Generational Differences of Baccalaureate Nursing Students' Preferred Teaching Methods and Faculty Use of Teaching Methods

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This is dedicated to my loving husband Aaron and my three boys; Robert, David, and Dominic.

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Abstract

Nursing education is experiencing a generational phenomenon with student enrollment spanning three generations. Classrooms of the 21st century include the occasional Baby Boomer and a large number of Generation X and Generation Y students. Each of these generations has its own unique set of characteristics that have been shaped by values, trends, behaviors, and events in society. These generational characteristics create vast opportunities to learn, as well as challenges. One such challenge is the use of teaching methods that are congruent with nursing student preferences.

Although there is a wide range of studies conducted on student learning styles within the nursing education field, there is little research on the preferred teaching methods of nursing students. The purpose of this quantitative, descriptive study was to compare the preferred teaching methods of multi-generational baccalaureate nursing students with faculty use of teaching methods. The research study included 367 participants; 38 nursing faculty and 329 nursing students from five different colleges within the Midwest region.

The results of the two-tailed *t*-test found four statistically significant findings between Generation X and Y students and their preferred teaching methods including; lecture, listening to the professor lecture versus working in groups; actively participating in group discussion; and the importance of participating in group assignments. The results of the Analysis of Variance (ANOVA) found seventeen statistically significant findings between levels of students (freshmen/sophomores, juniors, & seniors) and their preferred teaching methods. 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 methods was also found in the analysis of data.

Generational Differences in Baccalaureate Nursing Students' Preferred Teaching Methods and Faculty Use of Teaching Methods

CHAPTER 1: INTRODUCTION

Nursing education is experiencing a generational phenomenon with student enrollment spanning three generations. Classrooms of the 21st century include an occasional Baby Boomer and a large number of Generation X and Generation Y students. Each of these generations has its own unique set of characteristics that have been shaped by values, trends, behaviors, and events in society. These generational characteristics create vast opportunities to learn, but the differences can also create challenges. One such challenge is the use of teaching methods that are congruent with nursing student preferences.

Problem Statement

Although there is a wide range of studies conducted on student learning styles within the nursing education field (Dunn & Griggs, 1998; Kelly, 1997; Laschinger & Boss, 1984; Linares, 1999; Lohri-Posey, 2003), there is little research on the preferred teaching methods of nursing students. Few studies have examined the generational impact of student preference on teaching methods or faculty use of teaching methods. This study was conducted to compare preferred teaching methods of multi-generational baccalaureate nursing students with faculty use of teaching methods.

Purpose of the Study

The purpose of this quantitative, descriptive study was to compare the preferred teaching methods of multi-generational baccalaureate nursing students with faculty use of teaching methods.

Context and Background

With an increasingly diverse age range of students in college classrooms, there is a variety of generational preferences for teaching methods (Coates, 2007). For the first time in American history, classrooms of the 21st century are a mix of four generations; Veterans, Baby Boomers, Generation X and Generation Y. Each generation brings forward its own unique characteristics.

The Veterans, also known as the Silent Generation, are those individuals born between 1925 and 1942 (Strauss & Howe, 1991). This generation values tradition, patriotism, and hard work. Although it would be rare for a Veteran to be enrolled as a college student in the 21st century, this generation may have a few 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).

The Baby Boomers, born between 1943 and 1960, are the largest generational cohort (Strauss & Howe, 1991). This generation values hard work and determination to succeed in life. The Baby Boomer generational cohort also comprises a large number of nursing faculty. This group of individuals is extremely competitive and motivated to learn if it will help them get ahead. Any college student from this generation is most likely not new to the college scene, but perhaps seeking a second career. The Baby Boomer generation also relates best to a traditional classroom and can find it challenging to work with Generations X and Y students (Coates, 2007).

The Generation Xers are the smallest generational cohort born between 1961 and 1981 (Strauss & Howe, 1991). This generation values a balance between family life and career, is extremely independent, and thrives on change. Generation Xers have been on

the college scene for over a decade; however, some are first time students. Many Generation X students, like the Baby Boomers, are also seeking second careers. Generation Xers are resourceful and independent and do not like to be micromanaged (Coates, 2007).

The Millennials, also known as Generation Y, were born between 1982 and 2002 (Strauss & Howe, 1991). This cohort is the largest and most diverse of any generation in history. They are the first cyber generation, having grown up with technology all of their lives, and are therefore very technologically savvy. 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).

Nursing educators face the challenge of meeting the needs of a multi-generational classroom. The reality of having Baby Boomers 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. This research study assists faculty members in determining how congruent their use of teaching methods are with student preferences by comparing what teaching methods students prefer, with what teaching methods are actually used. Ultimately, this research helps faculty to facilitate an effective multi-generational learning environment.

Research Questions

1) What types of teaching methods do different generations of baccalaureate nursing students prefer?
2) Is there a relationship between the levels of baccalaureate nursing students and their preferred teaching methods?

3) Is there a specific teaching method used in the classroom by faculty more frequently than others?
4) Is there a relationship between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods?

Method

This quantitative study used two descriptive surveys to compare generational differences in preferred teaching methods of baccalaureate nursing students and the use of teaching methods by nursing faculty. One survey assessed nursing students' preferences for teaching methods and a second survey assessed faculty use of teaching methods in the classroom. The student survey was an adapted version of Walker's Teaching Method Survey (WTMS) developed in 2004 and the faculty survey was newly created for this study. Dr. Jean T. Walker, author of the original WTMS, granted written permission to use, modify, or adapt the survey for this particular study. The setting for this study included five small, private colleges located in the Midwest region.

Definition of Terms

For the purpose of this study, the following operational definitions (as defined by Strauss & Howe, 1991) were used:

- Veterans (Silents): those individuals born between 1925-1942,
- Baby Boomers: those individuals born between 1943-1960,
- Generation X: those individuals born between 1961-1981,
- Generation Y: those individuals born between 1982-2003.

For the purpose of this study, the following operational definitions (as defined by the researcher) were used:

- Multi-generational: a mix of two or more generations; most commonly generations X and Y.
- Learning: an individual's ability to comprehend, retain, and apply new content.
- Teaching methods: strategies used by educators to facilitate student learning of new concepts.
- Teaching method preference: an individual's favorite way to be taught new information.
- Lecture: a teaching method used in which faculty members discuss topics and students are passive listeners.
- Active learning: engaging learners in the application of concepts being taught.
- Passive learning: providing learners with information, but not applying the concepts taught.

Assumptions

The underlying assumptions of this study included the following: learning is based on teaching; students are in college to learn; and students of similar generations have similar educational and life experiences and therefore have similar teaching method preferences. One final assumption was educators have the option to use a variety of teaching methods to facilitate learning.

Hypotheses

The following hypotheses were formulated for this research study:

- Different generations of baccalaureate nursing students will have similar preferences in teaching methods.
- Different levels of baccalaureate nursing students will have similar preferences in teaching methods.

- There will be a teaching method used more frequently than others by faculty.
- There will be a relationship between faculty use of teaching methods and student preferences.

Significance

This study is significant because little research has been conducted on the preferred teaching methods of nursing students. In addition, few studies have examined the generational impact of student preference on teaching methods or faculty use of teaching methods in nursing education. This study adds new knowledge to the nursing education field and provides opportunities for future research in this area.

Another significant aspect of this study is it provides nurse educators with the opportunity to learn more about the generational differences of their nursing students. It also allows faculty to reexamine their own generational biases and how their use of teaching methods correlates with student preferences. Ultimately, this study enhances nursing education and assists educators in facilitating an effective learning environment for the multi-generational classroom.

CHAPTER II: LITERATURE REVIEW

Introduction

This chapter discusses the historical perspective, method for the literature review, and the theoretical base for the research study. It also discusses literature associated with the four current generational cohorts, learning styles and preferences, learning theorists, generational differences in nursing students and their preferred teaching methods, faculty use of teaching methods, and the matching of teaching methods with student preferences.

Historical Perspective

Nursing education is experiencing a generational phenomenon with student enrollment spanning three generations. Classrooms of the 21st century include a few Baby Boomer students and a large number of Generation X and Generation Y students. Each of these generations has its own unique set of characteristics that have been shaped by values, trends, behaviors, and events in society. These generational characteristics create vast opportunities to learn, but the differences can also create challenges.

To better understand the unique differences of students, it is important to investigate how generations are defined, what learning styles and teaching methods students prefer and if there is a relationship between these variables. The review of literature served as means of providing a baseline of information as the foundation for this research study.

Method for Literature Review

A computer literature search on generational characteristics, teaching method preferences, and learning styles of nursing students was conducted using EBSCOhost, CINAHL, eLibrary, Goggle, and Wilson. The following key words were used: "teaching strategies and generations", "teaching methods, generations, and preferences", "preferred

teaching methods and generations", "learning preference", "learning styles and nursing students", "learning styles and nursing education", "learning preferences and generations", "generational styles", "teaching method preferences of nursing students", and "preferences for teaching methods".

Over 160 abstracts between the years of 1983-2008 were reviewed, as well as over 20 books on the topics of adult learning theories, learning style theories, generations, nursing education, teaching methods for nurse educators, statistics, and survey development. The majority of the literature emerged from the United States of America (USA); however, other countries represented in the review of literature included Canada, the United Kingdom (UK), The Netherlands, China, Hong Kong, Ireland, Israel, Japan, Portugal, and Spain.

Theoretical Base

The theoretical base for the research study was Malcolm Knowles's Andragogical Theory of Adult Learning. Andragogy, as defined by Knowles (1980), is the "art and science of helping adults learn" (p. 43). According to Malcolm Knowles (1975), self-directed learning is a process "in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 18). Malcolm Knowles's theory sought to explain the characteristics of adult self-directed learning under the following assumptions: the need to know, the learner's self-concept, the role of the learner's experience, readiness to learn, orientation to learning, and motivation (Knowles, 1984).

The first assumption of Knowles's theory is the need for adults to know why they are learning something. According to Knowles (1984), adults need to understand the relevance of the learning before partaking in the learning. Adults learn best when information has meaning that can be applied to real-life experiences.

The learner's self-concept is the second assumption in Knowles's theory. This assumption implies adults need to be responsible for their own learning and their own decisions; in essence, self-directed. According to Knowles (1984), adult educators need to assist individuals to be responsible for their own learning and make the transition from dependent to self-directed learners.

The third assumption in Knowles's theory is taking into account the role of the learner's experience. Adult learners come with a wide array of experiences and differences to consider. Knowles (1984) emphasized the need to individualize teaching and learning strategies and stated, "in any situation in which adults' experience is ignored or devalued they perceive this as not rejecting just their experience, but rejecting them as persons" (p. 58). Adult learners learn best when they can connect their prior experience with newly learned information.

An individual's readiness to learn encompasses the fourth assumption in Knowles's theory. According to Knowles (1984), the critical aspect of this assumption is the importance of timing educational experiences with developmental tasks. Adult learners have a strong desire to direct their own learning and will choose to learn when they are ready and have a need or interest to learn.

An adult's orientation to learning and motivation are the fifth and sixth assumptions in Knowles's theory. According to Knowles (1984), students are "life-centered in their orientation to learning" (p. 59). In other words, students are motivated to

learn based on how content learned will help them in real-life situations (Knowles, 1984). Both external and internal pressures are motivators for learning; however, adults tend to be more motivated to learn by internal pressures including job satisfaction, quality of life, and self-esteem (Knowles, 1984).

In his theory of adult learning, Knowles (1984) discussed how the andragogical model is not an ideology, but rather a "system of alternative sets of assumptions" for adults (p. 62). The difference between the pedagogical model and the andragogical model is the pedagogical model for educating children excludes all of the assumptions of the andragogical model (Knowles, 1984). The andragogical model, however, does include all of the pedagogical assumptions and works to transition the learner to becoming self-directed in their learning. To facilitate this process, it is the responsibility of all educators to determine which assumptions are realistic for a learner in a given situation (Knowles, 1984).

College students are assumed to be adult learners based on their biological age. However, not all students are ready to be self-directed in their learning and switch from teacher-centered to student-centered environments. Whether or not students are ready and able to move from the pedagogical model of educating children to the adragogical model of adult learning depends on numerous variables; including how each of the assumptions outlined in Knowles's theory are addressed based on teaching methods used by faculty. Knowles's Andragogical Theory of Adult Learning principles aligns with the population of students being studied in this research because all student participants are considered to be adult learners. This research study sought to discover what teaching methods students preferred to help them learn and what teaching methods faculty were actually using in the classroom to facilitate learning.

Organization of Literature Review

The literature review revealed a vast array of information on the values, behaviors, and characteristics of each generation including Baby Boomers, Generation X, and Generation Y. It also provided a large amount of information on learning styles and teaching methods/strategies. However, only a minimal amount of information was found in the literature related to teaching method preferences of nursing students.

The findings of the review of literature are presented under the following major headings: definition of a generation, generational cohorts, generational stereotypes, definition of a learning style, definition of a learning style preference and teaching method preference, learning style theorists, learning style preferences of nursing students, generational differences in preferred teaching methods of students, a shift in teaching paradigms, teaching methods used by faculty, and matching teaching methods with student preferences.

Definition of a Generation

When an individual is born, he or she becomes part of a specific cohort or group of individuals all born within a certain time frame. These time frames, which span over a designated number of years, become the cornerstone for classifying a specific generation. As defined by Strauss and Howe (1991), a generation is "a cohort-group whose length approximates the span of a phase of life and whose boundaries are fixed by peer personality" (p. 60). Straus and Howe's definition of a generation included two important elements: the length of a generational cohort and its peer personality.

Length of a Generational Cohort

The length of a generational cohort has been debated for years. Strauss and Howe (1991) base the length of each generation on the length of a phase of life; approximately

within 22 year time frames. As a result, they have created four cohort-groups; each approximately 22 years in length and each possessing a specific peer personality. Strauss and Howe (1991), defined the four generations as the following: Veterans (Silent) generation born 1925 to 1942; Boom generation born 1943-1960; Generation X (13th generation) born 1961-1981; and the Millennial generation born 1982-2003.

Johnson and Romanello (2005) have defined each generation similarly to Strauss and Howe (1991) according to length in number of years. The only difference in Johnson and Romanello's (2005) research is the length of time for Generation Y, which they defined as lasting from 1982-2002.

The review of literature does show variations in the length of each generation. One example is Julie Coates' (2007) research with generations and generational learning styles. While others have identified only four living generations, Coates divided the generations into five categories; splitting the oldest generation into two with a span of only 13 years each. Coates' (2007) definition of each generation was as follows: the Veteran generation, born 1920-1933; the Silent generation, born 1933-1946; the Baby Boom generation, born 1946-1964; Generation X born, 1964-1980; and Generation Y, born 1980-2000.

The study for which the current research is based upon also defined each generation in different time spans. Walker, Martin, White, Elliott, Norwood, Mangum et al., (2006) conducted a study that examined the generational differences in teaching method preferences among nursing students, and defined each generation according to the following time frames: Baby Boomers, born 1946-1964; Generation X, born 1965-1979; and Generation Y, born since 1980.

Regardless of the variations, most of the literature reviewed, concluded there are four distinct generations: Veterans (Silents), Baby Boomers, Generation Xers, and Generation Y (Millennials). Each member of a generation relates to others within the same generation through trends and historical events that have occurred in society; otherwise known as cohort experiences. Cohort experiences help to shape the values, perceptions, and behaviors within a specific generation. Because cohort experiences have such a profound impact on norms within each generation, Coates (2007) concluded that learning styles and preferences are also affected by these experiences.

Peer Personality

Strauss and Howe (1991) further defined cohort experiences, in their definition of a generation, as the term peer personality. A "peer personality" was defined as "a generational persona recognized and determined by (1) common age location; (2) common beliefs and behavior; and (3) perceived membership in a common generation" (Strauss & Howe, 1991, p. 64). It is known as a collection of behavioral traits and attitudes that later expresses itself in each individual's life (Strauss & Howe, 1991). For example, Strauss and Howe (1991) stated how a child is raised will affect how that individual will parent, and how a student is taught will affect how that individual will teach.

A similar phrase used in the literature to describe shared beliefs and attitudes within a cohort is the term generational characteristics. According to Kupperschmidt (2000), generational characteristics include such things as "values, attitudes, preferences, and behaviors that form the filter through which cohorts interpret subsequent life experiences" (p. 66). These shared generational characteristics allow individuals within each generation to relate to one another.

Generational Cohorts

Differences in generations have existed since the beginning of time. According to Scott (2007), "generational differences are based on variations in values that developed as each generation was coming of age and becoming adults" (p. 7). These differences also lead to challenges in the multigenerational classroom. Coates (2007) explained, "today's generation of learners are quite different from past generations of learners…primarily because the world is quite different" (p. 38-39). Each generation has unique characteristics and presents with a different set of learning needs. It is up to educators to become knowledgeable of both. As stated by Scott (2007), knowledge of differences can create an environment respectful of differences.

Veteran (Silent) Generation

The Veteran Generation, also known as the Silent Generation, is a cohort of individuals who were born between the years 1925-1942 (Strauss & Howe, 1991). This generation grew up during the stock market crash, the Great Depression and World War II. The Veterans are small in overall number and sandwiched between two larger generations; the G.I. generation and the Baby Boomer generation (Coates, 2007). Because of the time frame in which these individuals were born, they are sometimes referred to as "depression babies" and experienced only a seven percent increase in population during the 1930's (Strauss & Howe, 1991).

The world events and harsh economic times faced by those in the Veteran generation formed this cohort's values of traditionalism, conservatism, respect for authority, hard work and loyalty to country. This generation, ever mindful of the value of saving, was willing to sacrifice to provide for their Baby Boomer children (Kupperschmidt, 2000). Individuals from this generation married and had children at a

young age. According to Strauss and Howe (1991), the Veterans or Silents, “were the earliest-marrying and earliest-babying generation in American history” (p. 284). As a result, many from this generation did not finish high school and an even smaller number attended college. Those who did attend college were mostly men because women in this generational cohort showed no gain in educational achievement (Strauss & Howe, 1991).

The generational characteristics of Veterans transfered over to classroom settings as well. Their school-age experiences were very structured with clear guidelines and rules (Weston, 2001). Veterans are formal, traditional learners who are accustomed to teacher-centered activities and prefer an orderly classroom environment (Coates, 2007). This generation prefers teaching methods such as lecture where information is personally delivered to them (Kupperschmidt, 2000). Because of this, Veterans sometimes struggle with a more informal student-centered learning environment.

In their lifetime, Veterans have experienced the explosive transformation of the world from the industrial age to the informatics age. Although this generation characteristically struggles with technology, the literature supports that many in this cohort are willing and able to use it. According to Coates (2007), it is essential that educators accept that older learners are “willing and able to take on learning with new technology, even if it is a bit more challenging and they are a bit slower in mastering it” (p. 82).

Baby Boomer Generation

The Baby Boomers, born between the years of 1943-1960 were the product of a “boom” in births following World War II (Strauss & Howe, 1991) and quickly became the largest generation of their time. This generation’s values and beliefs were shaped by events such as the Civil Rights Movement, the advent of the birth control pill,

Woodstock, the assassination of President John F. Kennedy, and the Korean and Vietnam Wars. Baby Boomers grew up in a time of economic prosperity and educational expansion. Therefore, a record number of individuals from this generation were given the opportunity to attend college. According to Coates (2007), "their sheer numbers motivated them to do whatever they could to become successful and to stand out from the crowd" (p. 85).

As a result of having to work hard and compete in every aspect of life to get ahead, Baby Boomers are extremely competitive as well as loyal employees. This generation's obsession for work and intense competitiveness has resulted in them being labeled as work-a-holics, self-centered, self-deluded, judgmental, and over-confident (Coates, 2007). Kupperschmidt (2000) described this generation as not only workaholics, but also as strong-willed individuals who are concerned with material gain. Due to events such as the Vietnam War and the Watergate scandal, this generation learned not to respect authority and at times was rebellious. However, in classrooms as well as the workforce, Baby Boomers exhibit a good work ethic and can at times become frustrated with younger generations who have a different set of values (Coates, 2007).

