most highly preferred teaching method of all the methods presented in the entire 30-question survey. The majority of students ( $n = 173, 70.9\%$ ) indicated always wanting handouts to be provided, and the next largest group ( $n = 56, 23\%$ ) indicated frequently wanting handouts to help them follow the professor's lecture. The faculty also had a high mean for using this teaching method ( $M = 3.35, .933$ ) with the majority of faculty indicating that they always ( $n = 27, 60\%$ ) provided handouts. Although the standard deviation for this variable was over 1.0 indicating a wide distribution of data among the faculty, the majority of the faculty provided handouts.

### **Classroom Interaction**

The data showed that the faculty reported using classroom interaction between students and themselves to a great extent, with a mean of 3.51 ( $SD = .786$ ). The majority of faculty indicated always encouraging classroom interaction ( $n = 29$ , 64.4%), and 12 (26.7%) indicated frequently doing this. There were faculty who indicated not using this teaching method. Students also ranked this teaching method highly with a mean of 3.10 ( $SD = .807$ ), thus indicating that the majority of students preferred classroom interaction. A total of 110 students (45.1%) indicated frequently preferring this teaching method and 84 students (34.4%) indicated always preferring classroom interaction. Therefore, the faculty focus on encouraging classroom interaction was in accord with the students' preference for it.

### **Web-Based and Classroom Combination**

For courses combining web-based work with classroom study, the mean for student preference and the mean for faculty use were similar. Overall, the faculty indicated using this teaching method more with a mean of 2.11 ( $SD = 1.027$ ) than the students would prefer; however, the standard deviation of 1.0 indicated a wide disagreement among faculty. Faculty reported not using this combination ( $n = 17$ ,  $SD = 37.8\%$ ) and occasionally using the combination ( $n = 10$ , 22.2%). Student preference for courses combining web-based and classroom work was higher than for strictly web-based courses at ( $M = 2.38$ ,  $SD = .805$ ). The majority of students indicated occasionally ( $n = 111$ , 45.5%) and frequently ( $n = 83$ , 34%) preferring this teaching method. Overall, the faculty were much divided on this teaching method, but the students indicated that they preferred using it some of the time.

### **Read Assignment Before Class**

Students had a lower preference for reading assignments prior to class with a mean of 2.11 ( $SD = .744$ ) as compared to faculty use of this teaching method with a mean of 3.33 (.768). The majority of students indicated occasionally ( $n = 133$ , 54.5%) or frequently ( $n = 56$ , 23%) reading the assignment prior to class. An overwhelming majority of faculty, though, indicated that they always expected students to read assignments prior to class ( $n = 21$ , 46.7%). These results indicated that although faculty expected students to read assignments before coming to class, the majority of students indicated not always preferring to do this.

### **Technology**

Students indicated a preference for the use of technology in the classroom with a mean of 3.26 ( $SD = .839$ ). The majority of students frequently ( $n = 118$ , 48.4%) preferred the use of technology in the classroom; however, a large number of students also indicated frequently ( $n = 80$ , 32.8%) preferring the use of technology. Faculty had a lower mean for this teaching method ( $M = 2.82$ ,  $SD = .805$ ) than the student preference for it, with the majority indicating that they either frequently ( $n = 21$ , 46.7%) or occasionally ( $n = 13$ , 28.9%) provided activities involving the use of technology to teach new concepts. The results indicated that students would prefer activities involving technology to a slightly greater extent than the faculty have been providing such exercises.

### **Listen to Lecture versus Work in Groups**

The majority of faculty ( $M = 3.0$ ,  $SD = .797$ ) spend more time lecturing than having students work in groups with their peers; that is, 26 (57.8%) faculty members

indicated that they do this frequently do this and 11 (24.4%) that they always do so.

Students had a slightly higher mean preference of 3.21 ( $SD = .910$ ) for listening to lecture versus working in groups than the faculty use of this teaching method. A total of 101 students (41.4%) indicated frequently preferring this method, and 73 students (29.9%) indicated occasionally preferring this teaching method. The comparison of means between the two groups found that students would prefer the faculty to use this teaching method less than the faculty reported doing so.

### **Active Participation in Class**

The analysis of the data collected for active participation in the classroom as a teaching method showed that the mean of the students' preference for this teaching method was lower than the mean of the faculty's use of it. The overall mean for students was 1.40 ( $SD = .644$ ) with the majority indicating that they do not wish to participate in class at all ( $n = 160$ , 65.6%) and the next largest group indicating that they wished to participate in class only occasionally ( $n = 73$ , 29.9%). The faculty, on the other hand, indicated that they used this teaching method to a great extent, as evidenced by a mean of 3.40 ( $SD = .719$ ). The majority of faculty frequently ( $n = 21$ , 46.7%) or always ( $n = 20$ , 44.4%) facilitated active participation in the classroom. Although the majority of faculty used this teaching method, the results indicated that not all students preferred to participate in classroom.

### **Games**

The data showed that students would prefer to play games to a greater extent than faculty have been using them as a teaching method. The mean for the students' preference for this teaching method was 3.26 ( $SD = .839$ ), whereas the mean for faculty

use of games in the classroom was only 2.15 (.737). The majority of students ranked their preference for playing games as always ( $n = 118$ , 48.4%) or frequently ( $n = 80$ , 32.8%). Only 23 (51.1%) of the faculty indicated that they occasionally used games to teach or review new material, and 13 faculty members (28.9%) indicated that frequently used games in the classroom. Although the students indicated that they preferred the use of games to learn or review new material, the majority of the faculty reported not using this teaching method at all.

### **Read the Assignment After Class**

Students were about equal in their preference for reading the assignment after class with a mean of 2.63 ( $SD = .802$ ). The majority of students responded that they either frequently ( $n = 109$ , 44.7%) or occasionally ( $n = 85$ , 34.8%) preferred to read the assignment after class. The faculty, however, ranked encouraging students to wait and read until after class very low with a mean of 1.22 ( $SD = .471$ ). An overwhelming majority of the faculty ( $n = 36$ , 80%) indicated that they did not encourage or expect students to wait to read the assignment until after class. Although almost half of the students surveyed preferred to read after class, the results showed that the majority of faculty surveyed did not encourage this practice.

### **Classroom Structure**

For classroom structure, the means for student preference and for faculty practice were similar, with a mean of 3.00 ( $SD = .768$ ) for faculty use while the student preference mean was 3.21 ( $SD = .910$ ) for student preference classroom structure. The majority of students indicated that they frequently ( $n = 116$ , 47.5%) or always ( $n = 99$ , 40.6%) preferred a great deal of classroom structure and guidance from the professor.



Similarly, the majority of faculty either frequently ( $n = 28$ , 62.2%) or always ( $n = 10$ , 22.2%) indicated providing lots of classroom structure and guidance for the students. Therefore, the results of the data analysis found that students' preference for a high level of classroom structure closely equaled the level of structure that faculty indicated that they provided.

### **Take Notes**

Having students take their own notes was more highly used by faculty than preferred by students as a teaching method. The mean for faculty use of this teaching method was 2.20 (1.057) with the majority of faculty either occasionally ( $n = 15$ , 33.3%) expecting students to take their own notes or not expecting them to do so at all ( $n = 12$ , 26.7%). The students had a higher mean of 3.63 (.636) for this teaching method, with the majority indicating that they either always ( $n = 173$ , 70.9%) or frequently ( $n = 56$ , 23%) preferred to have notes provided to them. Therefore, the results indicated that faculty use of this teaching method is lower than what students actually prefer.

### **Know Students' Names**

Students and faculty were also very similar to each other in their rankings for knowing students' names. The faculty indicated that they thought knowing students' names was very important, as their mean of 3.73 ( $SD = .539$ ) showed. All the faculty members surveyed either ranked this as always important ( $n = 35$ , 77.8%) or frequently important ( $n = 8$ , 17.8%). Students also ranked this variable as important with a mean of 3.26 ( $SD = .775$ ). The majority of students ( $n = 111$ , 45.5%), though, ranked the importance of the faculty knowing their names as always important. A total of 67 students (27.5%) ranked this as being frequently important to them. Therefore, the data

analysis found that both faculty and students viewed knowing student names as a matter of some importance.

### **Grades Count**

Having all papers and course work count toward a grade was highly preferred by students with a mean of 3.27 ( $SD = .698$ ). The majority of students indicated that they always ( $n = 201, 61.1\%$ ) preferred course work to count toward a grade. An additional 84 students ( $25.5\%$ ) indicated that they frequently preferred all course work to count toward a grade. The mean from the faculty responses to this item at 2.84 ( $SD = .998$ ) was lower than the mean of the student responses. The majority of the faculty indicated that having grades attached to all course work was either frequently important ( $n = 15, 33.3\%$ ) or always important ( $n = 14, 31.1\%$ ). Therefore, although the majority of students indicated that they considered having all course work graded to be important, the faculty were not as strong on this point.

### **Why Learning New Material is Important**

With a mean of 3.33 ( $SD = .698$ ), students considered being informed of why new material is being learned highly important. A considerable majority of students indicated that it was always important ( $n = 133, 54.5\%$ ) to know why new material is being learned, and a further 85 students ( $34.8\%$ ) indicated that they frequently thought this was important. When comparing the student mean with the faculty mean, the majority of faculty also ranked the importance of discussing with students why they needed to learn new concepts as very high with a mean of 3.44 ( $SD = .659$ ). The majority of faculty indicated that they frequently ( $n = 19, 42.2\%$ ) or occasionally ( $n = 17, 37.8\%$ ) viewed

this as important. Overall, both the students and the faculty viewed knowing the relevance of why new material was being learned as important.