Baby Boomer students in 21st century classrooms are often seeking a second career. They too are accustomed to traditional pedagogy and prefer lecture, handouts and taking notes; however they also like interactive activities such as group discussions (Coates, 2007; Johnson & Romanello, 2005). These individuals will arrive on time and come prepared for class. Johnson and Romanello (2005) described this cohort as very concerned with grades, yet conscientious and willing to accept help if needed. Although Baby Boomers may struggle with technology, they are willing to learn it to continue to be

competitive. According to Weston (2001), Boomers' adaptations to technology are largely due to their motivation to be more productive as well as have more free time.

Generation X

Generation Xers, the 13th generation studied in history, were born between the years of 1961-1981 and are the smallest generational cohort in history (Strauss & Howe, 1991). Generation X was shaped by world events such as the Challenger disaster, the fall of the Berlin Wall and Operation Desert Storm. Individuals within this generation grew up in a time period in which 50% of all marriages ended in divorce and record numbers of children were being raised by single parents and coming home after school to an empty house (Coates, 2007). As a result of having to fend for themselves, this generation quickly became the most independent and resourceful group of individuals and subsequently earned the label "latch-key kids".

Generation X learned quickly not to take anything for granted due to the uncertainty of their future. According to Kupperschmidt (2000), this generation "inherited Boomers' social debris: self-absorbed parents, divorce, latchkey kids, soaring national debt, an educational system that emphasized social skills and self-esteem rather than academic achievement, an anti-child society, and reality driven television shows and movies" (p. 69). Amidst these challenges, this generation adapts well to change and is assertive and self-directed (Weston, 2001).

Generation X does not exhibit the same commitment to organizations in the workforce as previous generations. This generational characteristic is a direct result of the environment in which these individuals were raised. Generation X watched as their Baby Boomer parents gave up spending time with their families in order to get further ahead in their careers. As a result, this generation collectively seeks more balance in their lives and

values spending time with family at home even if it means making less money (Coates, 2007). They also expect work to be fun as they balance leisure and work time (Kupperschmidt, 2000). Therefore, Generation X has "little regard for corporate life" and will "frequently challenge authority and status quo" (Walker et al., 2006, p. 371). Baby Boomers have frequently labeled Generation Xers as having a poor work ethic due to these generational characteristics.

Members of Generation X have been on the college scene for over twenty years, and have been studied extensively within the literature. According to Walker et al., (2006), Generation X will continue to be a dominant force in college classrooms as many individuals from this generation are seeking second careers. The preference for independence by Generation X students carries over into the classroom setting as well. Collins and Tilson (2006), found that Generation X students like to perform tasks independently and prefer a variety of teaching methods such as self-directed activities, on-line courses, and activities with visual aids (e.g. photos, graphics). Because of their preference for independence, the literature also found Generation X students like distance learning (Johnson and Romanello, 2005).

Individuals in the Generation X cohort prefer a more casual and informal learning environment than previous generations. However, they also like detailed study guides and test reviews and prefer all assignments and expectations be clearly communicated in a straightforward manner; have real-life applicability; and have points attached to each one (Collins & Tilson, 2000; Johnson & Romanello, 2005).

Having grown up with technology since their early years, members Generation X are very technologically literate and good at multi-tasking. According to Johnson and Romanello (2005), they are not only comfortable with technology, but they also adapt

well to change. Generation Xers use technology on a daily basis and expect its use in college classrooms. According to Weston (2001), the use of technology has resulted in this generation's expectation of instant response and satisfaction. Time is a precious commodity for this generation, therefore, these individuals prefer the easiest and quickest way to learn and have little regard for wasted time or non-relevant information (Coates, 2007; Johnson & Romanello, 2005).

Generation Y

Generation Y, also known as the Millennials or the Net Generation, were born between the years of 1982 and 2003 (Strauss & Howe, 1991). According to Strauss and Howe (2000), the term Millennial refers to a rising force. This generation is "anticipated to come forth with the combined best of the previous generations to make a historical mark on this country" (Walker et al., 2006, p. 372). These expectations have led to this generation being coined as the next great generation.

The Millennials are three times larger than the Baby Boomers and are the most culturally diverse and globally mobile generation in our nation's history. Members of this generational cohort are either in college or entering the workforce while at the same time facing a rapidly changing world. Millennials were raised during a time when terrorism, violence and drugs were realities in their everyday lives (Sherman, 2006). They were shaped by events such as the terrorist attacks of 9/11, school shootings, the War in Iraq, and the explosion of technology.

Parental supervision took on a new meaning with Millennial children. As a result of societal and world events, Generation Y became the most protected generation in history. Millennials are drawn to their parents for safety and security and have therefore developed close relationships with them (McGlynn, 2005; Sherman, 2006). According to

Coates (2007), Millennials have grown up in “a very structured, busy, and over planned world” (p. 113). Consequently, they have relied on their parents to take care of everything and at times struggle with organizing their own time or dealing with their own conflicts because they are used to having this done for them (Coates, 2007).

Millennials are the most technologically savvy generation in history; a major difference among the four current generations. They have grown up with the use of a wide array of technological devices; including personal computers, laptops, cell phones, i-Pods®, and video games. As compared with previous generations, the Millennials have never known life without technology. According to Skiba (2005), “computers and technology are embedded within their world…existing when they were born and just a part of life” (p. 370). They utilize it in every aspect of their daily routine, not only for communicating with others, but also as a way to find information quickly and multi-task. They also have the technological ability to stay connected with their parents even when living apart from them.

This generation is accustomed to having immediate access to information 24/7, and therefore tends to exhibit short attention spans and expect instant feedback (Arhin & Johnson-Mallard, 2003; Johnson & Romanello, 2005; Skiba, 2005). Prensky (2001) attributed their short attention spans to the use of technology and stated “brains that undergo different developmental experiences develop differently, and that people who undergo different inputs from the culture that surrounds them think differently” (p. 3). They have a preference for learning on their own time and also on their own terms (McGlynn, 2005).

These generational characteristics also transfer to the classroom setting. The integration of technology in the classroom is an expectation for Generation Y. They see

the use of technology as a way to communicate, explore and socialize, as well as a tool to facilitate their learning (Hartman, Dziuban, & Brophy-Ellison, 2007). Therefore, they have a strong preference for the incorporation of technology into the learning environment and prefer to find information and knowledge from the internet instead of using a textbook (Skiba & Barton, 2006). Although Generation Y students have a high preference for distance learning, they also like detailed study guides, and test reviews to facilitate their learning (Johnson & Romanello, 2005).

Millennials, having grown up since elementary school working with their peers to complete assignments, have a strong preference for working in groups. This generation prefers active and interactive learning activities such as games and simulation with peer to peer collaboration in group settings (Carlson, 2005; Johnson & Romanello, 2005; Skiba, 2005). The review of literature found that if the classroom does not provide opportunity for interaction with their peers, members of Generation Y will not come to class (Skiba and Barton, 2006).

Millennial students are very positive and assertive. They are respectful of authority, but will not hesitate to challenge it (Walker et al., 2006). Millennials, like Generation X, possess the generational characteristic of expecting their educational experience to have relevance. According to Prensky (2007), they want learning to be "meaningful, worthwhile, and relevant to the future" (p. 1). It is not merely relevance this generation prefers, but engagement in their learning (Prensky, 2005).

Generational Stereotypes

Differences among each of the four current generations can create conflict and misunderstandings not only in society, but also in college settings. Stereotypes in turn can lead to feelings of resentment. According to Lancaster and Stillman (2005), the only way

to stop the stereotypes and resentment is to get to know each generation and why they value the things they do.

Definition of a Learning Style

All students, regardless of the generational cohort in which they belong, have a specific learning style for which information is retained best. A learning style encompasses how an individual acquires, processes, and retains information. There are many definitions of learning styles within the literature. Dunn and Dunn (1978) defined learning styles as how an individual processes, internalizes, and remembers new information. Laschinger and Boss (1984) defined learning styles as a way an individual organizes and experiences information.

In a study conducted by Noble, Miller, & Heckman (2008), the researchers defined how a student learns and processes information in a similar term known as a "field preference". A field preference includes the characteristics of how a learner perceives, acquires, processes, organizes, and applies information (Messick, 1984). Regardless of the definition, the learning styles of students are an important factor to consider in education.

Definition of Generational Learning Style.

Learning styles manifest differently within each generational cohort as well. As a result of these differences, a more specific learning style term known as a "generational learning style" has been coined in the literature. As defined by Coates (2007), a "generational learning style" is the unique set of learning style characteristics within a generation that is shaped by cohort experiences. Educators need to examine how factors such as society, culture, values and experience also influence how a student learns best. (Coates, 2007). Because each generation of learners presents with different learning

needs, educators need to: expect that younger adults will learn differently than children or older adults, expect that learning styles will change over time, and expect that learning environments may influence how individuals prefer to learn (Coates, 2007).

Definition of Learning Style Preference and Teaching Method Preference

All students have specific learning style preferences and teaching method preferences that work best to facilitate learning new material. The terms "learning style preference" and "teaching method preference" are often used interchangeably in the literature when discussing students' preferences for learning new information. Linares (1999), defined a learning style preference as an individual's personal likes and dislikes related to how they learn. Cassidy (2004) referred to learning style preferences as the favoring of one method of teaching over another. The preference for instruction is directly related to what the student favors for methods, resources or approaches (Griggs, Griggs, Dunn, & Ingham, 1994) and is also directly affected by what faculty use.

Regardless of how learning styles are defined, each individual has a certain preference or way of learning new material. Some students may be self-directed in their learning "in which the person's primary intention is to gain certain definite knowledge or skills" while others may need more organized instruction (Cross, 1981, pp. 186-187). Despite their preference, students do not always know when or how they learn best (Davis & Franklin, 2004) and many try various strategies and methods.

Students' learning styles and/or preferences for learning are not necessarily static. Pedrosa de Jesus, Almeida, and Watts (2004) discovered "as students proceed in their learning process, they can discover new and better ways of learning" and therefore vary their learning styles (p. 533). A learning style or preference may stay the same over time or it may change with each new situation or experience (Cassidy, 2004). McDonough and

Osterbrink (2005) agreed stating, “learning styles are not static and may change as a result of the type of instruction to which the student is exposed” (p. 91). This change is known as style-flexing and occurs when an individual uses a learning style that is not his or her preferred learning style (Jones, Reichard, & Mokhtari, 2003).

The literature has shown that students are able to style-flex from one learning style to another when studying different subjects to meet requirements of a particular course (Jones, Reichard, & Mokhtari, 2003). This style-flexing is often encouraged to expose students to using a variety of different learning styles and teaching methods.

Learning Style Theories

There are many theories on learning styles within the literature. Some of the more well-known theorists include; Kolb, Myers’-Briggs, Dunn and Dunn, and Howard Gardner. A brief summary of each of these theories as well as their learning style instruments is described.

Kolb’s Experiential Learning Theory

Kolb’s Experiential Learning Theory (1976) described learning as a lifelong cycle that includes the following four modes: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Within this model, the learner follows a cycle that first involves experience, followed by reflection, then thinking, and finally doing.

The four modes of learning occur on two continuums. The first continuum runs horizontally and includes concrete experimentation and abstract conceptualization. The second continuum runs vertically and includes active experimentation and reflective observation. When these two axes cross at midpoint, four quadrants are formed with four learning styles: the diverger, the assimilator, the converger, and the accommodator (Kolb,

1976). Each learning style has specific characteristics for which individuals prefer to learn. According to Kolb (1984), students develop a preference for learning in a certain way and will adopt different learning styles for different learning situations. However, most learners favor certain learning styles over others.

The diverger learns through concrete experience and reflective observation (Kolb, 1976). According to Pedrosa de Jesus et al. (2004), this type of learner is "imaginative, understands people, perceives relationships between situations, and is good at brainstorming" (p. 534). The diverger has strengths in problem-solving, practical application of materials, and decision-making (Kelly, 1997). The assimilator is an individual who learns through reflective observation and abstract conceptualization (Kolb, 1976). This type of learner prefers to develop models and theories through inductive reasoning (Lashinger & Boss, 1984).

The converger learns through abstract conceptualization and active experimentation (Kolb, 1976). Convergers prefer to apply theory to practical situations and are good at decision making and problem solving (Lashinger & Boss, 1984; Pedrosa de Jesus et al., 2004). The accommodator is an individual who learns through active experimentation and concrete experience (Kolb, 1976). An accommodator learns best through trial and error and is good at getting things done (Kelly, 1997; Pedrosa de Jesus et al., 2004).

To determine individual learning styles, Kolb originally developed a 9-item Learning Style Inventory (LSI) in 1976. This measurement tool was later revised to a 12-point item LSI. The review of literature found Kolb's LSI as the most frequently used learning style assessment tool, especially when determining the learning styles of nursing students.

Myers-Briggs Type Indicator® (MBTI)

Personality types can have a direct affect on an individual's learning style. As a result, Isabel Myers developed a personality assessment tool, called the Myers-Briggs Type Indicator® (MBTI) based on Carl Jung's four basic psychological functions: thinking, feeling, sensation, and intuition (Myers, 1980). The MBTI is used to "assess the strength of the four pairs of dichotomous processes (Barr, 1998). These four pairs include: extraversion versus introversion (EI); sensing versus intuition (SN); thinking versus feeling (TF); and judging versus perceiving (JP) (Myers, 1980).

The extraversion versus introversion (EI) reflects an individual's "orientation to either the outside world of people and things or the inner world of concepts and ideas" (Kitchie, 1997, p. 77). The sensing versus intuition (SN) describes how individuals perceive things either through their senses or unconsciously through intuition. Thinking versus (TF) feeling refers to how an individual arrives at judgments, either through "impersonal, logical, or subjective processes" (Kitchie, 1997, p. 78). Finally, judgment versus perception (JP) is how a person comes to a conclusion or becomes aware of a situation (Kitchie, 1997).

Dunn and Dunn Learning-Style Model

The Dunn and Dunn Learning-Style Model is based on the theory "that each person has biologically and developmentally imposed characteristics that respond either positively or negatively to a variety of environmental, emotional, sociological, physiological, cognitive, and instructional variables" (Dunn & Griggs, 1998, p. 11). Dunn and Dunn (1978) identified 21 different elements that influence the way an individual learns into their model. These 21 elements are further divided into five stimuli including: environmental dimensions (sound, light, temperature, design); emotional dimensions

(motivation, persistence, responsibility, structure); sociological dimensions (self, pairs, team, varied); physiological dimensions (intake, time of day, mobility); and psychological dimensions (global/analytic, right/left, impulsive/reflective).

The Dunn and Dunn Learning-style model not only assumes most individuals can learn, but also assumes knowledge of learning styles can facilitate academic success in students (Dunn & Griggs, 1998). To measure individual learning styles, two assessment tools; the Learning Styles Inventory (Dunn, Dunn, & Price, 1985) for grades 3-12 and the Productivity Environmental Preference Survey (Dunn, Dunn, & Price, 1982) for adult learners were developed (Griggs, 1991).

To further understand the learning styles of nursing students, Griggs, Griggs, Dunn, and Ingham (1994), presented a framework that incorporates their model into Curry's Onion Model of Learning and Cognitive Style (Curry, 1987). Griggs, Griggs, Dunn, and Ingham (1994) described the first layer of Curry's Onion Model as the Myers-Briggs Type Indicator® (Myers, 1962), the second layer as Kolb's Learning Style Inventory (Kolb, 1976), the third layer as the Witkin's Embedded Figures Test (Witkin, Oltman, Raskin, & Karp, 1971), and the final layer as the Productivity Environmental Preference Survey (PEPS) of Dunn, Dunn, and Price (1982). All layers are used to determine students' learning styles.

Howard Gardner's Theory of Multiple Intelligences

Howard Gardner (1983) originally developed a theory of multiple intelligences that assesses seven different kinds of intelligences. These seven intelligences included: linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, and intrapersonal (Gardner, 1983). Later, additional intelligences were added to his theory including verbal intelligence and the naturalistic intelligence were added (Nolen, 2003).

Individuals who have verbal intelligence like the mastery of language. These individuals learn best by reading, writing, telling stories, and jokes (Nolen, 2003). Linguistic intelligence learners work well with grammar and are able to explain things well to others. This individual learns best in an environment that uses language he or she can fully comprehend and relate to (Nolen, 2003). Musical intelligence learners use sound, rhythm, and pitch to convey their emotions. Consequently, these learners excel at reading, writing, and singing music and learn best when this can be incorporated in to learning new material (Nolen, 2003).

Mathematical-logical intelligences like the use of numbers and figures to learn. These individuals are able to think logically, detect patterns, and learn best through logical sequencing in classroom settings (Nolen, 2003). An individual with spatial intelligence prefers to learn by solving problems through manipulation and mental images. These individuals learn best with the use of pictures, photographs, drawings, films, diagrams, or other visual aids (Nolen, 2003).

Bodily-kinesthetic intelligences understand the world and learn best through movement. These individuals need physical movement, including something to keep their hands busy, to enable learning to take place (Nolen, 2003). Interpersonal intelligences have the ability to perceive and understand people's feelings and moods. These individuals work very well in groups with others (Nolen, 2003). In contrast, intrapersonal intelligence individuals know themselves well, but not necessarily others. These individuals are patient and motivated, but prefer to work individually (Nolen, 2003). Finally, the naturalistic intelligence individual learns from observing his or her environment. This individual learns best being outdoors in a natural setting (Nolen, 2003).

Learning Style Preferences of Nursing Students

Many studies within the review of literature utilized various theorists and their assessment tools to determine learning style preferences of nursing students from all types of programs including practical nursing programs, associate degree programs, diploma programs, and baccalaureate programs.

Kolb's learning theory and Learning Style Inventory (1976) were found to have been utilized frequently in the review of literature. In a study conducted by Laschinger and Boss (1984), researchers sought to determine learning style preferences of nursing students from a variety of programs; including diploma and baccalaureate. The assessment tool for the study was Kolb's Learning Style Inventory (Kolb, 1976). A total of 268 nursing students from two undergraduate nursing programs participated in the study.

The results of Laschinger and Boss's (1984) 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. Overall, the researchers found that students learned best in environments that involved direct experience and suggested faculty can facilitate this by incorporating activities such as small group discussion, visual aids, role playing, and simulations (Laschinger & Boss, 1984).

In a similar study, Cavanagh, Hogan, and Ramgopal (1995) also sought to examine the learning style preferences of nursing students as well as determine if there was a relationship between learning style, gender, age, previous work experience, and educational attainment. The study involved 192 nursing students in the United Kingdom. All students were given Kolb's Learning Style Inventory II (Kolb, 1985) as well as a questionnaire about his/her demographic and biographic information.

The results of the study showed 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 (Cavanagh et al., 1995). Like Laschinger and Boss's (1984) study, the results supported Kolb's theory that "concrete learners tend to choose people-oriented professions" (Cavanagh et al., 1995, p. 181). The results of the study showed no significant findings with gender, age, previous work experience, or educational attainment. Overall, the findings supported the need for using a variety of learning styles as well as a variety of teaching delivery styles to encourage active learning and participation with students.

Although there have been many studies on the learning styles of students, few studies have examined both student and educator learning styles. Joyce-Nagata (1996) conducted a study to "identify learning styles of traditional baccalaureate nursing students, registered nurse baccalaureate students, baccalaureate nursing students holding a previous non-nursing degree, and nursing educators; and to determine the effects of teacher/student learning style congruency on academic performance" (p. 69).

Joyce-Nagata's (1996) study consisted of 353 participants from two schools of nursing in Mississippi with 19 nurse educators, 229 traditional baccalaureate students, 42 registered nurse baccalaureate students, and 60 baccalaureate students with non-nursing degrees. All participants of the study were given the Kolb's Learning Style Inventory (Kolb, 1976) to determine preferred learning styles/preferences. The results of the study found the majority of participants, students and educators alike, were assimilators.

When examining for differences in traditional versus nontraditional nursing students, no statistically significant difference was found in the learning styles of traditional and nontraditional nursing students (Joyce-Nagata, 1996). The results of the

study also found no statistically significant difference in the academic performance of students when type of learning style was matched by the faculty. The author concluded that further investigation was needed to determine the relationship of learning style to teaching style (Joyce-Nagata, 1996).

Lohri-Posey (2003) sought to determine the learning style preferences among baccalaureate nursing students by using Felder's and Soloman's Index of Learning Styles questionnaire (Felder, 1993). This survey tool was administered to a total of 44 students; 27 baccalaureate nursing students and 17 RN to BSN students. The results of this small study showed 65% of students were active learners who preferred sensory perceptions. A total of 67% of 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 found 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" (Lohri-Posey, 2003, p. 54). Therefore, nursing faculty should use a variety of teaching methods to meet the needs of different learning style preferences.

Research has shown that all individuals learn differently and have a certain preference for learning that develops over time. In a study conducted by Baldwin and Sabry (2003), Felder and Soloman's Index of Learning Styles questionnaire was used to explore the learning style profiles of computer science students. The Baldwin and Sabry (2003) study explored how students' learning styles can be used with an interactive learning system (ILS); defined as a teaching method that actively engages learners, provides meaningful feedback, is learner-centered and provides choices with a variety of ways to interact. An ILS must take into consideration the content to be taught, individual

teaching method preferences, technology used, pedagogy, and interaction with all components (Baldwin & Sabry, 2003).

A total of 168 questionnaires were distributed to first and second year students in the Department of Information Systems and Computing at Brunel University in the United Kingdom with a total response rate of 88% (Baldwin & Sabry, 2003). The sample consisted of 65% of students in their first year of study (L1) and 35% in their second year of study (L2). Overall, the study found that learners in both groups exhibited stronger preferences for visual, active, sequential, and sensing learning styles versus verbal, reflective, global and intuitive learning styles (Baldwin & Sabry, 2003).

Although there were multiple learning preferences chosen, both groups of students may have preferred visual rather than verbal because of repeated exposure to various types of multimedia (Baldwin & Sabry, 2003). According to Baldwin and Sabry (2003), multimedia instruction "results in better learning than instruction delivered solely in a single medium" (p. 333). Although the use of multimedia can result in better learning its use does not ensure an effective interactive learning system. The underlying theme in Baldwin and Sabry's study (2003) was that when information is presented in the individual's preferred learning or teaching method style, the individual will learn more effectively.

Generational Differences in Preferred Teaching Methods of Students

The review of literature found many studies that examined students' learning styles (Baldwin & Sabry, 2003; Joyce-Nagata, 1996; Laschinger & Boss, 1984; Lohri-Posey, 2003); however, few investigated the generational impact of students' teaching method preferences. The generational differences of students creates 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" (p. 212). To enhance the learning experience for all generations of students, it is important for educators to do the following: educate themselves about generational learning styles, acknowledge their own generational characteristics and learning styles, and use a variety of teaching methods with a variety of assignments (Johnson & Romanello, 2005).

Meeting the learning needs of students can be a daunting challenge. As mentioned earlier, the review of literature provided some insight into what teaching methods students prefer, but very little on generational differences. However, one hallmark study in the review of literature was found to have examined generational differences among nursing students and their preferred teaching methods.

Walker et al., (2006) conducted a research study to compare "generational (age) differences among nursing students to their perceived preferences in teaching methods" (p. 372). The sample for the study included a total of 134 nursing students. All nursing students involved in the study were enrolled in a four year undergraduate baccalaureate nursing program in a large, metropolitan health science university located in the southern United States. The sample included 88 juniors and 83 seniors with 25 students from Generation X and 105 students from Generation Y (Walker et al., 2006).

All students in the study (Walker et al., 2006) were given a 30-item Likert scale survey, developed by Dr. Walker, and were asked to identify their preferences for certain teaching methods as well other variables such as their classroom structure preferences and motivation for learning. The newly developed research tool was piloted and found to have a reliability coefficient (Cronbach's alpha) of 0.82 (Walker et al., 2006).

The results of the study (Walker et al., 2006), found no statistical significant difference in preferences for teaching methods between Generation X and Generation Y nursing students. However, significant implications for application into nursing education were discovered. One of these was the students' preference for lecture. The study found the majority of students (83%) preferred lecture more than any other teaching method. The study results also found the majority of students from both Generations X and Y preferred lecture over group work, preferred to practice and apply skills, preferred to read the assignment prior to class and then have the professor lecture over the content, and preferred case studies to learn new material (Walker et al., 2006). Overall, the majority of students from both generations did not prefer any type of group work, either during class or outside of class, unless this teaching method was to follow difficult to understand material (Walker et al., 2006).

An overwhelming majority of students (90%) from both generations did not indicate a preference for any type of web-based course or a combination web-based course with classroom study (Walker et al., 2006). According to Walker et al., (2006), these data results reiterate students' preferences for face-to-face teaching methods.

Students from both generations (72%) indicated a strong preference for hearing stories to help them learn and 96% indicated a very strong preference for handouts to follow in conjunction with lecture material in class (Walker et al., 2006). When it came to the importance of faculty knowing students' names, the study results found students were equally divided in this response with no majority preference one way or the other.

Approximately 60% of students indicated an occasional preference for grades to be assigned to all course work while 56% of students had a strong preference for classroom structure and faculty guidance (Walker et al., 2006). All students (100%) from

both generations indicated always wanting to know why they are learning new material. According to Walker et al. (2006), this finding "suggests the pragmatic nature of Generation X and Y learners and indicates the need for faculty to tell students why they are learning certain material" (p. 373). The results of the study also found students from both generations frequently or always trust faculty to tell them what they need to know (87%); have a moderate interest in learning for learning sake (80%); and frequently or always indicated the grade is all that really matters (72%) (Walker et al., 2006).

Although Walker's research study did not have any statistically significant findings, it was one of the few in the review of literature to explore generational differences in students' preferred teaching methods. According to Walker et al., (2006), "to prepare future generations of nurses, nurse educators must look for ways to enhance the learning environment and develop teaching methods that fit with the values, expectations, and needs of these students" (p. 374).

Another study that examined generational differences among nursing students was conducted by Merritt (1983). In this research study, the learning styles of traditional versus nontraditional students and differences in learning styles based on age and employment experience were examined. The participants of the study included 216 generic (traditional) nursing students and 127 RN (nontraditional) students all pursing a baccalaureate degree.

The participants were divided into two age categories; 18-22 years, and 23 years and older. The majority of basic students were 17-22 years of age and the majority of RN students were 29 years and older (Merritt, 1983). Participants were also divided into two categories based on their employment experiences; 0-39 months of employment and 40 or more months of employment. All students were given Canfield's Learning Styles

Inventory (Canfield, 1980) based on Canfield and Kolb's learning style models to determine each individual's learning style preference.

The results of Merritt's (1983) study found that neither age nor length of nursing experience accounted for any differences in learning preference. The findings did exhibit specific teaching method preferences between the two age groups. The results lead the following propositions by the Merritt (1983):

1. Nontraditional students are less positively oriented toward their learning environment than traditional students.
2. Both traditional and nontraditional students prefer structured learning environments presented in a logical manner with clear expectations.
3. Nontraditional learners prefer both passive and active methods of learning while traditional students prefer mostly active methods of learning.
4. Both traditional and nontraditional learners do not prefer to set their own goals or pursue their own interests. Traditional learners do prefer to develop positive relationships with peers and instructors while nontraditional students do not.
5. Both traditional and nontraditional learners prefer competitive and teacher-controlled environments.
6. Nontraditional learners do not prefer reading as a learning method, but are more positive about reading than traditional learners (pp. 371-372).

Overall, Merritt suggested that faculty needed to consider the learning styles of all students. This consideration of learning styles is important to develop different teaching methods for younger students versus older more experienced students.

Burnard and Morrison (1992) also designed a study to explore nursing faculty and nursing students' preferences in teaching strategies. The sample included 47 nursing teachers' responses and 110 nursing students' responses from 14 different locations in the United Kingdom. The participants in the study were asked to fill out a questionnaire eliciting answers to 12 different questions about teaching and learning strategies such as lesson structure and sharing of information in the classroom. The overall results of the study found no one teaching method was preferred over another by students. The results did conclude that a student-centered approach to learning was more supported by teachers than students and students reported wanting more structure of the learning experience from teachers (Burnard & Morrison, 1992).

Cavanagh, Hogan, and Ramgopal (1995) conducted a study to determine what the learning preferences of a select group of nursing students were and if relationships among learning style, gender, age, previous work experience, and educational attainment existed. Although the study found students had a fairly even distribution of learning styles, no significant relationship between learning style, gender, age, previous work experience, or educational attainment was supported in the results (Cavanagh, Hogan, & Ramgopal, 1995). Overall, the findings supported the need for using a variety of learning styles as well as a variety of teaching methods.

Aviles, Phillips, Rosenblatt, and Vargas (2005), interviewed college students from each of the three different generations to compare their preferences for teaching methods in classroom settings. A total of one Baby Boomer student, one student from Generation

X, and two students from Generation Y were interviewed. The Baby Boomer student stated he preferred to have the facts and theory presented first by the faculty and then have hands-on experience to use what he learned; the Generation X student preferred to be responsible for her own learning with faculty taking on the role of facilitation in group activities; and both Generation Y students stated they preferred the use of technology in the classroom and would like to see faculty utilize it more (Aviles, Phillips, Rosenblatt, & Vargas, 2005).

Windham (2005) also interviewed students from Generation Y to find out what teaching methods they preferred from faculty. The students indicated preferences for meaningful interactions with student-led classroom discussions and group projects with the opportunity to interact with faculty (Windham, 2005). Furthermore, the Generation Y students interviewed stated faculty should toss the lecture and use a variety of multi-media to keep their attention in class (Windham, 2005).

Differences among Levels of Nursing Students

Only one study in the review of literature examined any type of relationship between levels of students and their preferred teaching methods. Wells and Higgs (1990) conducted a study to examine the predominant learning style and learning preference of baccalaureate nursing students as well as to determine if there were any differences in levels of students. The study involved 129 students; 49 juniors and 80 seniors. The learning styles for each student were determined by use of the Gregorc Style Delineater (Gregorc, 1982), while the Wells Learning Style Preference was used to determine student learning preferences (Wells & Higgs, 1990).

Wells and Higgs (1990) found the juniors and seniors exhibited no significant differences in learning styles. However, several distinct learning preferences were found

among the junior group of students and the senior group of students. Group discussion (n = 41, 80%) was the highest learning preference overall among the juniors, while television/movies and drill and practice (n = 66, 82.6%) was the most preferred by seniors (Wells & Higgs, 1990).

The study also found several statistically significant differences in preferred teaching methods between levels of students. The juniors had a higher preference for lecture (p = .04); slide/filmstrip with audiotapes (p = .01), and group discussion (p = .02) as compared to the seniors (Wells & Higgs, 1990). The seniors, on the other hand, had a higher preference for games (p = .02) as compared to the juniors (Wells & Higgs, 1990).

Overall, the results of Wells and Higgs (1990) study, found drill and practice was the most preferred learning method, followed by television/movies, group discussion, short lecture with question and answer, computer assisted instruction, lectures, slide/filmstrip, independent study, open-ended problem solving, workbook, games, and supplemental readings between both levels of students within the study. The results from this one research study indicated students prefer a variety of teaching methods.

A Shift in Teaching Paradigms

Many educators utilize traditional pedagogy in which the teacher has full responsibility for "what will be learned, how it will be learned, when it will be learned, and if it has been learned" (Knowles, 1984, p. 52). With the diversity of today's learners, the literature supports the need for a shift in paradigms from traditional pedagogy to a more self-directed andragogical approach.

Although traditional pedagogy has consistently been utilized within college classrooms for many years, the review of literature discovered educators are finding this old paradigm to be ineffective for all learners. According to Coates (2007), students are

still being taught using 19th century pedagogy. However, education does not have the same meaning for students as it did in the past.

According to Prensky (2001), the education system in the United States was not designed to teach new generations of students. Gonick (2006) agreed and stated, the classroom setting of the 21st century does not meet the needs of the global culture that has been created by technology and the Millennial generation. Faculty who come from the pre-digital age are "struggling to teach a population that speaks an entirely new language" (Prensky, 2001, p. 2).

According to Coates (2007), educators must begin to develop new pedagogy that serves the learners' needs of the 21st century. Prensky (2007) agreed and stated, "the twenty-first century is all about creating and inventing…and sharing those things with an increasingly connected world" (p. 3). Change, including the integration of technology, is necessary to transform higher education (Smith, 2004).

In their research with teaching and learning, Barr and Tagg (1995) found that a paradigm shift was occurring on college campuses as institutions moved from solely providing instruction to instead producing learning. The institutions making this shift found learner-centered teaching actively involved students through the discovery and construction of knowledge and promoted cooperative and collaborative learning between students and teachers (Barr & Tagg, 1995).

There is however, disagreement within the literature as to whether or not a learner-centered philosophy is being implemented. According to Smith (2004), "the sameness of teaching methods from one campus to another is staggering"…faculty expect students to "come as they are, to be ready to learn, to absorb the teaching, to prove they learned it, and to go on" for more of the same (p. 49). McGlynn (2005) stated, what

is needed in our "diverse classrooms is a variety of teaching methods which will enable us to meet the needs of as many students as possible" (p. 13). Faculty need to engage students; moving them from being mere participants to active learners and discoverers (Windham, 2005).

The effectiveness or efficiency of traditional pedagogy with newer generations of nursing students is a continual debate within the nursing education literature as well. Historically, nursing education has also used a traditional pedagogical approach. According to Noble, Miller, and Heckman (2008), "the preparation of nursing students for health care in the 21st century requires that programs deliver instruction in the most effective and efficient manner possible" (p. 245). Although the pedagogical approach has value, "it may not be sufficient to meet the contemporary challenges within the profession or the unique learning style of Generation Y students" (Arhin & Cormier, 2007, p. 563). Student-centered approaches to teaching should be considered especially when teaching scientific topics and preparing students for the nursing profession (Banning, 2005).

According to Dinkelmann (1997), "in the new pedagogy for nursing, teachers become explorers of meaning in addition to their roles as information-givers and facilitators of learning" (p. 147). This shift in paradigms necessitates faculty to expand their creativity in teaching methods. Rakoczy and Money (1995) stated, "the goal of nursing education is to provide the student with an opportunity to experience a variety of learning styles" (p. 173). This can be facilitated by the use of "multimethods of teaching" (Kelley, 1997, p. 156).

Technology adds another curve in the shift for a new approach to education. Arhin and Cormier (2007) encouraged "new techno-literacy pedagogies" to be considered

in the nursing education field to facilitate an effective learning environment for newer generations (p. 563). This is echoed in a statement made by Clausing, Kurtz, Prendeville, and Walt (2003), who urge nursing educators to consider how computers have influenced Generation Y's way of thinking and consider altering their traditional teaching methods based on this.

Knowles's Theory of Andragogy supports a paradigm shift in education that includes helping learners become more self-directed. However, not all nursing students prefer self-directed learning. In a study conducted by Burnard and Morrison (1992), the researchers sought to examine nursing faculty and nursing students' preferences for teaching methods and found a student-centered approach to learning was more supported by the nursing faculty than the nursing students. The results found students reported a preference for faculty to lead the structure of the learning experience (Burnard & Morrison, 1992). Overall, the study concluded that in order to promote an effective learning environment, a balance between teacher-centered and student-centered approaches is needed to provide direction while also promoting independence.

Although college students are considered adult learners, whether or not they are able to move from the pedagogical model to the adragogical model of adult learning depends on numerous variables; including the teaching methods used by faculty. Because not all adults are self-directed, O'Shea (2003) reinforced the need for faculty to also "assess the learning styles and preferences of their students in order to determine the appropriateness of self-directed learning" (p. 68). Similarly, Sayles and Shelton (2005) stated, "the changing student populations identified in society by generation types, along with emerging technologies, require a continuous assessment" by faculty of teaching methods used (p. 99).

Educators need to assume that most learners are multi-style learners (Sayles & Shelton, 2005). Faculty need to facilitate learning and serve as guides and content resources (Pardue & Morgan, 2008). Munro and Rice-Munro (2004) stated, "if a topic is important for students to learn, present it in a variety of ways that will stimulate learning…there is no one instructional method that will reach all learners; therefore, it is up to those designing and delivering the instruction to offer a variety of approaches" (p. 29). According to Laschinger and Boss (1984), regardless of the generational cohort, "individuals require all learning modes to maximize learning" (p. 379).

Of course this type of paradigm shift does not come without its challenges. Utilizing teaching methods that "foster self-direction and independence and that allow the student to acquire useful, practical knowledge take time and energy on the part of committed faculty" (Beeman, 1988, p. 370). However, by combining several different teaching methods, educators can tap into more than one student's learning style, challenge students along a learning continuum and build on previous knowledge learned (Stanberry & Azria, 2001).

Teaching Methods Used by Faculty

The types of teaching methods used by faculty in the classroom setting depend on many variables, including familiarity of the strategy. According to Strauss and Howe (1991), how an individual is taught will in turn affect how that individual will teach others.

Traditional lecture, which follows the pedagogical model of teacher-centered education, was found in the review of literature to be the most utilized teaching method by faculty in classrooms today. Many faculty use lecture as a primary teaching method in part because they are most familiar with it. According to Hartman, Dziuban, and Brophy-

Ellison (2007), approximately 80 percent of college instruction occurs utilizing lecture. As a result of its widespread use, all four generations have been exposed to this teaching method.

Lecture does have the advantage of being a very effective way to cover a large amount of information in a limited amount of time. Young and Diekelmann (2002) concurred that lecture is a "strategy teachers use when they want to efficiently cover a great deal of information" (p. 405). It is a process that should involve reflective thinking on the part of faculty and can be improved over time with practice and experience (Diekelmann, 2002). However, the disadvantage of lecture is that its passive format does not allow for active interaction between professor and student.

Dinkelmann (2002) stated that lecture should involve "a certain degree of interaction between teacher and students" (p. 97). However, Adams and Gilman (2002) discovered most educators think the lecture format "leaves a lot to be desired in terms of student-faculty interaction" (p. 282). To combat this problem, faculty need to incorporate the use of active learning methods such as questioning, discussion, case studies, writing activities and concept mapping into the lecture format (Oermann, 2004).

Adams and Gilman (2002) incorporated active learning with the development of a new teaching method for a maternal/child nursing course. The new teaching method consisted of students listening to pre-recorded audiotaped 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 this teaching method was widely favored by both students and faculty and the majority of students (43 out of 56 students) indicated they preferred active participation in class over traditional lecture as a teaching method.

Pugsley and Clayton (2003) found similar results in their study that investigated the differences in attitudes of students taught using traditional lecture and those taught with interactive teaching methods. The participants in the study included 25 juniors and 19 seniors who were all enrolled in a nursing research course. The juniors were taught using an experiential model of teaching; including interactive teaching methods such as hands-on problem solving activities, mini-research projects, and class discussions; while the seniors received the traditional lecture teaching method (Pugsley & Clayton, 2003). At the end of the course, all student participants were given a 15 item survey to measure their attitudes and perceptions about nursing research.

Pugsley and Clayton (2003) found the juniors who received the interactive teaching methods exhibited a significantly more positive attitude ($p = .001$) about nursing research than the seniors who received the traditional lecture format. Overall, the results indicated that attitudes and appreciation of nursing research increased when students were exposed to a variety of interactive teaching methods (Pugsley & Clayton, 2003).

Educators must also look at the generational impact of traditional lecture as a teaching method. 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 students and faculty. In other words, “an imbalance between students’ expectations of the learning environment and what they find in colleges and universities” (Oblinger, 2003, p. 44).

In their work studying engineering students and their preferred learning styles, Felder and Silverman (1988) found that faculty predominantly used auditory (lecture) teaching methods even though visual learning (diagrams, pictures) was the preference of

most students. Felder and Silverman (1988) concluded this type of practice among educators has resulted in a teaching style mismatch between the preferred "modality of most students and the preferred presentation mode of most professors" (p. 677).

Similar studies, like that of Felder and Silverman's (1988), have been conducted in the field of nursing education. Reynolds and Beeman (1999), who conducted a study to determine nursing students' preferred sensory mode, found the majority of teaching strategies used in nursing education are auditory. They also discovered the auditory learning style is the least preferred sensory mode by nursing students for processing information (Reynolds & Beeman, 1999).