### **Group Assignments with Peers During Class**

The faculty had a slightly higher mean than did the students with regard to the importance of participation in group assignments. The faculty mean for this variable was 2.35 ( $SD = .802$ ) with the majority of faculty indicating that they considered student participation in group assignments to be frequently ( $n = 13$ , 28.9%) or occasionally ( $n = 23$ , 51.1%) important. Although the student mean at 2.49 ( $SD = .883$ ) was slightly lower than the faculty mean, the majority of students indicated that they considered participating in group assignments with their peers during class as either Occasionally ( $n = 103$ , 42.2%) or frequently ( $n = 87$ , 35.7%) important. The data analysis indicated similar levels of importance for faculty and students for this variable.

### **Tell What is Needed to Know**

The student mean for expecting the professor to tell them what they need to know was very high at 3.33 ( $SD = .698$ ). The clear majority of students indicated that they always ( $n = 110$ , 45.1%) or frequently ( $n = 108$ , 44.3%) expected this from their Professors. The faculty did not have as high of a mean for this variable ( $M = 2.68$ ,  $SD = .792$ ) as compared with students. The majority of faculty indicated that they frequently ( $n = 19$ , 42.2%) or occasionally ( $n = 17$ , 37.8%) told students what they needed to know. Therefore, these data indicated that students expected to be told what they needed to know by faculty; yet, faculty did not always provide this information.

### **Learning for Learning's Sake**

The student and faculty means for the question addressing learning for learning's sake were similar. In response to being asked whether they liked to learn for learning's sake, the students had a mean of 2.83 ( $SD = .849$ ). The majority of students indicated that they frequently ( $n = 99, 40.6\%$ ) or occasionally ( $n = 118, 36.0\%$ ) liked to learn just for learning's sake. The data showed that the faculty had a mean of 2.51 ( $SD = 1.014$ ) when asked if they emphasized learning for learning's sake. The majority of the faculty indicated they occasionally ( $n = 12, 26.7\%$ ) or frequently ( $n = 16, 35.6\%$ ) emphasized this. In conclusion, the data results for this variable showed that students indicated that they liked learning for learning's sake and the majority of faculty indicated emphasizing this at least occasionally.

### **Grade is All that Matters**

The idea that the grade is all that matters was a variable more students indicated that they considered to be important than did the faculty. The students' mean was 1.98 ( $SD = .881$ ) compared to the faculty mean of 1.40 ( $SD = .750$ ) for this variable. The majority of students indicated that they occasionally ( $n = 94, 38.5\%$ ) or not at all ( $n = 83, 34\%$ ) thought that the grade is all that really matters. Faculty, on the other hand, overwhelming indicated that they did not emphasize that the grade is all that really matters with  $n = 33$  (73.3%). Although the results indicated that faculty members did not emphasize this, the majority of students indicated that the idea that the grade is all that matters is important at least some of the time.

### Most Used Teaching Methods as Chosen by Faculty Compared to Students

The last section on the faculty and student surveys asked the participants to select the five teaching methods they used most in the classroom or the teaching methods they preferred the most, respectively. Faculty members and students were given the following teaching methods to choose from: lecture, case studies, storytelling, hands-on activities, activities with technology, worksheets, handouts, visual aids, group activities, diagramming, games, group discussion, in-classroom group work, and out-of-classroom group work. Teaching methods chosen by faculty and students on the survey were coded as “yes,” and those not chosen were coded as “no.” All the participants responded by selecting their top five teaching methods; therefore, the results reflected the views of all 45 faculty participants and 244 student participants. Table 32 shows the teaching methods selected by faculty and student participants as their top five preferences.

Table 32. *Most Used Teaching Methods Chosen by Faculty Compared with Students' Most Preferred Teaching Methods*

Faculty's most used teaching method			Students' most preferred teaching method		
Teaching method	f	%	Teaching method	f	%
Lecture	43	96.5	Lecture	74	71.3
Story telling	37	82.2	Case study	28	52.5
Case studies	34	75.6	Internet	18	48.4
Visual aids	23	51.1	Self-study	17	48
Handouts	21	46.7	Test	10	45.1

The top teaching methods chosen by faculty were lecture, storytelling, case studies, visual aids, and handouts. The faculty indicated that the lecture was the most frequently used teaching method (n = 43, 95.6%). The second most used teaching method

was storytelling (n = 37, 82.2%), with case studies (n = 34, 75.6%) third and visual aids (n = 23, 51.1%) fourth. Fifth was handouts (n = 21, 46.7%).

The top teaching methods chosen by students were comprised of lecture, case studies, internet, self-study, and tests. The students indicated that lecture was their most frequently preferred teaching method (n = 174, 71.3%), with case studies (n = 128, 52.5%) next, followed by the internet (n = 118, 48.4%) and self-study (n = 117, 48%). Testing was the fifth most preferred teaching method by students.

The comparison of data discovered a relationship between faculty use of lecture and case studies and student preferences for both. The majority of students indicated a preference for lecture as their top teaching method and the faculty indicated that they used this teaching method the most. The second relationship between students and faculty was the use of case studies. Students ranked case studies as the second most preferred teaching method and faculty ranked this teaching method as the third most used in the classroom. Therefore, there is a relationship between preferred teaching methods of associate degree nursing students and faculty use of teaching methods. The most significant relationship between students and faculty was lecture as a teaching method. The majority of students indicated a preference for lecture and the majority of faculty indicated using this teaching method the most. Although, the results of the data analysis also indicated the preference by students and the utilization by faculty of a variety of teaching methods in the classroom.

### **Summary of Research Question #3**

Results of the data analysis for research question number three discovered many relationships between preferred teaching methods of associated degree nursing students

and faculty use of teaching methods in the classroom. Therefore, this research question was supported. There was a relationship between preferred teaching methods of associate degree nursing students and faculty use of teaching methods. The most significant relationship between students and faculty was lecture as a teaching method. However, the results of the data analysis also indicated the preference by students and the utilization by faculty of a variety of teaching methods in the classroom.

### **Summary of Chapter IV**

Overall, the results of the study found many statistically significant findings. The results of the ANOVA test revealed eight statistically significant findings among Generation Y, Generation X and Baby boomers. And their preferred teaching methods including: lecture, self-directed learning, web-based course with no class meetings, important for faculty to know my name, classroom structure, know why I am learning what I am learning, learning for the sake of learning and grade is all that matters. Lecture was found to be the most frequently used teaching method by faculty as well as the most preferred teaching method by students. Overall, the support for a variety of teaching method was also found in the analysis of the data.

## CHAPTER V

### DISCUSSION AND SUMMARY

Nursing educators face the challenge of meeting the needs of a multi-generational classroom. The reality of having members from the Baby Boomer generation in a classroom with Generation X and Y students provides an immediate need for faculty to examine students' teaching method preferences as well as their own use of teaching methods. Most importantly, faculty must facilitate an effective multi-generational learning environment.

In this final chapter, the research study is summarized, including a review of the problem, the proposed research questions and the discussion of results. Findings related to the literature are presented. The researcher discusses the purpose of the study, method of subject selection, limitations of the study, recommendation for practice, implications for nursing education and suggestions for further study.

#### **Purpose of Study**

For the first time in the history of nursing education there may be four generations sitting next to each other, learning the same material. Few have studied preferred teaching methods of associate degree nursing students and the teaching methods used by nursing faculty. In the educational setting, the different generations can and will affect how well the information is learned. It is important for the educator to understand the differences in generational attitudes and beliefs if they wish to be successful in educating their students. The purpose of this quantitative, descriptive study is to compare the preferred teaching methods of multi-generational associate degree nursing students with faculty use of teaching methods.



Research has shown that each generation learns differently based on their generational background (Hammill, 2005). Depending on the generation, attitudes, behaviors, beliefs and motivational needs as well as learning and educational expectations were different. For the nurse educator, it is imperative that they are aware of these differences and have the ability to communicate with the different generations, which will help to reduce confrontations and challenges within the classroom.

Nursing students attending an associate degree program today consist of approximately 73% nontraditional students (AACN, 2005a). College students are increasingly older, more diverse, may be geographically isolated, or time bound related to job or family commitments (Halsne & Gatta, 2002). Chao and Good (2004) define the nontraditional students as adults who return to school either full or part-time while maintaining employment, family and other responsibilities of adult life. Chao and Good (2004) found that nontraditional students tend to be highly motivated, independent, desire active learning methods, and have special needs for flexible schedules and instruction.

Nontraditional students more often select associate degree (AD) nursing programs because of lower tuition rates, decreased completion time, location, and reputation of graduates (Mahaffey, 2002). The AD programs are known for graduating older students, more males, and a greater percentage of minority students than baccalaureate programs (Mahaffey, 2002). The American Association of Colleges of Nursing (2001) also supports the notion that education must reach out and meet nontraditional students where they live. By allowing students to stay in their own communities for schooling there is an increased probability that the nurse will practice locally when their education is finished (AACN, 2001). This finding is very important for rural and minority communities in the

long term retention of nurses. The purpose of this quantitative study was to compare the preferred teaching methods of generations in the associate degree nursing students and faculty use of teaching methods.

The specific research questions are:

1. Which teaching methods do students from each respective generation pursuing an associate degree in nursing prefer?
2. Which teaching methods do educators in an associate degree nursing program use most?
3. How, if at all, are the teaching methods used by nursing faculty consistent with preferred teaching methods of associate degree nursing students?

This quantitative descriptive study used hand delivered surveys to examine the preferred teaching methods of different generations and levels of students and the teaching methods nursing faculty use. Differences of preferred teaching methods of associate degree nursing students were compared with the teaching methods used by nursing faculty.

### **Method of Subject Selection**

Subjects were selected from an available population of undergraduate student nurses enrolled in the associate degree nursing programs in Pennsylvania as well as nursing faculty teaching in an associate degree nursing program in Pennsylvania. Completing the survey indicates consent to participate and that turning in a blank survey indicates that a person decided not to participate. In order to participate in this investigation, subjects need to agree to participate, review the *Informed Consent Form*

(Appendix A), and complete the *Walker Teaching Methods Survey* (Appendix B) or *Walker Teaching Methods Faculty Survey* (Appendix C) (Walker, 2004).