In another study, Johnson and Mighten (2005) attempted 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 included 169 nursing students taking a medical-surgical nursing course in an urban college of nursing. All students were divided into two groups; a control group (n = 88) and an experimental group (n = 81). The control group received lecture 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 over the material during class (Johnson & Mighten, 2005).

Overall, those in the experimental group who participated in group discussions during class had significantly higher examination scores with fewer course failures than those in the control group who were exposed to lecture only (Johnson & Mighten, 2005). The findings of this study support the use of a variety of teaching methods. According to Johnson and Mighten (2005) "traditional lecture is not the most effective teaching

method" and a combination of teaching strategies is necessary to ensure success in nursing education (p. 321).

Time in the classroom is limited and utilizing various teaching methods can be challenging. According to Amerson (2006), faculty often have concerns about being able to cover all of the material in a given amount of time and feel the need to use lecture to accomplish this. Utilizing only lecture as a teaching method does not facilitate all students' learning. When lecture is not supplemented by other teaching methods such as discussion, the teacher does not know if students have been reached (Boman, 1986). Amerson (2006) stated that with a little 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).

According to Arhin and Johnson-Mallard (2003), to meet the needs of Generation Y's learning style, educators need to "explore different and innovative teaching strategies" (p. 121). To examine this, Arhin and Johnson-Mallard (2003) developed a study utilizing case studies activities to address its effectiveness to meet the needs of Generation Y's learning style. In the study, junior nursing students taking an obstetrics course were required to create individual case studies and then present their case studies to their class. Students were allowed to take control of their own learning and given the following three requirements for the presentation.

1. Be as creative as possible
2. Actively engage their colleagues in teaching and learning and
3. Employ strategies to capture and maintain the attention of the audience (Arhin & Johnson-Mallard, 2003, p. 122).

The project was deemed a success due to excellent student participation and because of the independence students were allowed to control their own learning. As a result, this project was made a requirement in 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" (p. 122).

Concept mapping, a method of integrating and relating information, is a tool widely used in the field of education. However, the use of concept mapping in nursing education as a teaching method to help students organize material and facilitate critical thinking is relatively new. A concept map is defined as drawings that systematically represent the meanings of ideas (Schuster, 2000). According to All, Huycke, and Fisher (2003), concept maps "visually represent and integrate ideas and concepts of the nursing process" (p. 312).

In a study conducted by Laight (2004), the use of concept mapping was examined in a large class setting as a preferred learning style of pharmacology students and was used to evaluate its effectiveness to reach all types of learners. The results of Laight's (2004) study showed a statistically significant majority of students reported the pre-prepared concept maps were useful in their learning, however there was no statistical significance between the usefulness of the concept maps and students' preferred learning styles. Overall, the concept maps were found to be useful to students' learning and appealed to a variety of learning styles. The findings supported the use of concept maps as a flexible teaching strategy in a large classroom setting to "promote deeper student engagement and learning" (Laight, 2004, p. 232).

The use of storytelling in the classroom setting has been an effective teaching method used by faculty to share with students how the information learned is related to real-life experiences. According to Brown, Kirkpatrick, Mangum, and Avery (2008), storytelling is one of the most effective ways to relay information, capture interest, and bring facts to life. It not only allows for personal narratives, but also creates the capacity for understanding caring and culture as well as the capacity for developing ethical knowledge (Brown, et. al., 2008).

In an article written by Arhin and Cormier (2007) the use of a combination of transformative, narrative, and techno-literacy teaching methods to meet the needs of newer generations of students were discussed. The first approach, known as transformative pedagogy, allows for students to "critically analyze ideas through a process of collaborative dialogue" and includes the use of teaching methods such as group discussion and debate (Arhin & Cormier, 2007, p. 563). Narrative pedagogy is an interpretative approach to learning and includes the use of role playing, case studies, simulations, storytelling, and journaling (Arhin & Cormier, 2007). These teaching methods allow students to be more actively engaged in the learning environment.

The techno-literacy approach to learning involves the use of technology and digital communication. According to Arhin and Cormier (2007), this approach "fits well with the learning style of Generation Y students" and "leads to increased learner autonomy and cooperation, which can stimulate the desire and motivation to learn for the sake of learning" (p. 564). Regardless of the approach used, when teaching Generation Y students, "nurse educators need to tap into the inherent strengths and virtues this postmodern generation has to offer and explore innovative pedagogical approaches of nursing education" (Arhin & Cormier, 2007, p. 562).

Matching Teaching Methods with Student Preferences

The shift from pedagogy to andragogy, as well as the recommendation to use a variety of teaching methods brings up the debate of matching student preference for learning with faculty teaching methods. In a study conducted by Rochford (2003) on the preferred learning styles of students, the researcher found that students perform better if they are given the option to learn with their preferences and recommended that instructors learn how to design lessons to accommodate students' preferences in teaching methods. O'Shea (2003) also found that "matching teaching methods with self-directed learning readiness offers the best opportunity for learning" (p.66).

However, not all studies in the review of literature agree with matching student preferences for learning with faculty teaching methods. According to McDough and Osterbrink (2005), there is "little agreement regarding the importance of matching the learning styles of the student with instructional methodology used in teaching" (p. 91).

Spoon and Schell (1998) sought to examine the alignment of student preferences with instructor teaching styles. The study examined if there was a relationship between student learning styles and teacher teaching styles on the academic achievement of students. The participants included 189 students and 12 teachers from a technical college. The results of the study found no relationship between the matching of student learning styles and teacher teaching styles with students' overall academic achievement (Spoon & Schell, 1998). Overall, the study concluded there was no benefit in attempting to match teaching methods with student preferences.

In a separate study, Dux (1989) sought to determine what types of teaching methods teachers were using and if the teaching methods being used reflected the teachers' own personal learning style or that of the students'. The participants included

119 students and 13 teachers from one College of Nursing Education in the United Kingdom. The results of the study indicated both teachers and students exhibited a variety of learning styles. More interestingly, the teachers reported they rarely "considered the needs of their students with regard to their preferred learning styles when planning teaching strategies" (Dux, 1989, p. 189). The teacher survey showed a variety of teaching methods were used including, but not limited to; self directed learning, games, visual aids, hands on, simulations, and case discussion (Dux, 1989).

Overall, the results of the study found there was a wide range and combination of learning styles for both faculty and students with no prominent learning style identified. No data were given to determine if the teaching methods used reflected the teacher's own personal learning style or that of the students' learning style. The researcher suggested that teacher preferences need to be examined further to determine the reason why teachers choose one teaching strategy over another (Dux, 1989).

The matching of student teaching method preferences with faculty use of teaching methods is somewhat controversial, however the review of literature found support for the use of a variety of teaching methods. In a study conducted by Kizilay (1991) faculty were encouraged to use of a variety of teaching methods to create a match between instruction and learning style preferences. Although many students learn best when teaching methods are matched with preferred learning styles, it is important to expose students to alternative learning preferences as well to allow them to gain additional insight into their educational experience (Johnson and Romanello, 2005). Loo (2004) also recommended educators use a variety of teaching methods and encouraged students to be receptive to different teaching methods.

Overall, when determining what teaching methods to use, educators can apply Friedman and Alley's six principles of learning (as cited in Kitchie, 1997). These six principles include the following:

1. Both the style for which the educator prefers to teach and the way a student prefers to learn can be identified;
2. Educators must be careful not to overuse teaching methods they prefer;
3. Educators should assist students in identifying and utilizing their own style preferences;
4. Students should be given an opportunity to learn through their preferred style;
5. Students should be exposed to different teaching methods to diversify their style preferences; and
6. Educators can develop teaching methods to meet the needs of a variety of learners (p. 70).

According to Kitchie (1997), "the more flexible the educator is in using teaching methodologies…the greater the likelihood that learning will occur" (p. 70). Equally important is for faculty to examine their own use of teaching methods to determine how these methods will facilitate or hinder the learning environment (Seidl & Sauter, 1990). Getting to know students and addressing them by their name is another valuable strategy to facilitate the learning environment (Boman, 1986).

Summary of Chapter II

Nursing education is experiencing a generational phenomenon in the 21st century with student enrollment spanning three generations. This presents unique challenges for faculty when trying to balance the learning needs of a combination of Baby Boomer,

Generation X and Generation Y students. The review of literature revealed general characteristics and learning preferences for each of these three generations as well as specific characteristics of nursing students.

Although traditional lecture was found to be the most frequently used teaching method within the review of literature, the call for a shift in paradigms from teacher-centered learning to student-centered learning was evident throughout. This shift to meet the needs of different generations of learners included moving from traditional pedagogy to a more self-directed andragogy through the use of a variety of teaching methods.

CHAPTER III: METHODS AND PROCEDURES

Introduction

This chapter presents the methods and procedures that were used in this study. In addition, the sample size, data collection procedures, and survey tools are discussed as well as statistical tests used to analyze the data.

Research Design

This quantitative, descriptive study used surveys to examine the preferred teaching methods of different generations and levels of students and the teaching methods nursing faculty use. Differences in preferred teaching methods of baccalaureate nursing students were compared with the teaching methods being used by nursing faculty.

Identification of Sample

This study used a purposive sampling of baccalaureate nursing students from five small private colleges in the Midwest. All nursing students (freshmen through seniors) enrolled in baccalaureate nursing programs (BSN) programs at each of the five colleges were asked to complete the student survey. The study also asked all nursing faculty who taught in the same BSN programs as the students to complete the faculty survey.

Demographics

The research study included 367 participants; 38 nursing faculty and 329 nursing students from five different colleges within the Midwest region. A total of six students were from the Baby Boomer generation, 49 were from Generation X and 272 were from Generation Y. Females outnumbered the males with 297 female participants versus 30 male participants. Six students were freshmen, 98 students were sophomores, 110 students were juniors and 110 students were seniors. Two hundred and fifty six students were enrolled in a traditional four year BSN program, 38 students were enrolled in an

accelerated (one year) BSN program and 29 students were enrolled in a BSN completion program. Only four students indicated they were enrolled in a Licensed Practical Nurse (LPN) to BSN program.

The demographics of the faculty included a total of 19 participants from Generation X and 18 from the Baby Boomer generation. Only one faculty participant was from the Veteran Generation. The years of faculty experience ranged from less than a year to thirty-eight years with a mean of 11.14 years of experience.

Description of Setting

The setting for this research study included five small private colleges in the Midwest. All five colleges had a BSN program.

Survey Tools

The survey tools used in the research study included two 30-item Likert scale surveys; one for student participants and one for faculty participants. The surveys were a modified and adapted version of "Walker's Teaching Method Survey" (WTMS) 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 original 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 from Dr. Walker prior to the study.

Student Survey

The original survey was modified based on the review of literature to include more specific examples of teaching methods students from different generations may have a preference for, as well as a section for students to choose their top five teaching

method preferences in the classroom. Additional demographics including; age, year in current nursing program, type of program, gender, and if this was the student's first degree were added to the student survey. The newly developed student survey was named the "Walker/Delahoyde Teaching Method Survey" (see Appendix A for student survey).

Faculty Survey

To determine what teaching methods faculty were actually using in classrooms, a separate faculty survey was created and given the title "Delahoyde Teaching Method Faculty Survey" (see Appendix B for 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. The faculty survey included a section for faculty participants to choose the top five teaching methods they used most frequently in a classroom setting. Additional demographics added to the faculty survey included age, years of teaching experience, and type of program in which they were currently teaching.

Construct Validity and Reliability of Survey Tools

Prior to use in the study, both surveys were piloted with faculty and students at a small private college in the Midwest, separate from those who participated in the actual study. Feedback from the pilot was integrated into the survey tools. In addition, construct validity was obtained by eliciting feedback from ten experts in the nursing education field.

Cronbach's Alpha was run to determine the internal reliability for each survey. The student survey had a Cronbach's alpha of .67 and the faculty survey had a Cronbach's alpha of .56. According to Rudner and Schafer (2001), reliability coefficients

of .50 or .60 may be satisfactory for tests which are not administered for the purpose of standardized achievement or academic progression. The Cronbach's alpha test was determined to be an ineffective measure of reliability for this type of research tool because each item on the faculty and student survey were measured separately. The use of a test-retest may have been a better choice to determine the reliability, but was not completed due to the time frame for which the study took place and the inability to have the same participants each time.

Ethical Considerations

Prior to initiation of the research study, approval was obtained from each of the participating five colleges' Institutional Review Boards (IRB). Permission to complete the study was also 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 C for cover letter example). At the top of each student and faculty survey, all participants were informed of the following: purpose of the study, confidentiality of the survey responses, and information regarding consent to participate in the study based on each state's age of majority. The top of each survey also included a statement that informed all student and faculty participants that voluntary completion of the survey provided consent to participate in the study (see Appendix A and B for student and faculty surveys).

The age of majority varied in each of the three states where surveys were distributed for the study. Because of this variation, three separate surveys were printed with information at the top regarding the ability to consent. In the state of Nebraska the age of majority was 19 years of age; therefore any student 18 years or younger was not able to consent to participate in the research study without parental approval. In the states

of Iowa and South Dakota, the age of majority was 18 years of age; therefore any student 17 years or younger was not able to consent to participate in the research study without parental approval.

The research study did not pose any risk or discomfort to participants. All participation in the survey was voluntary. All surveys were anonymous and no student or faculty participant was identifiable by name or college attended. All survey responses were confidential, coded for the data analysis, and kept in a secure location only seen by the researcher. The benefit to the participant was the ability to participate in a research study which added knowledge to the overall body of nursing education.

Procedure

Participants for this study were recruited by contacting the Dean of Nursing from each of the five colleges of nursing. After obtaining IRB approval, the surveys were mailed directly to the Dean or delivered in person to each respective college. Letters explaining the purpose of the research study, how to fill out the survey tool, and the contact information of the researcher were attached to the surveys. In one case, the researcher visited the college participating in the study, spoke with the nursing faculty about the research study, and delivered the surveys in person. In the case of the other four colleges that were not visited in person, each Dean of Nursing was contacted via telephone and asked to distribute the surveys to the nursing faculty.

All nursing faculty and nursing students from each of the five institutions in the study were invited to participate in the survey, however participation was optional. Nursing faculty teaching in each BSN program were asked to fill out the faculty survey and were also asked to distribute the surveys to the nursing students in their program. Surveys were distributed by faculty at a time that was convenient for them so as not to

interrupt any class time. Each survey was estimated to take between five and ten minutes to complete.

All colleges participating were given approximately four weeks to have their faculty and students complete the surveys. More time was extended to one program based on college calendar breaks. Each Dean of Nursing was contacted on a weekly basis via e-mail or phone to answer any questions. Three out of the five colleges participating were provided with self-addressed postage paid envelopes for the completed surveys to be returned via mail. Two of the colleges had the completed surveys picked up in person by the researcher. All data were then compiled and statistical analysis was completed using Statistical Package for the Social Sciences (SPSS), Version 16.0.

Type of Data

In addition to the survey tool, the demographic data in this research study for both the student and faculty surveys were quantitative in nature (nominal and ordinal). There were two instances where student participants were asked to specify their answer in written format. If a student participant marked “yes” to having a first degree, the survey asked the participant to specify the first degree and write in an answer.

Student participants were also given an option for “other” when selecting their top five most preferred teaching methods if an option they preferred was not on the list. If the “other” category was chosen, student participants were asked to write in the specific teaching method they preferred most. Faculty participants were also given an option for “other” when selecting their top five most used teaching methods if the method was not listed. Like the student participants, if this option was chosen, participants were asked to write in the specific teaching method they used most. All data from the student and faculty responses were then coded and analyzed using SPSS.

Statistical Tests

All data were analyzed using the Statistical Package for the Social Sciences (SPSS) Version 16.0, a software program to analyze multiple variables. The statistical tests used in the research study included descriptive data and frequencies, a *t*-test, and an Analysis of Variance (ANOVA).

Methodological Limitations

The most significant methodological limitation was the inability to obtain better reliability of the survey tools due to the modification of the original tool and the lack of time to complete a test - re-test. Another limitation was the use of purposive sampling which did not allow for random selection of participants and may have been atypical of the population, therefore affecting the variables being studied.

Summary of Chapter III

This quantitative and descriptive research study examined the preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods. The setting for the study included five small private colleges in the Midwest each with a baccalaureate nursing program. Approval for each IRB was obtained from each college prior to the initiation of the study. All nursing faculty and nursing students from each of the five institutions in the study were invited to participate in the survey, however participation was optional. The research study included a total of 367 participants; 38 nursing faculty and 329 nursing students.

Two 30-item Likert scale survey tools were created specifically for this research study; one for student participants and one for faculty participants. Each survey was a modified and adapted version of “Walker’s Teaching Method Survey” (WTMS) (Walker et al., 2006). Analysis of all data was completed utilizing SPSS, Version 16.0.

CHAPTER IV: RESULTS

Introduction

This chapter will discuss the statistical tests used to analyze the data, results of the data analysis, and the significant findings of the research study for each of the four research questions. The research study included a total of 367 participants; 38 faculty and 329 nursing students from five different colleges within the Midwest region. A total of two participants were deleted from the final data analysis as a result of large amounts of missing data.

Statistical Tests

The statistical program SPSS, Version 16.0 was used to analyze all of the data in this research study. The specific statistical tests used include the following: descriptive analysis and frequencies; a two-tailed, independent sample *t*-test; Levene's test of Equality of Error Variances; and an Analysis of Variance (ANOVA). The nature of each statistical test used in the analysis of the data for each research question is discussed within the text in its respective section.

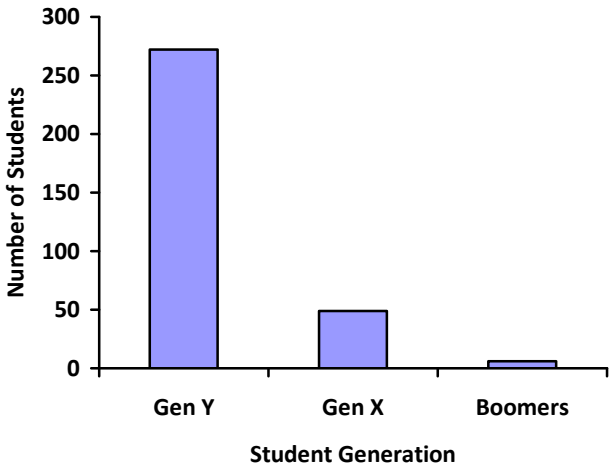
Student Demographics

Each student participant was asked to complete a student survey. The student survey included demographics as well as 30 questions related to specific teaching method preferences (see Appendix A for a copy of the student survey). The following demographic questions were asked on the student survey: age, gender, year in nursing program (freshmen through senior), first or second degree, and type of program (traditional four year, accelerated BSN, BSN completion, or other). Any student who responded to having had another degree was asked to specify in writing the title of their first degree.

Student Generational Cohorts

The first question asked each student participant to write in their exact age. During the data analysis, each participant's age was categorized into a specific generational cohort based on Strauss and Howe's (1991) definition of a length of a generation: Veteran (Silent), Baby Boomer, Generation X, or Generation Y. The results of the student generations represented in the study are outlined in Figure 1.

Figure 1. Student Generation



Two students did not indicate their ages on the survey and were therefore not included in the data for this category. The survey results found almost all students surveyed were from Generation X (n = 272, 83.2%) or Generation Y (n = 49, 15.0%). Only six student participants represented the Baby Boomer generation. As a result of this disproportionally low number, the data from these six Baby Boomer students were not used when analyzing the relationships between different generations of students. Therefore, only the differences between Generations X and Y were examined during the data analysis.

Student Gender

The survey asked student participants to circle their gender as either female or male. The results of the survey indicated a total of 90.8% (n = 297) of the student participants were female and only 9.2% (n = 30) were male. Two student participants did not include their gender in the survey and were therefore not included in these results. The N for this demographic was 327 students.

Student Year in Nursing Program

All student participants were asked to identify their current year in their undergraduate baccalaureate nursing programs. Students chose from one of the following options; freshman, sophomore, junior, or senior. Table 1 depicts the distribution of the data for this variable.

Table 1

Student Year in Nursing Program

Generation	*f*	*P*
Seniors	110	34.0
Juniors	110	34.0
Sophomores	98	30.2
Freshmen	6	1.9

Note. N = 324

The majority of student participants were juniors (n = 110, 34%) or seniors (n = 110, 34%). A total of 98 student participants or 30.2% were sophomores. Only six students (1.9%) identified themselves as freshmen. Five student participants did not indicate their current year in their respective nursing programs and were therefore not included in the results.

Students' Type of Program

The survey asked students to identify which type of baccalaureate nursing program they were enrolled in and provided four options to choose from, including; traditional four year BSN, accelerated BSN, BSN completion, and an option for "other". Those who chose "other" were asked to be more specific by filling in what type of program. All four students who chose "other" indicated they were enrolled in an LPN to BSN program. Table 2 outlines the distribution of data for each of the four options.

Table 2

Type of Baccalaureate Program Students Enrolled In

Generation	*f*	*P*
Traditional 4 Year BSN	256	78.3
Accelerated BSN	38	11.6
BSN Completion	29	8.9
Other (LPN to BSN)	4	1.2

Note. N = 327

The majority of students, 78.3% (n = 256), identified themselves as being enrolled in a traditional four year BSN program. A total of 38 (11.6%) student participants were enrolled in an accelerated BSN and 29 (8.9%) student participants were enrolled in a BSN completion program. Only four students (1.2%) chose the "other" option. All four of these students indicated they were enrolled in an LPN to BSN program. The total number of student participants in this demographic category was 327. Two students did not identify the type of program they were enrolled in and were therefore considered missing data.

Students' First Degree

All student participants were asked if the degree they were currently seeking was their first degree or if they held another degree. Students were asked to check "yes" if this was their first degree or "no" if it was not. Students who responded "no" were then asked to fill in what type of degree they had previously obtained. A total of 325 students responded to this question with four students having missing data.

Of the students who responded, 258 (78.4%) identified that "yes" this was their first degree and 67 (20.4%) indicated "no" this was not their first degree. Those students who responded "no" were asked to write in their other degree. The degrees students listed included an Associate Degree in Nursing (ASN) as well as degrees in the following disciplines: Restaurant Management; Management; Biology; Chemistry; Liberal Arts; Liberal Studies; Professional Sciences, Health Care Administration; Human Resource Management; Art; Biological Sciences; Medical Assistant; Professional Studies of Applied Science; Health Promotion; Business; Marketing; Pre-professional Nursing; English; Cosmetology; Human Development and Family Studies; Applied Medical Office, Coding, Billing and Transcription; Arts and Science; Health and Fitness; Nutrition, Exercise and Health Science; and Psychology.

Descriptive Results of Student Survey

The student survey asked participants to rank their preferences for teaching methods used in the classroom and rank the importance of specific classroom preferences on a four point Likert scale. The Likert scale used in the student survey was a modified and revised version of Walker's Teaching Methods Survey (WTMS) developed in 2004 by Walker et. al., for a research study titled "Generational (Age) Differences in Nursing Students' Preferences for Teaching Methods".

Number one on the scale referred to having no preference at all for a specific teaching method, number two indicated having an occasionally preference, number three indicated frequently having a preference, and number four indicated always preferring a certain teaching method. Students were also given the option to choose number five, not applicable, if the teaching method was not applicable to their classroom environment or if they had not been exposed to a particular teaching method or leaning preference.

During the data analysis process, if option number five was chosen, the data for that question was not included in the results. Table 3 depicts the frequency for questions 1-30 where option number five "not applicable" was chosen by students.

Table 3

Frequency of Students' Choice for Option Number 5: "Not Applicable"

Option	N	*P*
Q2 - apply skills in the classroom	1	0.3
Q9 - web based course	10	3.0
Q10 - storytelling	1	0.3
Q11 - read the assignment before class	1	0.3
Q12 - handouts provided by professor	1	0.3
Q13 - classroom interaction with peers and professor	1	0.3
Q14 - combination of web-based and classroom study	7	2.1
Q15 - read prior to class, then listen to lecture	1	0.3
Q16 - use of technology	3	0.9
Q17 - listen to professor lecture versus group work	1	0.3
Q18 - active participation in group discussions	1	0.3

Table 3 - Continued

Frequency of Students' Choice for Option Number 5: "Not Applicable"

Option	N	*P*
Q19 - play games	2	0.6
Q24 - professor knows my name	3	0.9
Q27 - work on group assignments with peers	1	0.3
Q29 - learning just for learning sake	3	0.9
Q30 - grade is all that matters	2	0.6

Students most frequently chose "not applicable" as an option when answering questions related to a web-based course of study and a combination of web-based/classroom course of study.

Descriptive Statistics for Questions 1-23 on Student Survey

The first 23 questions on the student survey asked participants to rank their preferences for specific teaching methods. These teaching methods included: 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 combination web-based and traditional classroom course, 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 preference for the use of a variety of teaching methods. The mean and standard deviation of questions one through 23 on the student survey are depicted in Table 4.

Table 4

Descriptive Statistics for Questions 1-23 on Student Survey

Question	*M*[*]	*SD*[*]
Q1 - listen to professor lecture	3.20	.763
Q2 - apply skills in the classroom	3.36	.754
Q3 - work in groups with peers on an assignment	2.46	.866
Q4 - case studies	2.41	.772
Q5 - visual aids	3.50	.664
Q6 - work individually on an assignment	2.58	.790
Q7 - listen versus participate during group discussion	2.41	.838
Q8 - have professor draw concepts on board	3.16	.807
Q9 - web-based course	1.77	.857
Q10 - storytelling	3.39	.767
Q11 - read the assignment before class	2.20	.941
Q12 - handouts provided by professor	3.69	.593
Q13 - classroom interaction with peers and professor	3.13	.746
Q14 - combination web-based and classroom study	2.35	.896
Q15 - read prior to class, then listen to lecture	2.59	.935
Q16 - use of technology	2.75	.734
Q17 - listen to professor lecture versus group work	2.64	.898
Q18 - active participation in group discussions	2.84	.843

Note. [*] values rounded to the nearest thousandth.

Table 4 - Continued

Descriptive Statistics for Questions 1-23 on Student Survey

Question	*M*[*]	*SD*[*]
Q19 - play games	2.49	.913
Q20 - read the assignment after class	2.48	.931
Q21 - classroom structure from professor	3.16	.823
Q22 - take own notes	1.87	.870
Q23 - variety of teaching methods	3.15	.837

Note.[*] values rounded to the nearest thousandth.

Overall, students had a high preference ($M > 3.0$) for the following teaching methods: having handouts provided by the professor to follow along with lecture (M = 3.69, SD = .593); use of visual aids (M = 3.50, SD =.664); storytelling (M = 3.39, SD = .767); application of skills in the classroom (M = 3.36, SD = .754); lecture (M = 3.20, SD = .763); drawing concepts on the board (M = 3.16, SD = .807); classroom structure and guidance from the professor (M = 3.16, SD = .823); and classroom interaction with peers and the professor (M = 3.13, SD = .746). Students also ranked the use of a variety of teaching methods including lecture, group work, case studies, diagramming, etc. (M = 3.15, SD = .837) as a high preference.

Five teaching methods had means less than 2.9, but greater than 2.5 indicating the majority of students preferred them. These teaching methods included: actively participating in group discussions (M = 2.84, SD = .843); having activities that involve technology during class (M = 2.75, SD = .734); listening to the professor lecture rather than working in groups with peers (M = 2.64, SD = .898); reading the assignment prior to class and then listening to the professor discuss key points (M = 2.59, SD = .935); and

working individually on an assignment versus in a group with peers (*M* = 2.58, *SD* = .790).

Seven teaching methods had means less than 2.49, but greater than 2.0 indicating more students preferred them than those who did not. These teaching methods included: playing games (*M* = 2.49, *SD* = .913); reading the assignment after class (*M* = 2.48, *SD* = .931); working in groups with peers versus individually (*M* = 2.46, *SD* = .866); having case studies to learn new concepts (*M* = 2.41, *SD* = .772); listening versus participating in class discussions (*M* = 2.41, *SD* = .838); having a combination web-based study and classroom study (*M* = 2.35, *SD* = .896); and reading the assignment prior to class (*M* = 2.20, *SD* = .941).

The only two teaching method preferences that students had a low preference for were taking their own notes and having a totally web-based course of study. The means for both of these variables were less than 2.0 and included a mean of 1.87 (*SD* = .870) for having to take their own notes and a mean of 1.77 (*SD* = .857) for a totally web-based course of study with no classroom meetings.

Overall, the results indicated students had the highest preference for having handouts with which to follow along while the professor lectures (*M* = 3.69, *SD* = .593) and the lowest preference for having to take their own notes (*M* = 1.87, *SD* = .870). Students had very close preferences for working in groups on an assignment (*M* = 2.46, *SD* = .866) and working individually on an assignment (*M* = 2.58, *SD* = .790). When examining preferences for participating in group discussion, slightly more students preferred to actively participate in group discussions (*M* = 2.84, *SD* = .843) versus only listen to group discussions (*M* = 2.41, *SD* = .838).

When examining the students preferences for reading the assignments, more students preferred to read the assignment after having class (M = 2.48, SD = .931) than read the assignment prior to having class (M = 2.20, SD = .941). Students did, however, indicate a higher preference for reading prior to class and then having the professor discuss key points on the topic based on the reading (M = 2.59, SD = .935).

Two questions on the survey asked students to rank their preference for web-based study with no classroom meetings and a combination of web-based study with some classroom meetings. Students indicated a very low preference for having solely a web-based course of study with no classroom meetings (M = 1.77, SD = .857). However, students were about even in their preference for a combination web-based course of study with classroom meetings (M = 2.35, SD = .896) with a slight majority preferring this teaching method.

Descriptive Statistics for Questions 24-30 on Student Survey

Items 24 through 30 on the survey asked students to rank the importance of specific things in the classroom environment. The items of importance included the following: the professor knowing my name; having all papers and course work count toward a grade; knowing why new material is being learned; participating in group assignments with my peers in the classroom; and having the professor tell me what I need to know.

The last two questions asked students to rank whether or not they liked learning just for learning sake; and whether or not the grade is all that really matters. Table 5 depicts the mean and standard deviation for items 24 through 30 on the student survey.

Table 5

Descriptive Statistics for Questions 24-30 on Student Survey

Question	M^*	SD^*
Q24 - professor knows my name	3.53	.791
Q25 - all papers and course work count toward grade	3.46	.776
Q26 - know why I am learning new material	3.64	.594
Q27 - work on group assignments with peers	2.66	.982
Q28 - expect professor to tell me what I need to know	3.50	.746
Q29 - like learning for learning sake	2.67	.789
Q30 - grade is all that matters	2.10	.897

Note.[*] values rounded to the nearest thousandth.

Students ranked four questions from this section in the survey as highly important; each with a mean greater than 3.0. These included the following: knowing why I am learning new material (M = 3.64, SD = .594); the professor knowing my name (M = 3.53, SD = .791); expecting the professor to tell me what I need to know (M = 3.50, SD = .746); and having all papers and course work count toward a grade (M = 3.46, SD = .776).

Two questions had means greater than 2.5, but less than 3.0, indicating the majority of students viewed them as important for the classroom environment. These included working in groups with their peers on an assignment (M = 2.66, SD = .982); and learning just for learning sake (M = 2.67, SD = .789). The results found students were almost evenly distributed in ranking the importance of the grade being all that really mattered with a mean of 2.10 (SD = .897).

Most Preferred Teaching Methods Chosen By Students

The last section of the survey asked students to check the five teaching methods they preferred the most to help them learn. Students were given the following teaching methods to choose from: lecture, case studies, storytelling, hands on activities, activities with technology, worksheets, handouts, visual aids (video, pictures, diagrams, etc.), group activities (presentations, working with peers), diagramming (concept maps, Venn diagrams, drawings, etc.), games (Jeopardy, etc.), and group discussion (participating in a classroom discussion on a topic). Teaching methods that were marked by students on the surveys were coded as a "yes" and those that were not marked were coded as a "no". Table 6 depicts the four most preferred teaching methods of all the students surveyed. One student did not fill in the top five most preferred teaching methods; therefore the results of this portion of the survey included 328 student participants.

Table 6

Most Preferred Teaching Methods Chosen by Students

Teaching Method	*f*	*P*
Lecture	252	76.8
Hands on activities	247	75.3
Visual aids	240	73.2
Handouts	184	56.1

Note. N = 328

The results of the data found there were a total of four teaching methods that were chosen most frequently by students with lecture being the highest preference at 76.8% (n = 252). The second most preferred teaching method chosen was hands on activities at

75.3% (n = 247). Visual aids at 73.2% (n = 240), and handouts at 56.1% (n = 184) were the third and fourth most preferred teaching methods chosen by students.

Least Preferred Teaching Methods Chosen By Students

A total of eight teaching methods were chosen by less than 50% of all student participants. The least preferred teaching methods chosen by students included the following: diagramming, activities with technology, group activities, games, case studies, worksheets, group discussion, and storytelling. Table 7 depicts the least preferred teaching methods students chose out of the options given.

Table 7

Least Preferred Teaching Methods Chosen by Students

Teaching Method	*f*	*P*
Diagramming	30	9.1
Activities with technology	57	17.4
Group activities	72	22.0
Games	92	28.0
Case studies	93	28.4
Worksheets	101	30.8
Group discussion	133	40.5
Storytelling	140	42.7

Note. N = 328

The results of the survey found only 30 (9.1%) students chose diagramming as a preferred teaching method. Activities using technology was only chosen by 57 (17.4%) students and group activities was chosen by 72 (22%) of students as a preferred teaching method. Other teaching methods not chosen by students as a top teaching method

preference included; games (n = 92, 28%); case studies (n = 93, 28.4%); worksheets (n = 101, 30.8%); group discussion (n = 133, 40.5%); and storytelling (n = 140, 42.7%).

At the end of the survey, all student participants had the option of choosing an "other" category if the most preferred teaching method was not listed in the options given. Students who chose this option were asked to write in the preferred teaching method that was not listed. A total of eight out of 329 student participants chose the "other" option. The following teaching methods were listed as additional preferences by students and included: reading (n = 2), online learning (n = 1), note cards (n = 1), taking own notes (n = 1), clinical setting (n = 1), and National Council of Licensing Examination (NCLEX) style questions (n = 1). One student wrote in "not on-line" as a teaching method preference.

Faculty Demographics

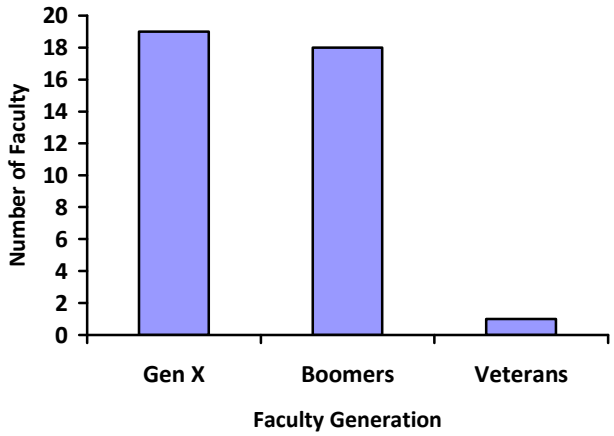
A total of 38 nursing education faculty from five private colleges in the Midwest region participated in the study. All nursing faculty participants were currently teaching in the same baccalaureate nursing programs as the student participants. The faculty survey asked participants for demographic information as well as what teaching methods they were actually using in the classroom (see Appendix B for a copy of the faculty survey).

Each faculty survey asked participants to disclose the following demographics: age in years, number of years of teaching experience in nursing education (including part-time), and the type of program each participant was currently teaching in (traditional four year, accelerated BSN, BSN completion, or other).

Faculty Generational Cohorts

The generations of faculty were categorized in the same manner as the student generations using Strauss and Howe's (1991) definition of a length of a generation: Veterans, Baby Boomers, Generation X or Generation Y. The results of the generations represented among the nursing faculty surveyed are depicted in Figure 2.

Figure 2. Faculty Generation

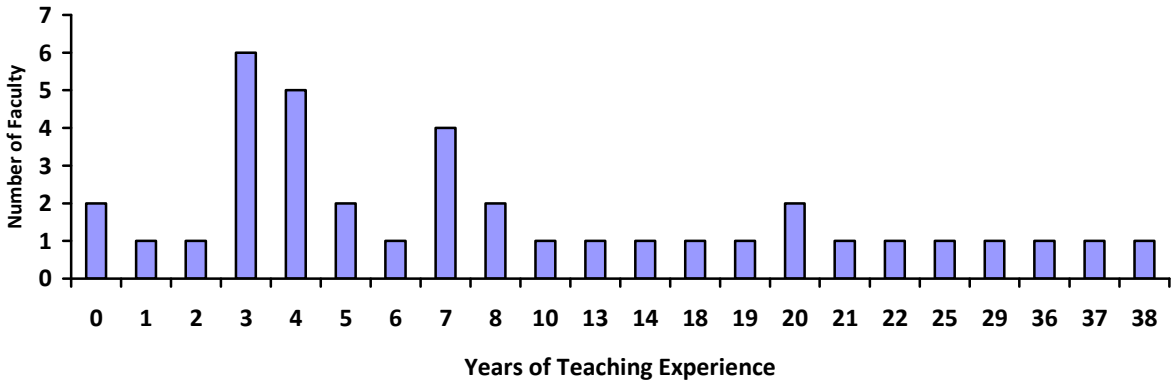


The results of the data found the only generation that did not have any representation among nursing faculty was Generation Y. The results did however display a nearly even distribution of faculty within the Baby Boomer generation and Generation X. A total of nineteen (50%) of faculty were from Generation X and eighteen (47.4%) were from the Baby Boomer generation. Only one faculty participant was from the Veteran Generation.

Faculty Years of Teaching Experience

All faculty were asked to fill in their number of years of experience in nursing education including full-time and part-time experience. The years of faculty experience ranged from less than a year to thirty-eight years with a mean of 11.14 years (M = 1.14). Figure 3 outlines the frequency of faculty teaching experience in years.

Figure 3. *Faculty Years of Teaching Experience*



Descriptive Results of Faculty Survey

The faculty survey was created utilizing the same 4-point Likert scale and the same questions as the student survey. Instead of ranking their preferences for teaching methods, faculty were instead asked to rank what teaching methods they were actually using in the classroom. Therefore, number one on the scale indicated not ever using a specific teaching method, number two indicated an occasional use of a teaching method, number three indicated a frequent use of a teaching method, and number four indicated always using a certain teaching method. Faculty, like students, were also given the option to choose number five, "not applicable", if the teaching method did not apply to their classroom environments or if they had not been exposed to a particular teaching method or leaning preference.

During the data analysis process, if faculty participants chose option number five, the data for that question was not included in the results. Table 8 depicts the frequency for questions 1-30 in which faculty participants chose option number five.

Table 8

Frequency of Faculty Choice for Option Number 5: "Not Applicable"

Option	N	*P*
Q1 - lecture	1	2.6
Q5 - use of visual aids	1	2.6
Q8 - draw concepts on the board	1	2.6
Q9 - teach a web-based course without class meetings	14	36.8
Q11 - have students complete an assignment prior to class	3	7.9
Q12 - provide handouts	2	5.3
Q14 - use a combination of web-based and classroom study	7	18.4
Q15 - expect students to read prior to class, then listen to lecture	2	5.3
Q16 - use technology	2	5.3
Q17 - spend more time lecturing versus having student work in groups	1	2.6
Q19 - play games	1	2.6
Q20 - expect students to wait and read the assignment after class	2	5.3
Q21 - provide a lot of classroom structure	1	2.6
Q22 - have students take own notes	2	5.3
Q25 - emphasize the grade is all that matters	2	5.3
Q27 - have students participate in group activities	1	2.6
Q29 - emphasize learning for learning sake	1	2.6

Faculty participants, similar to student participants, most frequently chose "not applicable" as an option when answering questions related to a web-based course of study and a combination of web-based/classroom course of study.