The nursing students and nursing faculty was recruited from four Pennsylvanian universities or colleges that offer an associate degree program in nursing. The universities available are: Pennsylvania State University, Lock Haven University of Pennsylvania, Mount Aloysius College, and Clarion University. The chairs of the four nursing departments granted site approval for the research. An invitation and information letter was electronically mailed to all nursing students and nursing faculty (see Appendix D). After email notification, the principal investigator coordinated site visits with nursing administration. During the site visit, the principal investigator explained the survey and provided informed consent forms. The participants who chose not to participate were asked to leave the survey blank and instead, be invited to review a short nursing article that was passed out with the survey. For the nursing student participants, this investigation was conducted in the nursing classroom of each department of nursing prior to the start of the nursing class time. Nursing faculty participant investigation was conducted prior to a scheduled faculty meeting located in the respective departments of nursing.

The research study included 289 participants; 244 nursing student participants and 45 nursing faculty participants from four nursing departments in colleges in Pennsylvania. The majority of student were from Generation Y with a sample size of 156 (63.9%); Generation X with a sample size of 67(27.5%); and Baby Boomers with a sample size of 20 (8.2%). There were no student participants in the Veteran generation group so no data were available for analyses.

The large number of Generation Y and X students in this study correlated with the large number of journal articles and research studies found discussing both generations within the review of literature. Furthermore, it was surprising to find that only six Veterans were among the faculty ranks, and the Baby Boomers and Generation X faculty were almost equal. The number of Veterans was lower than expected; however, it correlated given the higher number of Generation X faculty in the study with the mean of average of years experience of 15.21 years.

The review of the literature found the majority of research studies focused on Generation X and Generation Y students with Baby Boomer faculty. The literature provided no studies specifically on Generation X faculty teaching or interacting with the Generation Y students. This is most likely due to the low number of Generation X faculty teaching in nursing education.

### **Research Question #1**

Which teaching methods do students from each respective generation pursuing an associate degree in nursing prefer?

The number of participants in this study included 156 Generation Y students, 67 Generation X students and 20 Baby Boomer students. There was no representation from the Veteran generation. Therefore, only students from Generation X, Generation Y and Baby Boomer generation were compared to determine the types of teaching methods preferred.

The results of the data analysis found many similarities in preferred teaching methods among the three generations. The research study also revealed eight statistically significant differences among the three generations and their preferred teaching methods.

In comparison, Walker et al (2006) conducted a similar study on generational differences among nursing students and did not find significant differences. This study found statistically significant differences among the following teaching method preferences: lecture, self directed learners and requires a little motivation to study, preference for a totally web-based course of study without class meeting, importance for faculty to learn my name, preference to have a highly structured classroom structure and guidance from faculty, the importance to know why I am learning material, learning just for the sake of learning, importance of grade received is all that really matters.

### **Lecture**

The first statistically significant finding was in students' preference for lecture which was found to be statistically significant at  $p=.004$ . The results of the survey data found Baby Boomer students had a higher preference for traditional lecture as a teaching method with a mean of 3.25 (SD=0.786) than Generation X ( $M=3.16$ ,  $SD=.863$ ) and Generation Y ( $M=2.78$ ,  $SD=.932$ ). The difference among the generations may be because of the Baby Boomers' preference for a more traditional or structured teaching method. The review of literature suggested how Generation Y and Generation X students prefer active learning strategies such as simulation with peer collaboration (Carlson, 2005; Johnson & Romanello, 2005). In contrast, Walker et al. (2006) reached different findings in their study on generation differences in nursing students' preferred teaching methods. The results found no statistically significant findings between the Generations X and Y. The Baby Boomer generation was not analyzed.

Interestingly, the numerous journal articles within the literature supporting the student's preference for interactive learning instead of traditional lecturing were high.

According to Windham (2005), Generation Y students wanted faculty to stop lecturing and use a variety of multi-media when teaching. This statement was not supported in this particular study.

Lecture has been the predominant format for delivery of information in nursing education due to the large science-based curriculum (Young & Patterson, 2007). Nursing faculty have to cover large amounts of content in their courses and the most efficient method for this delivery has been the traditional lecture format. The associate degree nursing student is continually exposed to this passive teaching method. Hartman, Dziuban & Brophy-Ellison (2007) estimated that 80 percent of college instruction occurs utilizing the lecture format.

### **Self-Directed Learners Requiring Little Motivation to Study**

The second statistically significant finding was students who consider themselves self-directed learners and requiring little motivation to study which was found to be statistically significant at  $p=.001$ . The results of the survey data found that the generation that reported needing little motivation to study and considers themselves as a self-directed learner was Baby Boomers ( $m=2.900$ ,  $SD= 0.718$ ), which is higher than Generation X ( $m= 2.55$ ,  $SD= 0.718$ ) and Generation Y ( $m=2.21$ ,  $SD= 0.917$ ). Although not a large difference among the means, it is not surprising that the older generation Baby Boomer would average higher than the other groups. Baby Boomers are best motivated to learn if new knowledge and skills are designed to help them excel on the job and gain recognition (Avillion, 2009; Filipeczak, B., Raines, C., & Zemke, R., 1999).

### **Web-based Course of Study without Class Meeting**

The third statistically significant finding among the three generations was the preference for a totally web-based course of study without class meeting. All three generations reported a low preference for a totally web-based course of study with no classroom meetings. The results found Baby Boomers had a mean of 1.31 (SD=0.717) while Generation X had a mean of 1.77 (SD=0.8130 and Generation Y had a mean of 1.46 (SD=0.675). Walker et al (2006) found similar results in their study with 90% of the Generation X and Y students not preferring a totally web-based course of study. These results were surprising given the literature review which revealed mostly preferences of distance learning and web-based courses with Generation Y and Generation X. According to Johnson and Romanello (2005), students from this generation prefer distance learning due to their comfort level with technology. This inconsistent correlation with the literature regarding differences between students who choose online formats of learning warrant a need for future studies.

However, the results for the question asking about their preference for a combination of web-based and classroom study revealed a higher mean for all three generations. According to Strauss & Howe (1991), Generation Y prefers peer and faculty interaction. Furthermore, Generation X may also have a higher preference for the combination due to their desire for independence and readiness to be more self-directed in their learning (Johnson & Romanello, 2005).

### **Faculty Knows My Name**

The importance of the faculty to learn my name was ranked as more important by students in Generation Y with a mean of 3.25 (SD= 0.914) than students in Generation X

with a mean of 2.86 (SD=0.990) and Baby Boomer Generation with a mean of 2.90 (SD=0.967). No other studies in the review of literature discussed this topic for comparisons. However, most experts in higher education agree that students' informal interactions with faculty members have a positive relationship on their personal growth as well as their academic achievement. For example, Halawah (2006) investigated the impact of student-faculty informal interpersonal relationships and found an increase in students' intellectual and personal development. Similarly Walker et al (2006) found that students were divided in their responses with no majority preferences.

### **Classroom Structure and Guidance from Faculty**

A highly structured classroom and guidance from faculty was preferred by Generation Y with a mean of 3.38 (SD= 0.647) as compared to Generation X with a mean of 3.05(SD= 0.756) and Baby Boomer generation with a mean of 3.15 (SD= 0.745). This finding does not support the literature that indicates Generation X and Y as self-reliant and independent in learning (Clausing et al., 2003). This result may be due to students' exposure to traditional pedagogy in which the teacher has full responsibility for learning outcomes (Knowles, 1984). Furthermore, according to Coates (2007), Generation Y students have grown up in a busy and structured environment in which everything was planned for them. Given this consideration, perhaps it is not a total surprise that Generation Y's results were higher than the other two generations. According to McGlynn, (2005), individuals from Generation Y are goal-oriented, willing to accept much help and support to achieve success, as well as appreciating structure and schedules as a way to cope with busy lives.



### **Knowing Why I am Learning the Material**

Understanding the importance of knowing why the material is being learned was ranked higher by Generation Y with a mean of 3.55 (SD= 0.63), while Generation X students had a mean of 3.23 (SD= 0.74) and the Baby Boomer generation had a mean of 3.15 (SD= 0.812). Although data results indicate very similar means between the three generations, it's no surprise that most adult students prefer to know the relevance and real-life applicability of what is being presented before learning (Knowles, 1984). The literature consistently discussed how all three generations prefer assignments to be worthwhile and relevant to the real world situations. For example, Generation X typically values time as a precious commodity and has little regard for wasted time or non-relevant information (Coates, 2007).

### **Learning for Learning Sake**

Baby Boomers students ranked learning just for the sake of learning higher than Generation Y and X students. Baby Boomers with a mean of 3.50 (SD=.688) compared to a mean of 2.91 (SD= 0.668) for Generation X and a mean of 2.72 (SD= 0.899) for Generation Y. In the study conducted by Walker et al (2006) Generation X and Y ranked learning for learning's sake similarly but low for preferences. The literature review did not reveal any other findings for this particular preference. The literature did not discuss any generational characteristics specifically for the three generations; however, it did speak about adult learners, in general, wanting to know the relevance of what they are learning and valuing lifelong learning (Knowles, 1984).

### **Grade Received Matters**

The final statistically significant finding in preferred teaching methods among the three generations was the importance of grade received is all that really matters.

Generation Y students had a higher preference for believing that the grade received is all that really matters with a mean of 2.11 (SD= 0.908) compared to Generation X with a mean of 1.80 (SD=0.783 and Baby Boomer Generation with a mean of 1.65 (SD=0.812). This result is consistent with the literature review. Generation Y students usually preferred to have grades assigned to all assignments and to be given ‘credit’ for all work (Collins & Tilson, 2006).

### **Conclusion of Research Question #1**

This study found statistically significant differences among associate degree nursing student teaching method preferences: lecture, self directed learners and requires a little motivation to study, preference for a totally web-based course of study without class meeting, importance for faculty to learn my name, preference to have a highly structured classroom structure and guidance from faculty, the importance to know why I am learning material, learning just for the sake of learning, importance of grade received is all that really matters. There were many connections to the review of literature for generational differences in students’ preferred teaching methods. Therefore, the research data supported the notion that associate degree nursing students in Generation X, Generation Y and Baby Boomer generation have different preferences in teaching methods.