Descriptive Statistics for Questions 1-23 on Faculty Survey

The first 23 questions on the faculty survey asked faculty participants to rank their use of specific teaching methods. These teaching methods included 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, having students complete an assignment over the reading before versus after class, providing handouts versus having students take 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.

Faculty were also asked to rank their use of a variety of teaching methods. The mean and standard deviation of items one through 23 on the faculty survey are depicted in Table 9.

Table 9

Descriptive Statistics for Questions 1-23 on Faculty Survey

Question	*M*[*]	*SD*[*]
Q1 - lecture while students listen	2.89	.614
Q2 - apply skills in the classroom	2.92	.632
Q3 - have students work in groups with peers on an assignment	2.66	.708

Note.[*] values rounded to the nearest thousandth; [**]Indicated a wide distribution of data among faculty

Table 9 - Continued

Descriptive Statistics for Questions 1-23 on Faculty Survey

Question	*M*[*]	*SD*[*]
Q4 - case studies	2.82	.652
Q5 - visual aids	3.19	.776
Q6 - have students work individually on an assignment	2.58	.599
Q7 - encourage participation in group discussions	3.79	.474
Q8 - draw concepts on board	2.25	.874
Q9 - teach a web-based course	1.79	.977
Q10 - tell stories	3.32	.662
Q11 - have students complete assignment over reading before class	1.97	.857
Q12 - provide handouts	3.33	1.01[**]
Q13 - encourage classroom interaction with peers and professor	3.76	.431
Q14 - teach a combination of web-based and classroom study	2.42	1.08[**]
Q15 - expect students to read prior to class	3.58	.692
Q16 - use of technology	2.42	.841
Q17 - spend more time lecturing than having students work in groups	2.76	.723
Q18 - facilitate active participation in group discussions	3.45	.686
Q19 - play games	1.92	.682
Q20 - expect students to read assignment after class	1.11	.523

Note.[*] values rounded to the nearest thousandth; [**]Indicated a wide distribution of data among faculty

Table 9 - Continued

Descriptive Statistics for Questions 1-23 on Faculty Survey

Question	*M*[*]	*SD*[*]
Q21 - provided lots of classroom structure	3.16	.646
Q22 - have students take own notes	2.39	1.02[**]
Q23 - use a variety of teaching methods	3.18	.801

Note.[*] values rounded to the nearest thousandth; [**]Indicated a wide distribution of data among faculty

The results of the faculty survey found eight teaching methods with a mean greater than 3.0. The eight teaching methods faculty indicated using most frequently in classroom settings included the following: encouraging all students to participate in group discussion (*M* = 3.78, *SD* = .474); encouraging classroom interaction among students and the professor (*M* = 3.76, *SD* = .431); expecting students to read prior to class (*M* = 3.58, *SD* = .692); facilitating active participation of all students in classroom discussion (*M* = 3.45, *SD* = .686); providing handouts (*M* = 3.33, *SD* = 1.01[*]); storytelling (*M* = 3.32, *SD* =.662); visual aids (*M* = 3.19, *SD* = .776); and providing lots of classroom structure and guidance for students (*M* = 3.16, *SD* = .646).

Faculty also ranked a high use of a variety of teaching methods in the classroom with a mean of 3.18 (*SD* = .801). The results of providing handouts to students showed a standard deviation greater than 1.0 as indicated by an asterisk in Table 9. This result indicated faculty respondents were in wide disagreement in their use of this particular teaching method.

Five teaching methods had means less than 2.9, but greater than 2.5 indicating a majority use by faculty in the classroom setting. These teaching methods included the following: application of skills in the classroom (*M* = 2.92, *SD* = .632); lecture (*M* = 2.89, *SD* = .614); case studies (*M* = 2.82, *SD* = .652); spending more time lecturing than having

students work in groups (*M* = 2.76, *SD* = .723); having students work in groups (*M* = 2.66, *SD* = .708); and having students work individually on an assignment (*M* = 2.58, *SD* = .599).

Four teaching methods had means less than 2.49, but greater than 2.0 indicating more faculty use these than those who do not. The teaching methods in this category included: teaching a combination web-based class with classroom study (*M* = 2.42, *SD* = 1.09*); using technology in the classroom (*M* = 2.42, *SD* = .841); having students take their own notes (*M* = 2.39, *SD* = 1.02*); and drawing on the board to help students visualize new concepts (*M* = 2.25, *SD* = .874). Teaching a combination web-based course with classroom study and having students take their own notes both had standard deviations greater than 1.0 as indicated by the asterisk. These values indicate faculty respondents were in wide disagreement in their use with each of these teaching methods.

There were four teaching methods that faculty indicated using very little or not at all with a mean of less than 2.0. These included teaching a totally web-based course of study with no classroom meetings (*M* = 1.79, *SD* = .977); having students complete an assignment over the reading prior to class (*M* = 1.97, *SD* = .857); playing games (*M* = 1.92, *SD* = .682); and expecting students to wait and read the assignment until after class is held (*M* = 1.11, *SD* = .523).

Overall, faculty chose encouraging all students to participate in group discussion as the most frequently used teaching method (*M* = 3.78, *SD* = .474). The least used teaching method was having students wait and read the assignment until after class (*M* = 1.11, *SD* = .523). When examining use of group discussion as a teaching method, faculty ranked facilitating active participation in group discussion (*M* = 3.45, *SD* = .686) and encouraging all students to participate in group discussion (*M* = 3.78, *SD* = .474) as

highly used teaching methods. Faculty also ranked the use of group work and individual work in the classroom as nearly the same. The results indicated faculty use group work in the classroom slightly more (M = 2.66, SD = .708) than having students work individually (M = 2.58, SD = .599).

When examining expectations for student reading assignments, the results indicated faculty assign a reading assignment as a teaching method and expect students to read the assignment prior to class where key points over the reading are discussed (M = 3.58, SD = .692). Faculty ranked having students complete an assignment over the reading prior to class (M = 1.97, SD = .857) and having the students wait to complete the reading assignment until after class (M = 1.11, SD = .523) as less than occasional or not used at all for teaching methods.

Two questions on the survey asked faculty to rank how frequently they teach a web-based study with no classroom meetings and a combination of web-based study with some classroom meetings. A high percentage of faculty responded “not applicable” to each of these items. A total of 36.8% of faculty chose “not applicable” for web-based study with no classroom meetings and 18.4% of faculty chose “not applicable” for a combination of web-based study with some classroom meetings.

With those faculty who did respond to these two questions, more indicated they used a combination of web-based study with some classroom meetings (M = 2.42, SD = 1.09*) than faculty who used a totally web-based study with no classroom meetings (M = 1.79, SD = .977). Once again, the standard deviation for the combination web-based and classroom meetings was greater than 1.0 due to the wide disagreement among faculty respondents in their use of this teaching method.

Descriptive Statistics for Questions 23-30 on Faculty Survey

Questions 24 through 30 asked faculty about the importance of specific things in the classroom environment including the importance of the following: knowing the student's name; having all papers and course work count toward a grade; telling students why new material is being learned; having students participate in group assignments in the classroom; telling students what they need to know; emphasizing the value of learning just for learning sake; and emphasizing the grade each student receives is all that really matters. Table 10 depicts the mean and standard deviation for questions 24 through 30 on the faculty survey.

Table 10

Descriptive Statistics for Questions 24-30 on Faculty Survey

Question	M^*	SD^*
Q24 - knowing each student's name	3.87	.343
Q25 - having all papers and course work count toward grade	2.75	.937
Q26 - telling students why new material is being learned	3.39	.679
Q27 - having students work on group assignments with peers	2.72	.659
Q28 - telling students what they need to know	2.68	.662
Q29 - emphasizing learning for learning sake	2.61	.994
Q30 - emphasizing the grade is all that matters	1.03	.162

Note. * values rounded to the nearest thousandth.

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 = 3.87, SD = .343); and discussing with students why

they need to learn new concepts (*M* = 3.39, *SD* = .679). Four questions had means greater than 2.5, but less than 2.9, indicating the majority of faculty viewed them as important. These included having all papers and course work count toward a grade (*M* = 2.75, *SD* = .937); having students participate in group discussions (*M* = 2.72, *SD* = .659); telling students what they need to know (*M* = 2.68, *SD* = .662); and emphasizing learning just for learning sake (*M* = 2.61, *SD* = .994). The only question ranked as not important by an overwhelming majority of faculty included emphasizing that the grade is all that really matters. This question had a mean of 1.03 (*SD* = .162) indicating that faculty do not emphasize this to students.

Most Used Teaching Methods as Chosen by Faculty

The last section of the faculty survey asked faculty to mark the five teaching methods they used most in the classroom. Faculty, like students, were given the following teaching methods to choose from: lecture, case studies, storytelling, hands on activities, activities with technology, worksheets, handouts, visual aids (video, pictures, diagrams, etc.), group activities (presentations, working with peers), diagramming (concept maps, Venn diagrams, drawings, etc.), games, and group discussion (participating in a classroom discussion on a topic).

Teaching methods chosen by faculty on the faculty survey were coded as a “yes” and those not chosen were coded as a “no”. Two faculty respondents did not fill in the top five teaching methods they used most frequently; therefore, the results reflected 36 faculty participants. Table 11 depicts the teaching methods faculty indicated using most frequently.

Table 11

Most Used Teaching Methods Chosen by Faculty

Teaching Method	*f*	*P*
Lecture	29	80.6
Group Discussion	24	66.7
Case Studies	23	63.9
Group Activities	19	52.8

Note. N = 36

The top teaching methods chosen as most frequently used by faculty included lecture, group discussion, case studies, and group activities. The faculty surveyed indicated lecture was the most frequently used teaching method (n = 29, 80.6%). The second most used teaching method was group discussion at (n = 24, 66.7%). Case studies (n = 23, 63.9%) was the third most used teaching method and group activities (n = 19, 52.8%) was the fourth most used teaching methods chosen by faculty.

Least Used Teaching Methods as Chosen by Faculty

Eight teaching methods were chosen by less than 50% of all faculty participants; indicating faculty do not use these teaching methods as frequently. Table 12 depicts the data for the least used teaching methods chosen by faculty.

Table 12

Least Used Teaching Methods Chosen by Faculty

Teaching Method	*f*	*P*
Diagramming	2	5.6
Worksheets	5	13.9
Games	6	16.7

Table 12 - Continued

Least Used Teaching Methods Chosen by Faculty

Teaching Method	*f*	*P*
Activities with technology	10	27.8
Handouts	13	36.1
Hands on Activities	14	38.9
Visual Aids	15	41.7
Storytelling	16	44.4

Note. N = 36

The least used teaching methods included diagramming, worksheets, games, activities with technology, handouts, hands on activities, visual aids and storytelling. The results of the survey found only two faculty (5.6%) chose diagramming as a preferred teaching method. In addition, five (13.9%) faculty chose worksheets and six (16.7%) faculty chose games as a frequently used classroom teaching method. Other teaching methods not as frequently used by faculty included; activities with technology (n = 10, 27.8%), handouts (n = 13, 36.1%), hands on activities (n = 14, 38.9%), visual aids (n = 15, 41.7%), and storytelling (n = 16, 44.4%).

Faculty were also given the option of choosing an “other” category if the most used teaching method was not listed in the options given. If this option was chosen, faculty were asked to write in the teaching method that was not listed. Only one faculty participant surveyed wrote in “having presenters from the field” as a teaching method used most frequently that was not already listed in the options given.

Research Question #1

What types of teaching methods do different generations of baccalaureate nursing students prefer? To determine the answer to the first research question, a two-tailed, independent sample *t*-test was performed to compare the means of Generation X and Generation Y students. Levene's test of Equality of Error Variances was also run on each variable to ensure no psychometric rules were violated in the data analysis process.

The sample size of the student participants included representation from three of the four current generations including: Baby Boomers, Generation X, and Generation Y. The majority of students were from Generation Y which included a sample size of 272 participants (83.2%); the second largest was Generation X with a sample size of 49 student participants (15.0%); and the Baby Boomers had the lowest number of student participants with only six (1.8%). Because of the disproportionally low number of Baby Boomers, the data from these six students was not used for this analysis.

The results of the survey found some distinct differences as well as a few similarities among the preferred teaching methods of Generation X and Y students. The first two teaching methods examined on the student survey included lecture and the application of skills in the classroom. Table 13 depicts the differences in statistics between Generation X and Y students for these two teaching methods.

Table 13

Differences between Generation X and Y Students – lecture and application of skills

Question	Generation	N	*M*[*]	*SD*[*]
Q1 - lecture	Generation X	49	3.41	.705
	Generation Y	272	3.17	.758
Q2 - apply skills	Generation X	49	3.45	.709
	Generation Y	271	3.36	.747

Note.[*] values rounded to the nearest thousandth.

The results of the survey data found Generation X students had a higher preference for traditional lecture as a teaching method with a mean of 3.41 (*SD* = .705) compared to Generation Y students with a mean of 3.17 (*SD* = .758). The application of skills in the classroom was another variable in the data analysis that revealed a slight difference between Generation X and Y students. The results of the study found Generation X students had a higher preference for the application of skills as a teaching method with a slightly higher mean of 3.45 (*SD* = .709) compared to Generation Y students' mean of 3.36 (*SD* = .747).

The data also found differences between Generation X and Y students related to preferences for working in groups versus individually on an assignment. There were also differences in the two groups related to students' preference for listening to lecture versus participating in group work. Table 14 depicts the differences in statistics for these group-related variables between Generation X and Y students.

Table 14

Differences between Generation X and Y Students – working in groups vs. individually

Question	Generation	N	*M**	*SD**
Q3 - work in groups	Generation X	49	2.27	.811
	Generation Y	272	2.51	.872
Q6 - work individually	Generation X	49	2.67	.826
	Generation Y	271	2.54	.778
Q17 - listen to lecture vs. group work	Generation X	49	2.92	.838
	Generation Y	272	2.60	.904

*Note.** values rounded to the nearest thousandth.

The preference for working in groups with their peers was higher among Generation Y students with a mean of 2.51 (*SD* = .872) compared to Generation X students with a mean of 2.27 (*SD* = .811). A similar question on the survey also asked students to rank their preference for working individually versus in groups on an assignment. The results found Generation Y had a lower preference for working individually on an assignment (*M* = 2.54, *SD* = .778), while Generation X students indicated a higher preference for working individually (*M* = 2.67, *SD* = .826). When asked about their preference for listening to the professor lecture versus working in groups with their peers on an in-class assignment, students from Generation X indicated a higher preference for this teaching method with a mean of 2.92 (*SD* = .838) compared to Generation Y students with a mean of 2.60 (*SD* = .904).

The differences in preference for the use of case studies, visual aids and having the professor draw or diagram new concepts on the board are depicted in Table 15.

Table 15

Differences between Generation X and Y Students – case studies, visual aids & drawings

Question	Generation	N	*M*[*]	*SD*[*]
Q4 - case study	Generation X	49	2.45	.765
	Generation Y	271	2.38	.769
Q5 - visual aids	Generation X	49	3.59	.643
	Generation Y	271	3.48	.671
Q8 - draw concepts	Generation X	49	3.29	.764
	Generation Y	271	3.14	.804

Note.[*] values rounded to the nearest thousandth.

Using a case study to learn new concepts was slightly more preferred by Generation X students with a mean of 2.45 (*SD* = .765) in comparison to Generation Y students who had a mean of 2.38 (*SD* = .769). Generation X students indicated a higher preference for the use of visual aids such as video, pictures, diagrams, etc. with a mean of 3.60 (*SD* = .643) compared to Generation Y students who had a mean of 3.48 (*SD* = .671). Having the professor draw out new concepts on the board for visualization was also more highly preferred by Generation X students with a mean of 3.29 (*SD* = .764) compared to students in Generation Y with a mean of 3.14 (*SD* = .804).

When examining preferences for actively participating in classroom discussion versus listening, the results found some distinct differences between Generations X and Y students. The differences in statistics for working in groups versus individually as preferred teaching methods for these two generations are depicted in Table 16.

Table 16

Differences between Generation X and Y Students – participation in class discussion

Question	Generation	N	*M*[*]	*SD*[*]
Q7 - listen vs. participate	Generation X	49	2.31	.796
	Generation Y	271	2.41	.838
Q18 - active participation	Generation X	49	3.27	.785
	Generation Y	271	2.77	.831

Note.[*] values rounded to the nearest thousandth.

The preference for listening during a classroom discussion was only slightly higher among Generation Y students (*M* = 2.41, *SD* = .828) as compared to Generation X students (*M* = 2.31, *SD* = .796). However, the results found Generation X had a much higher preference for actively participating in classroom discussion with their professor and peers (*M* = 3.27, *SD* = .785) as compared to Generation Y students (*M* = 2.77, *SD* = .831).

Overall, Generations X and Y both indicated a low preference for web-based study. The group statistics for a web-based course of study with no classroom meetings and a combination web-based course of study with classroom meetings as preferred teaching methods are depicted in Table 17.

Table 17

Differences between Generation X and Y Students – web-based

Question	Generation	N	*M*[*]	*SD*[*]
Q9 - web-based course	Generation X	49	1.76	.855
	Generation Y	261	1.74	.841
Q14 - combo web & class	Generation X	49	2.43	.979
	Generation Y	264	2.31	.869

Note.[*] values rounded to the nearest thousandth.

The means for Generations X and Y students found both generations had a low preference for a totally web-based course of study with no classroom meetings. The results found Generation X had a mean of 1.76 (*SD* =.855) while Generation Y had a mean of 1.74 (*SD* = .841). The results were slightly different when examining the combination of web-based study with classroom study as a teaching method. A combination course was more preferred overall by both generations. However, Generation X students had a higher preference for a combination web-based study and classroom study (*M* = 2.49, *SD* = .979) compared to Generation Y students (*M* = 2.31, *SD* = .869).

Storytelling, activities that involve technology during class and playing games to learn new material were all more highly preferred by students from Generation Y. Table 18 depicts the group statistics for these preferences in teaching methods.

Table 18

Differences between Generation X and Y Students – storytelling, tech, & games

Question	Generation	N	M^*	SD^*
Q10 - storytelling	Generation X	49	3.27	.811
	Generation Y	270	3.43	.747
Q16 - technology	Generation X	49	2.43	.979
	Generation Y	264	2.31	.869
Q19 - games	Generation X	48	2.38	.890
	Generation Y	272	2.51	.913

Note. * values rounded to the nearest thousandth.

Storytelling as a teaching method was more highly preferred by Generation Y students with a mean of 3.43 (*SD* = .747) compared to Generation X students with a mean of 3.27 (*SD* = .811). The use of activities that involve technology during class to learn new concepts in the classroom was also more highly preferred by Generation Y students with a mean of 2.75 (*SD* = .739) compared to Generation X students with a mean of 2.68 (*SD* = .663). In addition, Generation Y indicated a higher preference for playing games to learn new material (*M* = 2.51, *SD* = .913) compared to Generation X (*M* = 2.38, *SD* = .890) students.

When analyzing the students' preference for reading the assignment prior to class, the results found some distinct differences between the two generations. The group statistics and generational differences for reading prior to class versus after class are depicted in Table 19.

Table 19

Differences between Generation X and Y Students – reading before vs. after class

Question	Generation	N	M^*	SD^*
Q11 - read prior to class	Generation X	49	2.31	1.06*
	Generation Y	270	2.17	.918
Q15 - read, then listen	Generation X	49	2.43	.979
	Generation Y	264	2.31	.869
Q20 - read after class	Generation X	49	2.39	.885
	Generation Y	272	2.50	.937

Note. * values rounded to the nearest thousandth.

Generation X students had a higher preference for reading prior to class with a mean of 2.31 (*SD* = 1.06) compared to Generation Y students with a mean of 2.17 (*SD* = .918). The standard deviation of 1.06 for Generation X indicates the data were widely distributed between those students within this generation and their preference for reading prior to class. Generation X students also indicated a higher preference for reading the assignment prior to class and then discussing key points during class. The mean for Generation X students for this teaching method was 2.75 (*SD* = .863) compared to Generation Y students with a mean of 2.55 (*SD* = .945).

In addition, students were also asked a question about their preference for reading after class. The results found Generation Y students had a higher preference for reading the assignment after class with a mean of 2.50 (*SD* = .937) compared to Generation X students who had a mean of 2.39 (*SD* = .885).

The results of students' preference for having handouts versus taking their own notes found only slight variations between the two generations. The group statistics and generational differences for students' preference to have handouts to follow along with while listening to the professor versus taking their own notes is depicted in Table 20.

Table 20

Differences between Generation X and Y Students – handouts vs. own notes

Question	Generation	N	*M**	*SD**
Q12 - handouts	Generation X	49	3.67	.516
	Generation Y	270	3.70	.607
Q22 - own notes	Generation X	49	1.80	.866
	Generation Y	272	1.87	.864

*Note.** values rounded to the nearest thousandth.

Both generations had a high preference (Gen X $M = 3.67$; Gen Y $M = 3.70$) for having handouts to follow along with while listening to the professor lecture. Generation Y students had a slightly higher preference for this teaching method with a mean of 3.70 ($SD = .607$) compared to Generation X students with a mean of 3.67 ($SD = .516$). Both Generations X and Y had a low preference ($M < 1.9$) for taking their own notes, however of the two, Generation Y students had a slightly higher preference ($M = 1.87$, $SD = .864$) compared to Generation X students ($M = 1.80$, $SD = .866$) for this teaching method.

The preference for having classroom interaction with peers and professors, the amount of structure in the classroom provided by the professor, and the preference for learning with a variety of teaching methods is depicted in Table 21.

Table 21

Differences between Generation X and Y Students – interaction, structure, & variety

Question	Generation	N	*M*[*]	*SD*[*]
Q13 - interaction	Generation X	49	3.27	.670
	Generation Y	270	3.12	.749
Q21 - structure	Generation X	49	3.10	.848
	Generation Y	271	3.13	.815
Q23 - variety of teaching methods	Generation X	49	3.16	.898
	Generation Y	272	3.14	.830

Note.[*] values rounded to the nearest thousandth.

Having classroom interaction with their peers and professors was more highly preferred by Generation X students with a mean of 3.27 (*SD* = .670) compared to Generation Y with a mean of 3.12 (*SD* = .749). The preference for having a lot of classroom structure and guidance from the professor however, was more highly preferred by students from Generation Y who had a mean of 3.13 (*SD* = .815) as compared to Generation X with a mean of 3.10 (*SD* = .848) for this particular teaching method.

Overall, students from Generations X and Y indicated having a high preference for a variety of teaching methods, including lecture, group work, case studies, etc. Students from both generations had nearly identical means in their preference for a variety of teaching methods with a mean of 3.16 (*SD* = .898) for Generation X students and a mean of 3.14 (*SD* = .830) for Generation Y students.

The results of questions 24 through 30, asking students to rank the importance of specific things in the classroom environment, also found generational differences. The results for each question are depicted in Table 22.

Table 22

Differences between Generation X and Y Students – classroom environment

Question	Generation	N	*M*[*]	*SD*[*]
Q24 - professor knows my name	Generation X	47	3.43	.853
	Generation Y	271	3.57	.751
Q25 - grade for all work	Generation X	49	3.43	.817
	Generation Y	272	3.47	.753
Q26 - knowing why I am learning material	Generation X	49	3.65	.597
	Generation Y	272	3.64	.597
Q27 - participate in group work with peers	Generation X	49	2.27	.908
	Generation Y	271	2.75	.971
Q28 - professor tell what I need to know	Generation X	48	3.38	.866
	Generation Y	272	3.53	.718
Q29 - learning for learning sake	Generation X	48	2.77	.905
	Generation Y	270	2.65	.755
Q30 - grade all that really matters	Generation X	47	1.89	.938
	Generation Y	270	2.14	.881

Note.[*] values rounded to the nearest thousandth.

The importance of the professor knowing the student's name was ranked as more important by students in Generation Y with a mean of 3.57 (*SD* = .751) than students in Generation X with a mean of 3.43 (*SD* = .853). Having all papers and course work count

toward a grade was also ranked higher by students in Generation Y; however, the mean was only slightly higher for Generation Y (*M* = 3.47, *SD* = .753) compared to Generation X (*M* = 3.43, *SD* = .817).

Understanding the relevance and knowing why new material is being learned was ranked as nearly identically by both generations X and Y students. The data showed students exhibited only a .01 difference in means with this question. Generation X students had a mean of 3.65 (*SD* = .597), while Generation Y students had a mean of 3.64 (*SD* = .597).

There was a larger difference in the means between Generations X and Y when examining how students ranked the importance of participating in group assignments with peers during class time. Generation Y ranked this type of classroom environment and teaching method as more important with a mean of 2.75 (*SD* = .971) compared to Generation X with a mean of 2.27 (*SD* = .908).

The results of the study found students in Generations X and Y expect the professor to tell them what they need to know. However, students from Generation Y had a higher mean of 3.53 (*SD* = .718) compared to Generation X with a mean of 3.38 (*SD* = .866) for this particular question. Generation X students ranked learning for the sake of learning higher than Generation Y students with a mean of 2.77 (*SD* = .905) for Generation X compared to a mean of 2.65 (*SD* = .755) for Generation Y. Both Generations X and Y ranked “the grade received is all that really matters” as low. However, of the two generations, Generation Y students ranked this statement higher with a mean of 2.14 (*SD* = .881) as compared to Generation X with a mean of 1.89 (*SD* = .938).

The results of the two-tailed *t*-test found four statistically significant findings between Generations X and Y and their preferred teaching methods. The statistical significance of each item on the survey is depicted in Table 23. The four items found to be statistically significant at a *p* value of < 0.5 are identified by an asterisk in Table 23.

Table 23

Differences between Generation X and Y Students – two-tailed t-test

Question	*t-value*	Sig. (2-tailed)
Q1 - lecture	-2.086	.038*
Q2 - apply skills	-.759	.448
Q3 - work in groups	1.807	.072
Q4 - case study	-.577	.564
Q5 - visual aids	-1.083	.280
Q6 - work individually	-1.105	.270
Q7 - listen vs. participate in group discussion	.801	.423
Q8 - draw	-1.174	.241
Q9 - web-based course	-0.90	.928
Q10 - storytelling	1.429	.154
Q11 - read prior to class	-.815	.418
Q12 - handouts	.247	.805
Q13 - interaction with peers and professor	-1.249	.213
Q14 - combination web-based and classroom study	-.855	.393

Note. * Indicates a statistically significant value ($p < 0.5$)

Table 23 - Continued

Differences between Generation X and Y Students – two-tailed t-test

Question	*t-value*	Sig. (2-tailed)
Q15 - read prior, then listen	-1.345	.180
Q16 - technology	.561	.575
Q17 - listen to lecture vs. work in groups	-2.323	.021*
Q18 - active participation in group discussion	-3.892	.000*
Q19 - games	.981	.327
Q20 - read after class	.804	.422
Q21 - structure from professor	.242	.809
Q22 - own notes	.562	.575
Q23 - variety of teaching methods	-.181	.857
Q24 - professor knows my name	1.178	.240
Q25 - grade for all course work	.386	.700
Q26 - know why I am learning new material	-.144	.886
Q27 – participate in group assignments with peers	3.266	.001*
Q28 - professor tells me what I need to know	1.194	.237
Q29 - learning for learning sake	-.975	.330
Q30 - grade is all that really matters	1.758	.080

Note. * Indicates a statistically significant value ($p < 0.5$)

The first statistically significant finding was in students' preference for lecture. The *t*-test value for lecture as a preferred teaching method was -2.086 and was found to be statistically significant at $p = .038$. Generation X students had a higher preference for lecture as a teaching method with a mean of 3.41 ($SD = .704$) compared to Generation Y students who had a mean of 3.17 ($SD = .758$).

The second statistically significant finding was students' preference to listen to the professor lecture versus work in groups with their peers on an in-class assignment. Lecture versus group as a preferred teaching method had a *t*-test value of -2.325 and was statistically significant at $p = .021$. This teaching method was more preferred by Generation X students with a mean of 2.92 ($SD = .838$) compared to Generation Y students with a mean of 2.60 ($SD = .904$).

Actively participating in group discussion was the third statistically significant finding between Generations X and Y with $p = .000$. The *t*-test for this teaching method preference was -3.892. The results of the survey data found this teaching method was highly preferred by Generation X students with a mean of 3.27 ($SD = .785$) compared to Generation Y students with a mean of 2.77 ($SD = .831$).

The fourth statistically significant finding in preferred teaching methods among Generations X and Y was the importance of participating in group assignments with peers during class time. The *t*-test for this variable was 3.266 and was statistically significant at $p = .001$. Generation Y students indicated a higher level of importance for this teaching method with a mean of 2.75 ($SD = .971$) as compared to Generation X students with a mean of 2.27 ($SD = .908$).

Summary of Research Question #1

In summary, the data analysis found students from Generations X and Y preferred a wide variety of teaching methods. The data analysis found four statistically significant differences between Generation X and Y students' preferred teaching methods related to lecture, working in groups, actively participating in class discussions, and participating in group assignments with peers during class time. Many similarities in preferred teaching methods were also found between each of these two generations as evidenced by the narrow range of means for many of the variables analyzed. Therefore, hypothesis number one was supported and different generations of baccalaureate nursing students do have similar preferences in teaching methods.

Research Question #2

Is there a relationship between the levels of baccalaureate nursing students and their preferred teaching methods? To examine research question number two, an analysis of variance (ANOVA) was performed on each of the thirty individual questions on the student survey. Levene's test of Equality of Error Variances was calculated on each variable to ensure no psychometric rules were violated in the data analysis process. 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 levels of baccalaureate nursing students.

The majority of student participants in the study were juniors and seniors; including 110 juniors (34%) and 110 seniors (34%). A total of 98 student participants (30.2%) were sophomores. Only six students (1.9%) identified themselves as freshmen. Five student participants did not indicate their current year in their respective nursing program and were therefore not included in the results.

Due to the low number of freshmen students, when analyzing research question number two, the six freshmen students were combined with the 98 sophomore students to make the groups more evenly distributed. The data from the freshmen, originally categorized as number one, was transformed and recoded into a new category. Those students who were originally freshmen were re-coded into category number two, which included the sophomores. The newly formed category number two was subsequently given the label "freshmen/sophomores combined" and included the 98 sophomores and 6 freshmen for a total of 104 student participants. The juniors were coded as category number three and the seniors were categorized as number four in the data analysis.

Analysis of Variance Results

A total of 17 out of the 30 questions on the student survey were found to have statistically significant differences among the different levels of nursing students; including freshmen/sophomores, juniors, and seniors. The *F* value, degrees of freedom, error, and significance for each question is outlined in Table 24.

Table 24

Analysis of Variance Between Levels of Baccalaureate Nursing Students

Question	*df*	*F*	η^2	*p*
Q1 - lecture	2	5.039	.030	.007*
Q2 - apply skills	2	5.962	.036	.003*
Q3 - work in groups	2	2.440	.015	.089
Q4 - case studies	2	4.356	.027	.014*
Q5 - visual aids	2	1.140	.007	.321
Q6 - work individually	2	5.111	.031	.007*

Note. * Indicates a statistically significant value

Table 24 - Continued

Analysis of Variance Between Levels of Baccalaureate Nursing Students

Question	*df*	*F*	η^2	*p*
Q7 - listen vs. participate in class discussion	2	.070	.000	.932
Q8 - draw concepts	2	3.531	.022	.030*
Q9 - web-based course	2	1.975	.013	.141
Q10 - storytelling	2	1.497	.009	.225
Q11 - assignment prior to class	2	1.971	.012	.141
Q12 - handouts	2	5.374	.033	.005*
Q13 - classroom interaction with peers and professor	2	2.585	.016	.077
Q14 - combination web-based and classroom study	2	4.622	.029	.011*
Q15 - read assignment prior to class	2	4.655	.028	.010*
Q16 - use of technology	2	.360	.002	.698
Q17 - listen to lecture vs. work in groups	2	.461	.003	.631
Q18 - active participation in group discussions	2	.163	.001	.850
Q19 - play games	2	.606	.004	.546
Q20 - read assignment after class	2	5.334	.032	.005*
Q21 - classroom structure from professor	2	6.532	.039	.002*
Q22 - own notes vs. handouts	2	2.138	.013	.120

Note. * Indicates a statistically significant value

Table 24 - Continued

Analysis of Variance Between Levels of Baccalaureate Nursing Students

Question	*df*	*F*	η^2	*p*
Q23 - variety of teaching methods	2	3.182	.043	.043*
Q24 - professor knows my name	2	3.053	.019	.049*
Q25 - grade for all course work	2	.184	.001	.832
Q26 - know why I am learning new material	2	3.714	.023	.025*
Q27 - group assignments with peers during class	2	10.698	.063	.000*
Q28 - expect professor to tell me what I need to know	2	5.341	.032	.005*
Q29 - like learning for learning sake	2	3.153	.020	.044*
Q30 - grade is all that matters	2	3.156	.020	.044*

Note. * Indicates a statistically significant value

Each question on the student survey and the ANOVA results are discussed in the following section.

Lecture

The analysis of students' preference for traditional lecture found a significant difference [F (2, 321) = 5.039, p = .007] among levels of baccalaureate nursing students. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 25 depicts the results of the post-hoc tests.

Table 25

Tukey HSD Post Hoc Test – Preference for lecture

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.212	.103	.977
2 vs. 4	.270	.103	.025**
3 vs. 4	.291	.102	.013**

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found the freshmen and sophomores combined had a statistically significant difference with the senior level students at $p = .025$. The freshmen and sophomores as a combined group had a higher preference for traditional lecture with a mean of 3.28 ($SD = .806$) when compared to the seniors with a mean of 3.01 ($SD = .818$).

The results also found junior level students had a statistically significant difference with the senior level students at $p = .013$. The juniors indicated a higher preference for traditional lecture with a mean of 3.30 ($SD = .629$) when compared to the seniors with a mean of 3.01 ($SD = .818$). Overall, the results showed the freshmen and sophomores combined and the juniors all had a higher preference for traditional lecture than the senior level students. There was no statistically significant relationship between the freshmen and sophomores combined and the junior level students.

Apply Skills

When analyzing students' preference for applying skills in the classroom, a significant difference among levels of baccalaureate nursing students [F (2, 320) = 5.962, $p = .003$] was found. Tukey HSD post hoc tests were calculated as a result of the

significance of the *F* value on the ANOVA, to determine where the differences in levels of students occurred. Table 26 depicts the results of the post-hoc tests for the application of skills.

Table 26

Tukey HSD Post Hoc Test – Preference for application of skills

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.236	.102	.055
2 vs. 4	.345	.102	.002**
3 vs. 4	.109	.100	.521

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found the freshmen and sophomores combined had a statistically significant difference with the senior level students at $p = .002$. The freshmen and sophomores as a combined group had a higher preference for applying skills in the classroom that were covered in class with a mean of 3.56 ($SD = .681$) when compared to the seniors with a mean of 3.22 ($SD = .861$). All other pairings of levels of students were non-significant.

Work in Groups

No significant difference was found among levels of baccalaureate nursing students when analyzing students' preference for working in groups with peers [F (2, 321) = 2.440, $p = .089$]. Therefore, no further statistical tests were calculated. When examining the means for this variable, the freshmen and sophomores combined had a higher preference for this teaching method with a mean of 2.60 ($SD = .898$) when

compared to the juniors (M = 2.48, SD = .798) or the seniors (M = 2.34, SD = .891). However, no findings were statistically significant.

Case Studies

The analysis of students' preference for using a case study to apply new concepts learned found a significant difference [F (2, 320) = 4.356, p = .014] among levels of baccalaureate nursing students. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were run to determine where the differences in levels of students occurred. Table 27 depicts the results of the post-hoc tests.

Table 27

Tukey HSD Post Hoc Test – Preference for case studies

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.155	.105	.301
2 vs. 4	.150	.105	.326
3 vs. 4	.305	.103	.009**

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found juniors had a statistically significant difference with the senior level students at p = .009. When examining the means, the results indicated juniors had a higher preference for using case studies to learn new concepts with a mean of 2.57 (SD = .774) when compared to seniors with a mean of 2.26 (SD = .762). All other pairings of levels of students for this particular teaching method were non-significant.

Visual Aids

There was no significant difference among levels of baccalaureate nursing students when analyzing students' preference for using visual aids such as video, pictures and diagrams to learn new concepts [F (2, 320) = 1.140, p = .321]. Therefore, no further statistical tests were calculated. When examining the means for this variable, the freshmen and sophomores combined had the highest preference for this teaching method with a mean of 3.57 (SD = .635) when compared to juniors (M = 3.43, SD = .685) or seniors (M = 3.51, SD = .660). Even with these differences in means, no findings were statistically significant.

Work Individually

The analysis of students' preference for working individually on an assignment versus in groups with their peers found a significant difference [F (2, 320) = 5.111, p = .007] among levels of baccalaureate nursing students. Tukey HSD post hoc tests were calculated as a result of the significance of the F value on the ANOVA, to determine where the differences in levels of students occurred. Table 28 depicts the results of the post-hoc tests.

Table 28

Tukey HSD Post Hoc Test – Preference for working individually

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.072	.107	.778
2 vs. 4	-.322	.106	.007**
3 vs. 4	-.250	.105	.047**

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomores and senior level students at $p = .007$. When examining the means, the results indicated seniors had a higher preference for working individually with a mean of 2.75 ($SD = .826$) when compared to freshmen and sophomores with a mean of 2.43 ($SD = .773$). Seniors also had a higher preference for working individually than junior level students with a statistically significant difference of $p = .047$. The results found that seniors' preference for working individually was higher with a mean of 2.75 ($SD = .826$) when compared to junior level students with a mean of 2.50 ($SD = .728$). There was no statistically significant relationship between freshmen and sophomores combined and juniors.

Listen vs. Participate in Group Discussions

There was no significant difference found among levels of baccalaureate nursing students in the analysis of students' preference for listening versus participating in group discussions [F (2, 320) = 0.70, $p = .932$]. Therefore, no further statistical tests were calculated. When examining this variable, the three levels of students had similar means in their preference for listening versus participating in group discussions. Juniors had the highest preference for this teaching method with a mean of 2.43 ($SD = .896$), followed by freshmen and sophomores combined with a mean of 2.42 ($SD = .833$) and then seniors with a mean of 2.39 ($SD = .791$).

Draw Concepts

A significant difference among levels of baccalaureate nursing students was found in the analysis of students' preference for having the professor draw out new concepts for visualization [F (2, 320) = 3.531, $p = .030$]. Tukey HSD post hoc tests were calculated as a result of the significance of the F value on the ANOVA, to determine where the

differences in levels of students occurred. Table 29 depicts the results of the post-hoc tests.

Table 29

Tukey HSD Post Hoc Test – Preference for drawing concepts

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.143	.109	.393
2 vs. 4	.290	.109	.023**
3 vs. 4	.147	.108	.361

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomore students and senior level students at $p = .023$. When examining the means, the results indicated freshmen and sophomores collectively had a higher preference for having concepts drawn on the board with a mean of 3.31 ($SD = .738$) when compared to seniors with a mean of 3.02 ($SD = .813$). All other pairings of levels of students were non-significant.

Web-based Course

The analysis of students' preference for having a web-based course of study with no classroom meetings did not find a significant difference [F (2, 310) = 1.975, $p = .141$] among levels of baccalaureate nursing students. As a result, no further statistical tests were calculated. When examining the means for this variable, seniors had the highest preference for a web-based course of study with a mean of 1.90 ($SD = .946$) when compared to juniors ($M = 1.71$, $SD = .813$) or freshmen and sophomores as a combined group ($M = 1.69$, $SD = .797$).

Storytelling

No significant difference was found among levels of baccalaureate nursing students in the analysis of students' preference for having the professor share personal stories [F (2, 319) = 1.497, p = .225]. As a result, no further statistical tests were calculated. When examining the means for this variable, freshmen and sophomores as a combined group had the highest preference for storytelling with a mean of 3.47 (*SD* = .763). Seniors had the second highest preference for this teaching method with a mean of 3.41 (*SD* = .735) while juniors had a mean of 3.29 (*SD* = .797).