## **Research Question #2**

Which teaching methods do educators in an associate degree nursing program use most?

The sample size for the faculty in the research study included 45 participants with a mean of 15.21 years of experience in nursing education. To analyze the data for this research question, the descriptive statistics for question 1-30 on the faculty survey, as well as the faculty's choice of their top five teaching methods used were examined. The results of the data found specific teaching methods that were used more frequently than others by faculty. When comparing the results of the data analysis for questions 1-30 on the faculty survey, it was important to faculty to know each student's name (3.73, SD=.539) had the highest mean of use among faculty. The results of the analysis for question one through twenty three on the faculty survey found that the teaching method with the highest mean was encouraging students in group discussion (M=3.57, SD=.722). Similarly, the second highest mean was encouraging classroom interaction among students and professor (M= 3.51, SD= .786). For items one to twenty three on the survey, the results found the least used teaching method by faculty was having students wait and read the assignment until after class with a mean of 1.22 (SD= .977).

When faculty were asked to list their top five teaching methods, the overwhelming majority of faculty chose lecture with n=43, (96.5%) as the top teaching method used in the classroom. This outcome is consistent with literature regarding faculty use of lecture as a teaching method. Schaefer and Zygmunt (2003) found that lecture was the predominant teaching method used by faculty. However, according to the literature review, traditional lecture as a teaching style is not an effective teaching

method. Johnson and Mighten (2005) found lecture to be ineffective as a teaching method and suggested a combination of other methods to ensure success in nursing education. McGlynn (2005) agreed and further stated that a diverse use of teaching methods is necessary to meet the needs of all the students. According to Coates (2007), teachers are using antiquated teaching methods and do not reach the newest students in the classroom. Most educators use lecture as a primary mode of teaching because they were taught the same way and have grown accustomed to this style. According to Straus and Howe, (1991), how an individual is taught will affect how that individual will teach others.

Along with lecture as a top teaching method used, faculty also chose story telling (82.2%) and case studies (75.6%), visual aids (51.1%) and handouts (46.7%) as methods that they used. Within the literature review, each of the teaching methods used by faculty was noted as an effective teaching strategy. For example, Koenig and Zorn (2002) mentioned that students entering nursing today of different generations are filled with their own life stories and meaningful events and nurse educators would be remiss to ignore the invaluable learning opportunities before them in the classroom. Story telling benefits both educator and students. According to Bradshaw and Lowenstein (2010), the goal in using a variety of teaching strategies used, other than lecture, is to allow for the student to learn a new concept or to connect theory with practice.

In summary, the results of the data analysis for this research question found faculty chose lecture as their most used teaching method in the classroom and stressed group discussions. Therefore, this research question was supported by the research data. Both group discussion and lecture were both found in the data analysis as being used in the classroom by faculty more than other teaching methods. The results of the data

analysis and the findings in the literature review support the use of a variety of teaching methods in the classroom to be considered an effective teaching strategy.

### **Research Question #3**

How, if at all, are the teaching methods used by nursing faculty consistent with preferred teaching methods of associate degree nursing students? The descriptive statistics for questions 1-30 from the results of the faculty survey were compared with the results from the students' survey to analyze the data for this research question. Results of the comparison of data found students had a higher mean preference for fourteen of the thirty items on the survey as compared to what faculty indicated using in the classroom. These fourteen teaching methods included: work in groups, work individually, handouts, web-based study with class room, technology, more lecture than group work, games, read the assignment after class, classroom structure and guidance, own notes , teaching variety, work counting for a grade, tell what is needed to know, learning for learning sake and grade is all that matters. The remaining teaching methods were found to have a higher mean for faculty. The remaining teaching methods included: lecture, applying skills, case studies and visual aids, class participation, board work, web-based only storytelling, assignments prior to class, classroom interaction, read assignments prior to classroom, active participation, know the names of students and group assignments during class time.

This analysis of data indicated somewhat of a balance between faculty and student preference of teaching methods. In support, the literature also recommended implementing a variety of teaching methods (Bradshaw, N., & Lowenstein, A. 2010; Granville, I. & Houde, S. 2004; Johnson S.A. & Romanello, M.L. 2005; Mikol, C. 2005;

Neuman, L.H., Pardue, K.T., Grady, J.L., Gray, M.T., Hobbins, B., Edelstein, J., & Herrman, J.W. 2009). The data from this study revealed a variety of use from the faculty and a variety of preferences for teaching method from students; thus, providing further support for the literature.

The top teaching methods chosen by faculty included lecture, storytelling, case study, visual aids and handouts. The top teaching methods chosen by students included lecture, case study, internet, self study and tests. The results of the comparison revealed that only two of the five preferred teaching methods matched. Both lecture and case studies were chosen by both groups. As discussed earlier, traditional lecture remains debatable as an effective teaching method. Although lecture effectiveness is debatable, it is most likely to continue to be used through the associate degree nursing program until the call for change is made, ultimately supporting a more learner-centered approach. According to Tomey (2003), case studies can stimulate critical thinking; generate ideas and best practices and have the potential to address the theory-practice gap. Furthermore, case studies transcend the generational barriers and allow a diverse group of students to learn a new concept together.

Perhaps since there were no studies in the literature review that compared students' preferences with faculty use of teaching methods, then reviewing the literature on the benefits and disadvantages of matching teaching styles is appropriate. According to Halawah (2006), the results of his study revealed that matching teaching and learning styles in classes can help improve students' achievement. Rochford (2003) recommended that faculty develop lessons to accommodate students' preferences in teaching methods because students perform better when given the opportunity to learn with their own

preferences. O'Shea (2003) stated that students are given the best opportunity for effective learning when matched with teaching methods.

In contrast, some research does not encourage matching teaching methods. There are benefits to the matching of teaching styles and learning style, however, this is not a guarantee to boost learner achievement. Age, educational level, and motivation influence each student's current preferred learning style (Spoon and Shell, 1998). Pratt (2002) urges a deeper understanding on the variety of teaching methods rather than simply adopting constructivism as the only way of thinking. Instead, teachers should be concerned with matching their instruction to the content they are teaching.

### **Limitations of the Study**

One limitation of this study was the use of purposive sampling. This type of sampling did not allow for random selection of participations and since the study was solely conducted in the central region of Pennsylvania, it may have gained different results from a more global population, therefore affecting the variables being studied. Another limitation to this study was the number of variables analyzed. For example, there was no way of knowing if participants in the study were being truthful about their age, which could have inadvertently affected how they were categorized into each generational cohort. Students and faculty who did not have experience with certain teaching methods may not have ranked them as high simply due to lack of exposure. This in turn could have affected the overall results in the data.

Another limitation of this study is that the data analysis was confined to associate degree nursing students and faculty from four universities in the Pennsylvania area. This study only examined classroom teaching methods and did not include strategies used in

clinical teaching. Furthermore, this study only investigated the teaching method preferences of associate degree nursing students and did not examine the preferences of nursing students in a baccalaureate nursing program or graduate programs. This study also did not take into account the use of teaching methods among faculty in baccalaureate programs.

### **Recommendation for Practice**

This study stemmed from a gap in the literature comparing generational differences among associate degree student nurses' preferred teaching methods with nurse faculty use of teaching methods. In the process of performing the literature review and the study itself, other gaps were found and lessons learned leading to future study recommendations. Based upon the results of this dissertation research study, there are recommendations for practice.

As educators plan and design their pedagogical approaches, they should consider students' preferred teaching methods and different generational cohorts and use that information to create a more learner-centered constructivist approach. This researcher's belief is that there is no "cookie-cutter" approach to pedagogy and that the individual needs of students must be appreciated. Many experts recommend responding to individual student's differences such as learning styles (Avillion, 2009; Baldwin, L., & Sabry, K., 2003; Honey, P., & Mumford, A., 2000; Naimie, Z., Siraj, S., Piaw, C.Y., Shagholi, R. & Abuzaid, R.A., 2010; and Rasool, G.H., & Rawaf, S., 2008). A general one-size-fits-all approach does not take into account the needs of all the different learners sitting in our classrooms today (Pratt, 2002).



In order to give students an opportunity to learn in an environment more conducive to their preferences, it is proposed that a more effective system be adapted between the material presentation mode and the preferred teaching methods of the students. Suskie (2003) suggests that instructors should attempt to alter their teaching methods by focusing on students' unique needs. Furthermore, learning effectiveness is improved when individuals are highly skilled in engaging in understanding different learner styles (Yeganeh & Kolb, 2007, p.16).

Based on the results of this study, it is recommended that nursing faculty support the utilization of effective instruction to increase satisfaction and implement pedagogical approaches by providing learning conditions suitable for the different student generational cohorts. Therefore, when classes are created and programs implemented, faculty should embrace student preferred teaching methods and techniques. While researchers such as Moallem (2007) have found no significant differences between delivery methods and satisfaction levels, Munro and Rice-Munro (2004) recommended using a variety of teaching methods in order to be more effective in instruction.

Chickering and Gamson's (1987) Seven Principles for Good Practice in Undergraduate Education mapped out fundamental principles of effective teaching which have remained timeless even after decades of research. Good practice in undergraduate nursing education focuses on encouraging contact between students and faculty, encouraging active learning, giving prompt feedback, emphasizing time on task, communicating high expectations and respecting diverse talents and ways of learning. Baldwin and Baumann (2005) described education as being "in a time of rapid change" and stated that the academic fields must adapt to accommodate changing student interest

and new approaches to teaching and learning (p.89). Higher education is encouraged to apply new options to encourage educators to become more flexible and adaptive to serve a diverse student population effectively (Baldwin & Baumann, 2005, p. 90). Utilizing learning styles and creative pedagogical approaches can help students and faculty to achieve these goals.

### **Implications for Nursing Education**

It is important for nursing faculty to not only understand the generational differences of the students but to also recognize their own teaching and learning style. Educators are likely to teach in accordance with their own preferred learning style, assuming that students have similar styles. Thus, it is so important that faculty understand the preferred teaching methods of each generation and then use a variety of teaching – learning methods in the classroom. A number of questions emerge from the inevitable mismatch between professor and students in the classroom. Should faculty adjust their teaching methods to the learning needs of the majority of the students? Should educators teach from their natural abilities or adopt a new style or methods that correspond to those of the students? Should students be encouraged or nurtured to adopt a different style? DiTiberio (1998) concluded that attempts to match students and teacher types have met with mixed results and may be a simplistic approach. A review of the research literature indicated that inconsistent achievement outcomes may result. Both student and professor are likely to benefit if the professor is teaching in ways that agree with their own personal styles and strengths.

This research study has implications for nursing education. Nurse educators can utilize the information in this study to enhance the classroom setting and provide an

effective learning environment for all types of learners with a variety of different teaching method preferences. The study also reminds faculty to not only assess for differences in student learning, but also to assess what teaching methods are being used in the classroom setting. It also adds knowledge to the overall body of nursing education literature and provides educators with the opportunity to learn more about the generational differences and differences in generational cohorts of nursing students.

### **Summary of Chapter V**

By understanding and gauging students' preferred teaching methods and unique generational characteristics and qualities, educators can move toward a constructivist approach and act as a guide to help students learn. Educators can create greater opportunities to make nursing theory courses challenging, rewarding, and meaningful by using a variety of teaching methods whereby each individual learner in their respective generational cohort will benefit.

## REFERENCES

- Abel, W. M., & Freeze, M. (2006). Evaluation of concept mapping in an associate degree nursing program. *Journal of Nursing Education, 45*(9), 356–364.
- Adams, J., & Gilman, B. (2002). Students take the professor home. *Nursing Education Perspectives, 23*(6), 283–285.
- Adams, M. H., Stover, L. M., & Whitlow, J. F. (1999). A longitudinal evaluation of baccalaureate nursing students' critical thinking abilities. *Journal of Nursing Education, 38*(3), 139-141.
- American Association of Colleges of Nursing. (2000). *Distance learning is changing and challenging nursing education*. Retrieved from <http://www.aacn.nche.edu/Publications/issues/jan2000.htm>
- American Association of Colleges of Nursing. (2001). *Effective strategies for increasing diversity in nursing programs*. Retrieved from <http://www.aacn.nche.edu/Publications/diversity/jan2001.htm>
- American Association of Colleges of Nursing. (2002). *Hallmarks of the professional nursing practice environment*. Retrieved from <http://www.aacn.nche.edu/publications/positions/hallmarks.htm>
- American Association of Colleges of Nursing. (2005). *With enrollments rising for the 5th consecutive year, US nursing schools turn away more than 30,000 applicants in 2005*. Retrieved from [www.aacn.nche.edu/Media/NewsReleases/2005/enrl05.htm](http://www.aacn.nche.edu/Media/NewsReleases/2005/enrl05.htm)
- American Nurses Association. (1965). *Educational preparation for nurse practitioners and assistants to nurses: A position paper*. New York, NY: Author.

- Amerson, R. (2006). Energizing the nursing lecture: Application of the theory of multiple intelligence learning. *Nursing Education Perspectives*, 27(4), 194–196.
- Ansari, W. E. (2002). Student nurses' satisfaction levels with their courses: Part I—Effects of demographic variables. *Nursing Education Today*, 22, 159–170.
- Arhin, A. O., & Cormier, E. (2007). Using deconstruction to educate Generation Y nursing students. *Journal of Nursing Education*, 46, 562–567.
- Arhin, A. O., & Johnson-Mallard, V. (2003). Encouraging alternative forms of self expression in the Generation Y student: A strategy for effective learning in the classroom. *American Black Nursing Journal*, 14(6), 121–122.
- Avillion, A. E. (2009). *Learning styles in nursing education: integrating teaching strategies into staff development*. Marblehead, MA: HCPro, Inc.
- Baldwin, L., & Sabry, K. (2003). Learning styles for interactive learning systems. *Innovations in Education and Teaching International*, 40(4), 325–340.
- Benner, P. (2000). The roles of embodiment, emotion, and lifeworld for rationality and agency in nursing practice. *Nursing Philosophy*, 1(1), 5–19.
- Billings, D. M. (2003). What does it take to be a nurse educator? *Journal of Nursing Education*, 42(3), 99–100.
- Billings, D. M., & Halstead, J. A. (1998). *Teaching in nursing: A faculty guide*. Philadelphia, PA: W.B. Saunders.
- Bordens, K. S., & Abbott, B. B. (2004). *Research design and methods: A process approach* (5th ed.). Columbus, OH: McGraw-Hill Education.

- Boyle, E. A., Duffy, T., & Dunleavy, K. (2003). The validity and utility of Vermunt's inventory of learning styles in a Scottish higher education setting. *British Journal of Educational Psychology*, 73, 267–290.
- Bradshaw, N., & Lowenstein, A. (2010). *Innovative teaching strategies in Nursing and Related Health*. Sudbury, MA: Jones & Bartlett Publishers
- Braio, A., Dunn, R., Beasley, T., Quinn, P., & Buchanan, K. (1997). Incremental implementation of learning-style strategies among urban low achievers. *Journal of Educational Research*, 91, 15–25.
- Brown, B. L. (1997). New learning strategies for Generation X. *ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH*. Report No: EDO-CE-97-184.
- Brown, V., & DeCoster, D. (1991). The Myers-Briggs Type Indicator as a development measure: Implications for student learners in higher education. *Journal of College Student Development*, 32, 378–379.
- Brown, S. T., Kirkpatrick, M. K., Mangum, D., & Avery, J. (2008). A review of narrative pedagogy strategies to transform traditional nursing education. *Journal of Nursing Education*, 47, 284-286.
- Bruner, J. S. (1973). *Beyond the information given: Studies in the psychology of knowing*. New York, NY: Norton.
- Burke, B., Arkowitz, H., & Dunn, C. (2002). The efficacy of motivational interviewing. In W.R. Miller & S. Rollnick (Eds.), *Motivational interviewing: Preparing people for change* (2nd ed., pp. 217–250). New York: Guilford Press
- Carlson, S. (2005). The net generation goes to college. *The Chronicle of Higher Education*, 52(7). Retrieved June 20th, 2010, from [www.chronicle.com/free/v52/i07/07a03401.htm](http://www.chronicle.com/free/v52/i07/07a03401.htm)

- Caudron, S. (1997). Can Generation Xers be trained? *Training and Development*, 51(3), 20–24.
- Cavanagh, S. J., & Coffin, D. A. (1994). Matching instructional preference and teaching styles: a review of the literature. *Nurse Education Today*, 14, 106–110.
- Cavanagh, S., Hogan, K., & Ramgopal, T. (1995). The assessment of student nurse learning styles using the Kolb Learning Style Inventory. *Nurse Education Today*, 15, 177–183.
- Cetron, M. J. (1988). Class of 2000: The good news and the bad news. *The Futurist*, 22 (6), 9–15.
- Chao, R., & Good, G. (2004). Nontraditional students' perspectives on college education: A qualitative study. *Journal of College Counseling*, 7, 5–12.
- Chen, J. Q. (2004). Theory of multiple intelligences: Is it a scientific theory? *Teachers College Record*, 106(1), 17–23.
- Clausing, S. L., Kurtz, D. L., Prendeville, J., & Walt, J. L. (2003). Generational diversity: The Nexters. *AORN Journal*, 78(3), 373–379.
- Coates, J. (2007). *Generational learning styles*. River Falls, WI: LERN Books.
- Cook, L. J., (2005). Inviting teaching behaviors of clinical faculty and nursing students' anxiety. *Journal of Nursing Education*, 44(4), 156–161.
- Coomes, M., & DeBard, R. (2004). *Serving the Millennial generation: New directions in student services*. San Francisco, CA: Jossey Bass.
- CPP, Inc. (2003). *Myers-Briggs Type Indicator: Form M*. Mountain View, CA: Author.
- CPP, Inc. (2005). *Strong Interest Inventory*. Mountain View, CA: Author.
- Daley, B. (1996). Concept maps: Linking nursing theory to clinical nursing practice. *Journal of Continuing Education in Nursing*, 27(1), 17–20.

- Davidhizar, R., & Lonser, G. (2003). Storytelling as a teaching technique. *Nurse Educator*, 28(5), 217–221.
- Denig, S. J. (2004). Multiple intelligences and learning styles: Two complementary dimensions. *Teachers College Record*, 106, 96–111.
- De Tornyay, R. (1984). Research on the teaching-learning process in nursing education. *Annual Review of Nursing Research*, 2, 193–210.
- Delpier, T. (2006). Cases 101: Learning to teach with cases. *Nursing Education Perspectives*, 27(4), 204–209.
- Dewey, J. (1944). *Democracy and education*. New York, NY: Macmillan. (Original work published 1916).
- Dewey, J. (1981). *The philosophy of John Dewey*. Chicago, IL: University of Chicago Press.
- Dewey, J. (1993). *How we think*. Lexington, MA: D.C. Heath. (Original work published 1910).
- Dewey, J. (1997). *Experience and education*. New York, NY: Touchstone. (Original work published 1938).
- DeYoung, S. (2003). *Teaching strategies for nurse educators*. Upper Saddle River, NJ: Prentice Hall.
- Diekelmann, N. L. (2001). Narrative pedagogy: Heideggerian hermeneutic analyses of lived experiences of students, teachers, and clinicians. *Advances in Nursing Science*, 23(3), 53–71.
- Diekelmann, N.L., & Ironside, P.M. (2002). Developing a science of nursing education: Innovation with research. *Journal of Nursing Education*, 41, 379–380.



Diekelmann, N. L., & Smythe, E. (2004). Covering content and the additive curriculum: How can I use my time with students to best help them learn what they need to know?

*Journal of Nursing Education, 43*, 341–344.

Diekelmann, N., Swenson, M., & Sims, S. (2003). Teacher talk: New pedagogies for nursing.

*Journal of Nursing Education, 41*(11), 469-470.

Dominguez, C. (2003). *Generational diversity*. Retrieved from

[www.mcca.com/site/data/magazine/coverstory/0803/perspective0803.htm](http://www.mcca.com/site/data/magazine/coverstory/0803/perspective0803.htm)

Drummond, R. J., & Stoddard, A. H. (1992). Learning style and personality type. *Perceptual and Motor Skills, 75*, 99–104.

Dunn, R. S., & Dunn, K. J. (1993). *Teaching secondary students through their individual learning styles: Practical approaches for grades 7–12*. Boston, MA: Allyn & Bacon.

Dunn, R., & Griggs, S. (1995). *Multiculturalism and learning styles: Teaching and counseling adolescents*. Westport, CT: Greenwood.

Dunn, R., & Griggs, S. (1998). Learning styles: Link between teaching and learning. In R. Dunn & S. Griggs (Eds.), *Learning styles and the nursing profession* (pp. 11–23). New York, NY: NLN Press.

Dupain, M., & Maguire, L. L. (2007). Health digital storytelling projects. *American Journal of Health Information, 38*(1), 41–42.

Fleming, J., & Eames, C. (2005). Student learning in relation to the structure of the cooperative education experience. *Asia-Pacific Journal of Cooperative Education, 6*(2), 26–31.

Gardner, H. (1993). *Frames of Mind: The theory of multiple intelligences*. New York, NY: Basic Books.

- Giddens, J., & Gloeckner, G. (2005). The relationship of critical thinking to performance of the NCLEX-RN. *Journal of Nursing Education, 44*(2), 85-90.
- Glanville, I., & Houde, S. (2004). The scholarship of teaching: Implications for nursing faculty. *Journal of Professional Nursing, 12*(1), 7-14.
- Greene, J. (2005). What nurses want: Different generations, different expectations. *Hospitals and Health Networks, 79*(3): 34–38, 40–42.
- Halfer, D. (2004, April). *Developing a multigenerational workforce*. Paper presented at the annual meeting of the American Organization of Nurse Executives. Phoenix, AZ.
- Hall, E., & Moseley, D. (2005). Is there a role for learning styles in personalised education and training? *International Journal of Lifelong Education, 24*(3), 243–255.
- Halsne, A., & Gatta, L. (2002). Online versus traditionally-delivered instruction: A descriptive study of learner characteristics in a community college setting. *Online Journal of Distance Learning Administration, 5*(1), 1–14. Retrieved from <http://www.westga.edu/~distance/ojdla/spring51/halsne51.htm>
- Halawah, I. (2006). The impact of student-faculty informal interpersonal relationships on intellectual and personal development. *College Student Journal, 40*, 670-678.
- Hammer, A. L., & Kummerow, J. M. (1996). *Strong and MBTI career development guide* (Rev. ed .) Palo Alto, CA: Consulting Psychologists Press.
- Hammill, G. (2005, Winter/Spring). Mixing and managing four generations of employees. *FDU Magazine*. Retrieved from <http://www.fdu.edu/newspubs/magazine/05ws/generations.htm>
- Hart, K. (2006). Generations in the workplace: Finding common ground. *Medical Lab Observer, 38*(10), 26–27.

- Hartman, J. L., Dziuban, C., & Brophy-Ellison, J. (2007). Faculty 2.0. *Educause Review*, 42(5), 62–76.
- Hasse, P. T. (1990). *The origins and rise of associate degree nursing education*. Durham, NC: Duke University Press.
- Hassett, M. R. (1990). Computer-based video instruction in nursing: One nurse's experience as author. *Kansas Nurse*, 65(9), 3–4.
- Haynie, L. (2006). Generational age differences impact the college classroom. *Journal of the Mississippi Academy of Sciences*, 51(4), 215–219.
- Hirsh, S. K., & Kummerow, J. M. (1989). *Life types*. New York, NY: Warner Books.
- Hirsh, S. K. (1991). *Using the Myer's Briggs Type Indicator in organizations* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Honey, P., & Mumford, A. (2000). *The learning styles helper's guide*. Maidenhead, UK: Peter Honey Publications.
- Ironside, P. M. (2001). Creating a research base for nursing education: An interpretive review of conventional, critical, feminist, postmodern, and phenomenological pedagogies. *Advances in Nursing Science*, 23(3), 72–87.
- Ironside, P. M. (2005a). Teaching thinking and reaching the limits of memorization: Enacting new pedagogies. *Journal of Nursing Education*, 44(10), 441–449.
- Ironside, P.M. (2005b). The experiences of nursing teachers, students, and clinicians. *Nursing Education Perspectives*, 26(2), 78–85.
- Ironside, P., & Valiga, T. (2006). National survey on excellence in nursing education. *Nursing Education Perspectives*, 27(3), 166–169.

- Ironside, P., & Valiga, T. (2007). How innovative are we? What is the nature of our innovation? *Nursing Education Perspectives*, 28(1), 51–53.
- Johnson, P., & Mighten, A. (2005). A comparison of teaching strategies: Lecture notes combined with structured group discussion versus lecture only. *Journal of Nursing Education*, 44(7), 319–322.
- Johnson, S. A., & Romanello, M. L. (2005). Generational diversity: Teaching and learning approaches. *Nurse Educator*, 30(5), 212–216.
- Joyce-Nagata, A. (1996). Students' academic performance in nursing as a function of student and faculty learning style congruency. *Journal of Nursing Education*, 35, 69–73.
- Kalisch, P. A., & Kalisch, B. J. (1987). *The changing image of the nurse*. Menlo Park, CA: Addison-Wesley.
- Karp, H., Fuller, C., & Sirias, D. (2002). *Bridging the boomer Xer gap*. Palo Alto, CA: Davies-Black.
- Kelley, C. M. (2002). Investing in the future of nursing education: A cry for action. *Nursing Education Perspectives*, 23, 24–29.
- Kelly, E. (1997). Development of strategies to identify the learning needs of baccalaureate nursing students. *Journal of Nursing Education*, 36, 156–161.
- Kennedy, R. B., & Kennedy, D. A. (2004). Using the Myer's Briggs Type Indicator in career counseling. *Journal of Employment Counseling*, 41(1), 38–44.
- Knowles, M. S. (1984). *The adult learner: A neglected species* (3rd ed.). Houston, TX: Gulf Publishing.
- Knowles, M. S., Holton, E., & Swanson, R. (1998). *The adult learner*. Houston, TX: Gulf Publishing.

- Koenig, J.M., & Zorn, C.R. (2002). Using storytelling as an approach to teaching and learning with diverse students. *Journal of Nursing Education*, 41(9), 393-399.
- Kolb, D. (1984). *Experimental learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Lahiri, I. (2001). *Five tips for managing a multigenerational workforce*. Retrieved from [www.workforcedevelopmentgroup.com/news\\_twenty.html](http://www.workforcedevelopmentgroup.com/news_twenty.html)
- Laight, D. W. (2004). Attitudes to concept maps as a teaching/learning activity in undergraduate health professional education: Influence of preferred learning style. *Medical Teacher*, 26(3), 229–233.
- Laschinger, H. K., & Boss, M. (1989). Learning styles of baccalaureate nursing students and attitudes toward theory-based nursing. *Journal of Professional Nursing*, 5(4), 215–223.
- Levin, J. (2007). *Nontraditional students and community colleges*. New York, NY: Palgrave Macmillan.
- Lohri-Posey, B. (2003). Teaching tools: Determining learning style preferences of students. *Nurse Educator*, 28(2), 54–56.
- Lopata, C., Wallace, N. V., & Finn, V. (2005). Comparison of academic achievement between Montessori and traditional educational programs. *Journal of Research in Childhood Education*, 20(1), 5–21.
- Lowenstein, A. J., & Bradshaw, M. J. (2001). *Fuszard's innovative teaching strategies in nursing* (3rd ed.). Sudbury, MA: Jones & Bartlett.
- Mahaffey, E. (2002). The relevance of associate degree nursing education: Past, present, future. *Online Journal of Issues in Nursing*, 7(2). Retrieved from

- <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume72002/No2May2002/RelevanceofAssociateDegree.aspx>
- Mangold, K. (2007). Educating a new generation: Teaching Baby Boomer faculty about Millennial students. *Nurse Educator*, 31(1), 21–23.
- McDonough, P., & Osterbrink, J. (2005). Learning styles: An issue of clinical education? *AANA Journal*, 73, 89–93.
- McGlynn, A.G. (2005). Teaching Millennials: our newest cultural cohort. *Education Digest*, 71(3), 12-16.
- Mikol, C. (2005). Teaching nursing without lecturing: Critical pedagogy as communicative dialogue. *Nursing Education Perspectives*, 26(2), 86–89.
- Moallem, M. (2007). Accommodating individual differences in the design of online learning environments: A comparative study. *Journal of Research on Technology in Education*, 40, 217-245.
- Moran, S., Kornhaber, M., & Gardner, H. (2006). Orchestrating multiple intelligences. *Educational Leadership*, 64(1), 22–27.
- Myers, I., & McCaulley, M. (1996). *MBTI uses in medicine and other health professions*. Gainesville, FL: Center for Applications of Psychological Type.
- Myers, I. B. (1962). *Manual: The Myers-Briggs Type Indicator*. Princeton, NJ: Educational Testing Service.
- Naimie, Z., Siraj, S., Piaw, C. Y., Shagholi, R. & Abuzaid, R. A. (2010). Do you think your match is made in heaven? Teaching styles/learning styles match and mismatch revisited. *Procedia Social and Behavioral Sciences*, 2, 349-353.

- National League for Nursing. (2002). *Position statement: The preparation of nurse educators*. New York, NY: Author.
- National League for Nursing. (2003). *A national study of faculty role satisfaction*. New York, NY: Author.
- National League for Nursing. (2004). *Startling data from the NLN's comprehensive survey of all nursing programs evokes wake-up call* (press release). New York, NY. Author. Retrieved from <http://www.nln.org/newsreleases/datarelease05.pdf>
- National League for Nursing. (2005). *The scope of practice for academic nurse educators*. New York, NY: Author.
- National League for Nursing Accrediting Commission. (2005a). *Accreditation Manual with Interpretive Guidelines*. New York, NY. Author. Retrieved from [www.nlnac.org/manuals/NLNACManual2005.pdf](http://www.nlnac.org/manuals/NLNACManual2005.pdf)
- National League for Nursing Accrediting Commission. (2005b). *2005 report to constituents*. New York, NY: Author.
- National League for Nursing (2008). *Nursing data review. Academic year 2005-2006 Executive Summary*. Retrieved on January 4, 2011 from [http://www.nln.org/research/datareview/executive\\_summary.pdf](http://www.nln.org/research/datareview/executive_summary.pdf)
- National Research Council. (2000). *How people learn: Brain, mind, experiences, and school* (Expanded ed.). Washington, DC: National Academy Press.
- Oblinger, D. (2003). Boomers, Gen-Xers and Millennials: Understanding the new students. *EDUCAUSE Review*, 38(4), 37–47.
- Oermann, M. H., Truesdell, S., & Ziolkowski, L. (2000). Strategy to assess, develop, and evaluate critical thinking. *Journal of Continuing Education in Nursing*, 31(4), 155–161.

- O'Shea, E. (2003). Self-directed learning in nurse education: a review of literature. *Journal of Advanced Nursing*, (43), 62–70.
- Ostmoe, P. M., Van Hoozer, H. L., Scheffel, A.L., & Crowell, C. M. (1984). Learning style preferences and selection of learning strategies: Consideration and implication for nurse educators. *Journal of Nurse Education*, 23, 27–30.
- Pelletier, R. (2005). Younger managers; older workers. *Occupational Health and Safety*, 74(11), 22–23.
- Pratt, D. (2002). Good teaching: One size fits all? *New Directions for Adult and Continuing Education*, 93, 5-15.
- Pugsley, K. E., & Clayton, L. H. (2003). Traditional lecture or experiential learning: Changing student attitudes. *Journal of Nursing Education*, 42(11), 520–523.
- Quenk, N. L. (2000). *Essentials of Myers-Briggs Type Indicator assessment*. New York, NY: John Wiley & Sons.
- Raines, C. (2003). *Connecting generations: TheSourcebook*. Menlo Park, CA: Crisp Publications.
- Rasool, G. H., & Rawaf, S. (2007). Learning style preferences of undergraduate nursing students. *Nursing Standard*, 21(32), 35–41.
- Rassool, G. H., Rawaf, S. (2008). The influence of learning styles preference of undergraduate nursing students on educational outcomes in substance use education. *Nurse Educator*, 8(5), 306–314.
- Rochford, R. A. (2003). Assessing learning styles to improve the quality of performance of students in developmental writing programs at an urban community college. *Community College Journal of Research and Practice*, 27(8), 665-677.



- Salehi, S. (2007). Nursing students' preferred learning styles. *Journal of Medical Education*, 11(3), 85–90.
- Sandmire, D. A., & Boyce, P. F. (2003). Pairing of opposite learning styles among allied health students. *Journal of Allied Health*, 33(2), 156–163.
- Sandstrom, S. (2006). Use of case studies to teach diabetes and other chronic illnesses to nursing students. *Education Innovation*, 45(6), 229-232.
- Schaefer, K., & Zygmunt, D. (2003). Analyzing the teaching style of nursing faculty. *Nursing Education Perspectives*, 24(5), 238–245.
- Schwartz, M., & Abbott, A. (2007). Storytelling: A clinical application for undergraduate nursing students. *Nurse Education in Practice*, 7(3), 181–186.
- Sherman, R. (2006). Leading a multigenerational nursing workforce: Issues, challenges and strategies. *Online Journal of Issues in Nursing*, 11(2), 1–6.
- Shugart, S. (2008). Adult students: A priority revisited. *The Presidency*, 11(1), 19.
- Siu, H., Laschinger, H., & Vingilis, E. (2005). The effect of problem-based learning on nursing students' perceptions of empowerment. *Journal of Nursing Education*, 44(10): 459–470.
- Spoon, J. C., & Schell, J. W. (1998). Aligning student learning styles with instructor teaching styles. *Journal of Industrial Teacher Education*, 35(2), 41-56.
- Staib, S. (2003). Teaching and measuring critical thinking. *Journal of Nursing Education*, 42(11), 498–508.
- Stradley, S. L., Buckley, B. D., Kaminski, T. W., Horodyski, M. B., Fleming, D., & Janelle, C. M. (2002). A nationwide learning-style assessment of undergraduate athletic training students in CAAHEP-accredited athletic training programs. *Journal of Athletic Training*, 37(4), 141–146.

- Strauss, W., & Howe, N. (2000). *Millennials rising: The next great generation*. New York: NY. Vintage Books.
- Swenson, C. (2003). Accelerated and traditional formats: Using learning as a criterion for quality. *New directions for adult and continuing education*, 97, 83-92.
- Thrall, T. H. (2005). Retirement boom? *Hospitals & Health Networks*, 79(11), 30–38.
- Tomey, A. M. (2003). Learning with cases. *Journal of Continuing Education in Nursing*, 34(1), 34-38.
- Ulrich, B. T. (2001). Successfully managing a multigenerational workforce. *Seminars for Nurse Managers*, 9(3), 147–153.
- Verret, C. (2000). *Generation Y: Motivating and training a new generation of employees*. Retrieved from [http://www.hotelonline.com/Trends/CarolVerret/GenerationY\\_Nov2000.html](http://www.hotelonline.com/Trends/CarolVerret/GenerationY_Nov2000.html)
- Wagschal, K. (1997). I became clueless teaching the GenXers. *Adult Learning*, 8(4) 21–25.
- Walker, J. T., Martin, T., White, J., Elliott, R., Norwood, A., & Mangum, C. (2006). Generational (age) differences in nursing students' preferences for teaching methods. *Journal of Nursing Education*, 45(9), 371–374.
- Wells, D., & Higgs, Z. R. (1990). Learning styles and learning preferences of first- and fourth-semester baccalaureate degree nursing students. *Journal of Nursing Education*, 29(9), 385–390.
- Weston, M. (2006). Integrating generational perspectives in nursing. *Online Journal of Issues in Nursing*, 11(2), 1–8. doi: 10.3912/OJIN.Vol11No02Man01

- Wheeler, L. A., & Collins, S. K. R. (2003). The influence of concept mapping on critical thinking in baccalaureate nursing students. *Journal of Professional Nursing, 19*(6), 339–346.
- Young, L.E., & Patterson, B.L. (2007). *Teaching nursing: Developing a student-centered learning environment*. Philadelphia, PA: Lippincott Williams & Wilkins.
- Young, P. K. (2004). Trying something new: Reform as embracing the possible, the familiar, and the at-hand. *Nursing Education Perspectives, 25*(3), 124–130.
- Young, P., & Diekelmann, N. (2002). Learning to lecture: Exploring the skills, strategies, and practices of new teachers in nursing education. *Journal of Nursing Education, 41*(9), 405–411.
- Zemke, R., Raines, C., & Filipczak, B. (2000). *Generations at work*. New York, NY: Amacon.

## Appendix A

### Informed Consent Form

Project: Generational Diversity in Associate Degree Nursing Students: Teaching Styles and Preferences in Pennsylvania.

Principal Investigator: Jennifer V. Kitko, MS, RN, 814-765-4679

You are invited to participate in this research study. The following information is provided in order to help you make an informed decision whether or not to participate. If you have any questions, please do not hesitate to ask. You are eligible to participate in this study because you are either an associate degree nursing student or nurse faculty. The purpose of this form is to give you a written description of the research study. The main purpose of this research study is to compare the preferred teaching methods of multi-generational associate degree nursing students with faculty use of teaching methods. If you agree to participate, you will complete a survey which is approximately 10 minutes long. Time and location for the survey will be prior to your first nursing class of the day on a pre-scheduled day or at a faculty meeting. Demographic data will also be included on the survey. There are no known risks involved in participating in this study and participation is voluntary. There may be no direct benefit of participating in this study; however, information obtained in this study may benefit both nursing students and nurse faculty. Information obtained in this study will shed some light on the generational impact of student preference on teaching methods or faculty use of teaching methods in nursing education. This study may add new knowledge to the nursing education field and provide opportunities for future research in effective teaching methods.

All information collected in this study will be kept strictly confidential. If publication results from this research, no identifying information will be used. You may choose to not participate in this study at anytime and for any reason by simply not completing the survey. Participation in this study is strictly voluntary. No payment or reimbursement will occur by participating in this study.

If you are willing to participate in this study, please complete the survey. If you choose not to participate, please hand in both the informed consent and the survey. Should you have any questions or concerns, you may contact the principal investigator:

Jennifer Kitko, MS, RN

Dr. Monte Tidwell

Curriculum and Instruction Doctoral Candidate

Professor of Professional Studies

Department of Education

Indiana University of Pennsylvania

Indiana University of Pennsylvania

Davis Hall, Room 123

814-765-4679 J.V.Kitko@iup.edu

724-357-2651 mtidwell@iup.edu

*This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730)*

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## Appendix B

### Walker's Teaching Methods Survey (Walker, 2004)

This survey is designed to determine your preferences in teaching methodologies.

Please answer the following questions and circle your response.

Age: \_\_\_\_\_

Second Degree: Yes \_\_\_ No \_\_\_

Junior \_\_\_\_\_

Senior \_\_\_\_\_

1. I prefer to hear an expert lecture on subjects that I am not familiar with.

1	2	3	4
Not at all	Occasionally	Frequently	Always

2. I prefer to hear a lecture on subject matter that I already have some knowledge about.

1	2	3	4
Not at all	Occasionally	Frequently	Always

3. I enjoy practicing skills or hands on material that I have learned.

1	2	3	4
Not at all	Occasionally	Frequently	Always

4. I do not need to practice skills that I have learned about in lecture.

1	2	3	4
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Not at all      Occasionally      Frequently      Always

5. I prefer group work to lecture.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

6. I prefer lecture to group work.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

7. It is important to me to perform group assignments outside of class time.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

8. It is important to me to perform group work inside of class time.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

9. I am able to read new material and gain all that I need to know.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

10. I am able to read material and then prefer to hear an expert share their opinion or experience on the subject.

1                      2                      3                      4  
Not at all      Occasionally      Frequently      Always

11. I am a self-directed learner and require little motivation to study.

1	2	3	4
Not at all	Occasionally	Frequently	Always

12. I read well and comprehend material easily.

1	2	3	4
Not at all	Occasionally	Frequently	Always

13. I struggle to read and comprehend material.

1	2	3	4
Not at all	Occasionally	Frequently	Always

14. I prefer a case study in order to learn.

1	2	3	4
Not at all	Occasionally	Frequently	Always

15. I do not learn from case studies.

1	2	3	4
Not at all	Occasionally	Frequently	Always

16. I prefer a totally web-based course of study without class meetings.

1	2	3	4
Not at all	Occasionally	Frequently	Always

17. I need to have classroom interaction with peers and faculty.

1	2	3	4
Not at all	Occasionally	Frequently	Always



18. I prefer a combination of web-based study along with classroom study.

1	2	3	4
Not at all	Occasionally	Frequently	Always

19. I learn from hearing stories of actual events from faculty.

1	2	3	4
Not at all	Occasionally	Frequently	Always

20. In the classroom, I prefer handouts to follow along with the lecture.

1	2	3	4
Not at all	Occasionally	Frequently	Always

21. In the classroom, I prefer faculty lecture from the outline posted on the overhead or visual screen.

1	2	3	4
Not at all	Occasionally	Frequently	Always

22. It is important for faculty to learn my name.

1	2	3	4
Not at all	Occasionally	Frequently	Always

23. If material is difficult to understand, I prefer to have lecture along with other teaching strategies, such as group work, or case study.

1	2	3	4
Not at all	Occasionally	Frequently	Always

24. It is important to have a grade attached to papers, case studies, and other outside work.

1	2	3	4
Not at all	Occasionally	Frequently	Always

25. I prefer to have a great deal of classroom structure and guidance from faculty.

1	2	3	4
Not at all	Occasionally	Frequently	Always

26. It is important to know the bottom-line or end-result before I learn.

1	2	3	4
Not at all	Occasionally	Frequently	Always

27. It is important to know why I am learning material.

1	2	3	4
Not at all	Occasionally	Frequently	Always

28. I trust faculty to tell me what I need to know.

1	2	3	4
Not at all	Occasionally	Frequently	Always

29. I like learning just for learning sake.

1	2	3	4
Not at all	Occasionally	Frequently	Always

30. The grade I receive is all that really matters.

1	2	3	4
Not at all	Occasionally	Frequently	Always

List the top five teaching methods that help you learn. (Examples: case study, lecture, handouts, worksheets, internet activities, group work in class, group work outside of class, self-study, tests, games, hands-on activities, other)

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## Appendix C

### Walker Teaching Methods Faculty Survey (Walker, 2004)

This survey is designed to determine faculty preferences for teaching methodologies in the classroom. Please answer the following questions by filling in the blanks or circling the most appropriate response.

This survey will take you approximately 5-10 minutes to complete. All survey responses will be confidential. By filling out this survey, you have provided consent to participate in this research study.

Thank you for your participation!

Begin Survey Here

Age: \_\_\_\_\_ (to compare different generations)

Years of teaching experience in nursing education: \_\_\_\_\_ (count all years including part-time)

1. I lecture (speak) on topics while my students listen, take notes, and answer questions.

1	2	3	4
Not at all	Occasionally	Frequently	Always

2. I have students apply skills in the classroom that were covered in the reading assignment.

1	2	3	4
Not at all	Occasionally	Frequently	Always

3. I have students work in groups with peers on an assignment.

1	2	3	4
Not at all	Occasionally	Frequently	Always

4. I use case studies to help students apply new concepts learned.

1	2	3	4
Not at all	Occasionally	Frequently	Always

5. I use visual aids when teaching new concepts (video, pictures, diagrams, etc).

1	2	3	4
Not at all	Occasionally	Frequently	Always

6. I have students work individually on an assignment.

1	2	3	4
Not at all	Occasionally	Frequently	Always

7. I encourage all students to participate in class discussions.

1	2	3	4
Not at all	Occasionally	Frequently	Always

8. I draw on the board to help students visualize new concepts.

1	2	3	4
Not at all	Occasionally	Frequently	Always

9. I teach a web-based course of study without class meetings.

1	2	3	4
Not at all	Occasionally	Frequently	Always

10. I tell personal stories of my experience on the topic I am teaching.

1	2	3	4
Not at all	Occasionally	Frequently	Always

11. I have students complete an assignment over the reading prior to class.

1	2	3	4
Not at all	Occasionally	Frequently	Always

12. I provide handouts for students to take notes on while listening to me lecture (speak).

1	2	3	4
Not at all	Occasionally	Frequently	Always

13. I encourage classroom interaction among students and myself as the professor.

1	2	3	4
Not at all	Occasionally	Frequently	Always

14. I use a combination of web-based study and classroom study.

1	2	3	4
Not at all	Occasionally	Frequently	Always

15. I expect students to read the assignment prior to coming to class where I discuss key points and share my experience on a topic.

1	2	3	4
Not at all	Occasionally	Frequently	Always

16. I provide activities that involve the use of technology during class to teach new concepts.

1	2	3	4
Not at all	Occasionally	Frequently	Always

17. I spend more time lecturing than having students work in groups with their peers.

1	2	3	4
Not at all	Occasionally	Frequently	Always

18. I facilitate active participation of all students in classroom discussion.

1	2	3	4
Not at all	Occasionally	Frequently	Always

19. I use games to teach and/or review new material (Jeopardy, etc.).

1	2	3	4
Not at all	Occasionally	Frequently	Always

20. I expect students to wait and read the assignment until after class has been held.

1	2	3	4
Not at all	Occasionally	Frequently	Always

21. I provide a lot of classroom structure and guidance for students.

1	2	3	4
Not at all	Occasionally	Frequently	Always

22. I expect students to take their own notes during class versus providing handouts.

1	2	3	4
Not at all	Occasionally	Frequently	Always

23. I use a variety of teaching methods in the classroom, such as lecture, group work, case studies, diagramming, etc.

1	2	3	4
Not at all	Occasionally	Frequently	Always

24. It is important for me to know each of my students' names.

1	2	3	4
Not at all	Occasionally	Frequently	Always

25. It is important to have all papers and course work count toward a grade.

1	2	3	4
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Not at all      Occasionally      Frequently      Always

26. It is important to discuss with my students why they need to learn each new concept.

1                      2                      3                      4

Not at all      Occasionally      Frequently      Always

27. It is important to have students participate in group assignments with their peers during class time.

1                      2                      3                      4

Not at all      Occasionally      Frequently      Always

28. I tell students what they need to know.

1                      2                      3                      4

Not at all      Occasionally      Frequently      Always

29. I emphasize learning just for learning sake.

1                      2                      3                      4

Not at all      Occasionally      Frequently      Always

30. I emphasize the grade each student receives is all that really matters.

1                      2                      3                      4

Not at all      Occasionally      Frequently      Always

31. Check the five teaching methods you utilize the most often in your classroom:

\_\_\_lecture

\_\_\_case studies

\_\_\_storytelling



\_\_\_ hands on activities

\_\_\_ activities with technology

\_\_\_ worksheets

\_\_\_ handouts

\_\_\_ visual aids (video, pictures, diagrams, etc.)

\_\_\_ group activities (presentations, working with peers to accomplish an activity)

\_\_\_ diagramming (concept maps, Venn diagrams, drawing, etc.)

\_\_\_ games (Jeopardy, etc.)

\_\_\_ group discussion (participating in classroom discussion on a topic)

\_\_\_ other – please specify \_\_\_\_\_

This is the end of the survey. Thank you!

## Appendix D

### Sample Information Letter

Jennifer Kitko, MS, RN  
89 Danver Country Lane  
Clearfield, PA 16830

(Date)

(Name of Dean)

(Title of Dean)

(Address of college)

Dear \_\_\_\_\_,

Thank you for providing me the opportunity to conduct my doctoral research study entitled “Generational Diversity in Associate Degree Nursing Students: Teaching Styles and Preferences in Pennsylvania” at \_\_\_\_\_. The purpose of this study is to compare preferred teaching methods of multi-generational associate degree nursing students with faculty use of teaching methods.

I am inviting all AD students and faculty who teach in your AD program to participate in my research study. All participants in the study will be asked to fill out a short survey that will take approximately 10 minutes to complete. There is one survey for students and one survey for faculty. I will contact your office to schedule a convenient time to visit your department to distribute the surveys to both nursing faculty and nursing students.

Faculty surveys are to be completed by any faculty members teaching in the associate degree nursing program and will be distributed by me prior to a faculty meeting. Nursing student surveys will be distributed by me prior to a nursing class. All surveys will be collected after surveys are completed.

Again, thank you for this opportunity to survey your faculty and students. I look forward to visiting your nursing department to distribute the surveys. Once the analysis is complete, I will gladly share with you the results of my study. Please contact me if you have any questions. My work number is 814-592-5184 and my home number is 814-765-4679. You can also reach me via e-mail at J.V.Kitko@iup.edu.

Sincerely,

Jennifer Kitko, MS, RN  
Doctoral Candidate  
Indiana University of Pennsylvania  
Enclosures