Complete an Assignment Prior to Class

The analysis of students' preference for completing an assignment prior to class did not find a significant difference [F (2, 319) = 1.971, p = .141] among levels of baccalaureate nursing students. As a result, no further statistical tests were calculated. When examining the means for this variable, freshmen and sophomores as a combined group had the highest preference for completing an assignment prior to class with a mean of 2.33 (*SD* = .960) when compared to juniors with a mean of 2.20 (*SD* = .862) and seniors with a mean of 2.07 (*SD* = .983).

Handouts

A significant difference was found among levels of baccalaureate nursing students in the analysis of students' preference for handouts to follow along with while listening to the professor lecture [F (2, 319) = 5.374, p = .005]. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 30 depicts the results of the post-hoc tests.

Table 30

Tukey HSD Post Hoc Test – Preference for handouts

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.045	.081	.843
2 vs. 4	.247	.081	.007**
3 vs. 4	.202	.080	.031**

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomores and senior level students at $p = .007$. When examining the means, the results indicated freshmen and sophomores had a higher preference for handouts with a mean of 3.78 ($SD = .461$) when compared to seniors with a mean of 3.53 ($SD = .752$). Juniors also had a higher preference for handouts than seniors with a statistically significant difference at $p = .031$. The results found that juniors preference for handouts was higher with a mean of 3.73 ($SD = .503$) when compared to senior students with a mean of 3.53 ($SD = .752$). There was no statistically significant relationship between freshmen and sophomores combined and junior level students.

Classroom Interaction with Professor and Peers

The analysis of students' preference for having classroom interaction with their peers and the professor did not find a significant difference among levels of baccalaureate nursing students [F (2, 319) = 2.585, $p = .077$]. As a result, no further statistical tests were calculated. When examining the means for this variable, freshmen and sophomores as a combined group had the highest preference for classroom interaction with peers and

the professor with a mean of 3.25 (*SD* = .650) when compared to juniors with a mean of 3.02 (*SD* = .757) and seniors with a mean of 3.12 (*SD* = .813).

Combination Web-based and Classroom Study

The analysis of students' preference for a combination web-based course with classroom meetings was found to have a significant difference [*F* (2, 313) = 4.622, *p* = .011] among levels of baccalaureate nursing students. Tukey HSD post hoc tests were calculated as a result of the significance of the *F* value on the ANOVA to determine where the differences in levels of students occurred. Table 31 depicts the results of the post-hoc tests.

Table 31

Tukey HSD Post Hoc Test

Preference for combination web-based course and classroom study

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.360	.122	.010**
2 vs. 4	.265	.122	.079
3 vs. 4	-.950	.120	.709

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomores and junior level students at *p* = .010. When examining the means, the results indicated freshmen and sophomores had a higher preference for a combination web-based course plus classroom meetings with a mean of 2.55 (*SD* = .954) when compared to juniors with a mean of 2.19 (*SD* = .901). All other pairings of levels of students for this teaching method were non-significant.

Read the Assignment Prior to Class

A significant difference was found among levels of baccalaureate nursing students in the analysis of students' preference for reading the assignment prior to class and then listening to the professor discuss key points [F (2, 319) = 4.655, p = .010]. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 32 depicts the results of the post-hoc tests.

Table 32

Tukey HSD Post Hoc Test

Preference for reading prior to class, then listening to lecture

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.331	.127	.025**
2 vs. 4	.340	.127	.021**
3 vs. 4	.009	.125	.997

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomores and junior level students at p = .025 level. When examining the means, the results indicated freshmen and sophomores had a higher preference for reading the assignment prior to class and then listening to the professor discuss key points during class. The mean score for freshmen and sophomores combined for this teaching method was 2.82 (SD = .911) when compared to juniors with a mean of 2.49 (SD = .899).

The results also indicated a statistically significant relationship between freshmen and sophomores combined and seniors at a p = .021. When examining the means for this

relationship, the results found freshmen and sophomore level students had a higher preference for reading prior and then listening in class, when compared to seniors who only had a mean of 2.47 (*SD* = .958). There was no statistically significant difference between freshmen and sophomores as a combined group and junior level students for this teaching method.

Use of Technology

The analysis of students' preference for the use of technology in the classroom did not find a significant difference among levels of baccalaureate nursing students [*F* (2, 318) = 0.360, *p* = .698]. Therefore, no further statistical tests were calculated. When examining the means for this variable, senior level students had the highest preference for the use of technology in the classroom with a mean of 2.79 (*SD* = .755) when compared to juniors with a mean of 2.76 (*SD* = .719) and freshmen and sophomores combined with a mean of 2.71 (*SD* = .739).

Listen to Lecture vs. Work in Groups

There was no significant difference found among levels of baccalaureate nursing students in the analysis of students' preference for listening to lecture rather than working in groups with peers on an in-class assignment [*F* (2, 320) = .461, *p* = .631]. As a result, no further statistical tests were calculated. When examining the means for this variable, juniors had a higher preference for listening to lecture versus working in groups with peers with a mean of 2.69 (*SD* = .798) when compared to seniors (*M* = 2.63, *SD* = .966) and freshmen and sophomores as a combined group (*M* = 2.57, *SD* = .925).

Active Participation in Group Discussions

The analysis of students' preference for actively participating in classroom discussions did not find a significant difference among levels of baccalaureate nursing

students [F (2, 320) = 0.163, p = .850]. Therefore, no further statistical tests were calculated. When examining the means, the freshmen and sophomore combined group had the highest preference for this teaching method with a mean of 2.88 (SD = .855). Junior and senior level students had exactly the same means of 2.82 indicating similar preferences for this teaching method. Juniors had a standard deviation of .890 and seniors had a standard deviation of .795.

Play Games

There was also no significant difference found among levels of baccalaureate nursing students in the analysis of students' preference for playing games to learn new material [F (2, 319) = .606, p = .546]. Therefore, no further statistical tests were calculated. When examining the means for this variable, juniors had the highest preference for playing games to learn new material with a mean of 2.55 (SD = .884) when compared to the freshmen and sophomore combined group (M = 2.49, SD = .898) and seniors (M = 2.42, SD = .971).

Read the Assignment After Class

The analysis of students' preference for reading the assignment after class was found to have a significant difference [F (2, 321) = 5.334, p = .005] among levels of baccalaureate nursing students. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were run to determine where the differences in levels of students occurred. Table 33 depicts the results of the post-hoc tests.

Table 33

Tukey HSD Post Hoc Test – Preference for reading after class

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.323	.125	.027**
2 vs. 4	-.378	.125	.007**
3 vs. 4	.897	.123	.897

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between juniors and freshmen and sophomore students combined at $p = .027$ level. When examining the means, the results indicated juniors had a higher preference for reading the assignment after class with a mean score of 2.56 ($SD = .841$) when compared to freshmen and sophomore students who had a mean of 2.24 ($SD = .908$).

The results of the Tukey HSD post hoc test also found a statistically significant difference between senior level students and the combined freshmen and sophomore group at $p = .007$. The means for these two levels of students found seniors had a higher preference for reading the assignment after class ($M = 2.62$, $SD = .977$) when compared to freshmen and sophomore students ($M = 2.24$, $SD = .908$).

Classroom Structure from Professor

A significant difference was found among levels of baccalaureate nursing students in the analysis of students' preference for classroom structure and guidance from the professor [F (2, 320) = 6.532, $p = .002$]. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the

differences in levels of students occurred. Table 34 depicts the results of the post-hoc tests.

Table 34

Tukey HSD Post Hoc Test

Preference for structure and guidance from professor

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.180	.111	.239
2 vs. 4	.399	.111	.001**
3 vs. 4	.219	.109	.112

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomore students combined and senior level students at the $p = .001$ level. When examining the means, the results indicated freshmen and sophomore students had a much higher preference for classroom structure from the professor with a mean score of 3.32 ($SD = .714$) when compared to senior level students students who had a mean of 2.92 ($SD = .920$). All other pairings of levels of students for this teaching method were non-significant.

Own Notes vs. Handouts

No significant difference was found among levels of baccalaureate nursing students when analyzing students' preference for taking their own notes during class versus having handouts from the professor [F (2, 321) = 2.138, $p = .120$]. As a result, no further statistical tests were calculated. The examination of the means for this variable found all three levels of baccalaureate nursing students had a low preference for this

teaching method with a mean less than 2.0. Of the three levels, juniors were found to have the highest preference for taking their own notes with a mean of 1.97 (*SD* = .877). The seniors were the next highest with a mean of 1.92 (*SD* = .930). The freshmen and sophomore combined group had the lowest preference for taking their own notes with a mean of 1.73 (*SD* = .791).

Variety of Teaching Methods

The analysis of students' preference for a variety of teaching methods including lecture, case studies, visual aids, etc. was found to have a significant difference [*F* (2, 321) = 3.182, *p* = .043] among levels of baccalaureate nursing students. As a result of the significance of the *F* value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 35 depicts the results of the post-hoc tests.

Table 35

Tukey HSD Post Hoc Test – Preference for use of variety of teaching methods

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.043	.114	.926
2 vs. 4	.221	.114	.127
3 vs. 4	.264	.112	.050**

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between junior and senior level students at *p* = .050 level. When examining the means, the results indicated juniors had a higher preference for a variety of teaching methods with a mean score of 3.26 (*SD* = .774) when compared to senior level students who had a mean of

3.00 (*SD* = .909). All other pairings of levels of students for this teaching method were non-significant.

Professor Knows My Name

The analysis of the importance of the professor knowing the student's name was found to have a significant difference among levels of baccalaureate nursing students [*F* (2, 318) = 3.053, *p* = .049]. As a result of the significance of the *F* value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 36 depicts the results of the post-hoc tests.

Table 36

Tukey HSD Post Hoc Test

Importance of professor knowing my name

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.215	.109	.118
2 vs. 4	.246	.108	.060
3 vs. 4	.031	.107	.955

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

Although there was a significant *F* value, the Tukey HSD post hoc test however, did not find any statistically significant differences among any levels of students. The means indicated freshmen and sophomore level students ranked the professor knowing their name as more important than what junior or senior level students indicated. Freshmen and sophomores as a combined group had the highest mean of 3.68 (*SD* = .686) when compared to junior level students who had a mean of 3.47 (*SD* = .744); and senior level students who had a mean of 3.44 (*SD* = .914). Even though the means were

different between levels, there were no statistically significant findings between levels for this particular question on the survey.

Grade for All Course Work

No significant difference was found among levels of baccalaureate nursing students when analyzing students' preference for having all course work and papers count toward a grade [F (2, 321) = 0.184, p = .832]. Therefore, no further statistical tests were calculated. The examination of the means for this variable found all three levels with very close means. Freshmen and sophomores combined had the highest mean of 3.49 (SD = .800) while juniors had a mean of 3.45 (SD = .724) and seniors had a mean of 3.43 (SD = .818). Although all three levels of students indicated a high preference for having all course work count toward a grade, there was no statistical significance among levels.

Knowing Why I am Learning New Material

The importance of knowing why new material was being learned was found to have a significant difference [F (2, 321) = 3.714, p = .025] among levels of baccalaureate nursing students in the analysis of data. As a result of the significance of the F value on the ANOVA and to determine where the differences in levels of students had occurred, Tukey HSD post hoc tests were calculated. Table 37 depicts the results of the post-hoc tests.

Table 37

Tukey HSD Post Hoc Test

Importance of knowing why I am learning new material

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.124	.076	.234
2 vs. 4	.206	.076	.019**
3 vs. 4	.082	.075	.518

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomore level students and seniors at $p = .019$ level. When examining the means, the results indicated freshmen and sophomore level students ranked the importance of knowing why new material was being learned as higher with a mean of 3.77 ($SD = .423$) compared to senior level students who had a mean of 3.56 ($SD = .643$). All other pairings of levels of students for this question were non-significant.

Groups Assignments with Peers during Class

A statistically significant difference was found among levels of baccalaureate nursing students when analyzing students' ranking of the importance of participating in groups assignments with peers during class [F (2, 320) = 10.698, $p = .000$]. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 38 depicts the results of the post-hoc tests.

Table 38

Tukey HSD Post Hoc Test

Importance of working on group assignments with peers in class

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.450	.131	.005**
2 vs. 4	.592	.131	.000**
3 vs. 4	.182	.128	.334

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomore level students and juniors at $p = .005$ level. When examining the means, the results found freshmen and sophomore level students ranked the importance of working in groups with their peers as higher with a mean of 3.01 (SD = .955) when compared to junior level students who had a mean of 2.60 (SD = .931). A statistically significant difference was also found between freshmen and sophomore students combined and senior level students at $p = .000$. The examination of the means found freshmen and sophomore students also ranked the importance of working in groups with their peers as higher than senior level students who had a mean of 2.42 (SD = .971).

Expect Professor to Tell Me What I Need to Know

When analyzing students' ranking of the following question: "I expect the professor to tell me what I need to know", a statistically significant difference was found [F (2, 320) = 5.341, $p = .005$] among levels of baccalaureate nursing students. Due to the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to

determine where the differences in levels of students occurred. Table 39 depicts the results of the post-hoc tests.

Table 39

Tukey HSD Post Hoc Test

Expect professor to tell me what I need to know

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.229	.099	.057
2 vs. 4	.316	.100	.005**
3 vs. 4	.088	.098	.647

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between freshmen and sophomore level students and seniors ($p = .005$) when asked to rank their level of expectation of the professor to tell them what they need to know. When examining the means, the results found freshmen and sophomore level students ranked this question higher with a mean of 3.69 ($SD = .609$) when compared to senior level students who had a mean of 3.38 ($SD = .803$). All other pairings of levels of students for this question were non-significant.

Like Learning for Learning Sake

A statistically significant difference among levels of baccalaureate nursing students was found when analyzing students' ranking of their preference for learning just for learning sake [F (2, 317) = 3.153, $p = .044$]. Due to the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the

differences in levels of students occurred. Table 40 depicts the results of the post-hoc tests.

Table 40

Tukey HSD Post Hoc Test – Like to learn just for learning sake

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	-.264	.109	.041**
2 vs. 4	-.079	.109	.750
3 vs. 4	.185	.106	.192

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

The Tukey HSD post hoc test found a statistically significant difference between junior level students and the freshmen and sophomore group (p = .041). When examining the means, the results indicated junior level students ranked their preference for "learning just for learning sake" as higher with a mean of 2.82 (SD = .826) compared to senior level students who had a mean of 2.55 (SD = .741). All other pairings of levels of students for this question were non-significant.

Grade is All That Matters

A significant difference among levels of baccalaureate nursing students was found in the analysis of "the grade I receive is all that really matters" [F (2, 317) = 3.156, p = .044]. As a result of the significance of the F value on the ANOVA, Tukey HSD post hoc tests were calculated to determine where the differences in levels of students occurred. Table 41 depicts the results of the post-hoc tests.

Table 41

Tukey HSD Post Hoc Test – Grade is all that matters

Levels of Students	Mean Difference*	*SE**	*p*
2 vs. 3	.289	.123	.051
2 vs. 4	.242	.123	.124
3 vs. 4	-.047	.122	.922

Note. 2 = freshmen and sophomores combined; 3 = juniors; 4 = seniors; *Values rounded to the nearest thousandth; ** Indicates a statistically significant value

Although there was a significant *F* value, the Tukey HSD post hoc test however, did not find any statistically significant differences among any levels of students. The Tukey HSD post hoc test found a difference between junior level students and freshmen and sophomore students combined at $p = .051$. The examination of the means indicated the freshmen and sophomore level students had the highest ranking for this variable with a mean of 2.29 (*SD* = .952). The juniors and seniors were nearly equal in their ranking of "the grade is all that really matters" with a mean of 2.00 (*SD* = .871) for the juniors and a mean of 2.05 (*SD* = .862) for the seniors. Even though the means were different between levels, there were no statistically significant findings between levels for this particular question on the survey.

Summary of Research Question #2

In summary, the Analysis of Variance found many statistically significant differences among levels of baccalaureate nursing students, especially between the freshmen and sophomore combined group of students and senior level students. Research data supported a relationship between the levels of baccalaureate nursing students and their preferred teaching methods.

The data analysis also found many similarities in preferences for various teaching methods among different levels of baccalaureate nursing students as indicated by narrow mean scores for certain variables. Therefore, hypothesis number two was supported by the research data and different levels of baccalaureate nursing students do have similar preferences in teaching methods.

Research Question #3

Is there a specific teaching method used in the classroom by faculty more frequently than others? To determine the answer to research question number three, descriptive statistics for items 1-30 on the faculty survey as well as the percentages of faculty's choice for teaching methods were analyzed. Table 42 depicts the means and standard deviations for items one through thirty on the faculty survey.

Table 42

Mean and Standard Deviation for Faculty Data – Questions 1-30

Question	*M*	*SD*
Q1 - lecture	2.89	.614
Q2 - apply skills	2.92	.632
Q3 - work in groups	2.66	.708
Q4 - case studies	2.82	.652
Q5 - visual aids	3.19	.776
Q6 - work individually	2.58	.599
Q7 - listen vs. participate in class discussion	3.79	.474
Q8 - draw concepts	2.25	.874

Note. * Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

Table 42 - Continued

Mean and Standard Deviation for Faculty Data – Questions 1-30

Question	*M*	*SD*
Q9 - web-based course	1.79	.977
Q10 - storytelling	3.32	.662
Q11 - complete an assignment prior to class	1.97	.857
Q12 - handouts	3.33	1.014*
Q13 - classroom interaction with peers and professor	3.76	.431
Q14 - combination web-based and classroom study	2.42	1.089*
Q15 - read the assignment prior to class	3.58	.692
Q16 - use of technology	2.42	.841
Q17 - listen to lecture vs. work in groups	2.76	.723
Q18 - active participation in group discussions	3.45	.686
Q19 - play games	1.92	.682
Q20 - read the assignment after class	1.11	.523
Q21 - classroom structure from professor	3.16	.646
Q22 - own notes vs. handouts	2.39	1.022*
Q23 – variety of teaching methods	3.18	.801
Q24 - know my name students' names	3.87	.346

*Note.** Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

Table 42 - Continued

Mean and Standard Deviation for Faculty Data – Questions 1-30

Question	*M*	*SD*
Q25 - grade for all course work	2.75	.937
Q26 - tell students why they need to learn new material	3.39	.679
Q27 - group assignments with peers during class	2.72	.659
Q28 - tell students what they need to know	2.68	.662
Q29 - emphasize learning for learning sake	2.61	.994
Q30 - emphasize the grade is all that matters	1.03	.162

Note.[*] Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

The results of the analysis for questions one through 23 on the faculty survey found the teaching method with the highest mean was group discussion (*M* = 3.78, *SD* = .474). The results indicated faculty use of this teaching method was more frequent than any other teaching method when examining items one through 23 in the survey. Facilitating interaction with peers and the professor was the second most highly ranked teaching method used by faculty with a mean of 3.76 (*SD* = .431).

For items one through 23 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 1.11 (*SD* = .523). Conducting a web-based only course with no classroom meetings was also ranked low in use as a teaching method by faculty with a mean of 1.79 (*SD* = .977). All other results for items one through 23 are depicted in Table 42.

When analyzing questions 24 through 30 on the faculty survey, the question with the highest level of importance to faculty was knowing each students' name (M = 3.87, SD = .343). Faculty also ranked informing students of the reason for learning new concepts as important with a mean of 3.39 (SD = .679). The least important item for faculty on the survey was emphasizing to each student that the grade is all that really matters (M = 1.03, SD = .162). The rest of the questions in this section of the survey (items 24-30), as depicted in Table 42, were given nearly equal ranking by faculty as to their level of importance; all having means greater than 2.60.

To further analyze research question number three, data from the faculty's choice for the five most used teaching methods were analyzed. The percentages of the teaching methods faculty identified as using were all examined. The results, including the number of faculty who chose each teaching method and the related percentages, are depicted in Table 43.

Table 43

Reported Use of Teaching Methods by Faculty

Option	N	*P*
Lecture	29	80.6
Case Studies	23	63.9
Storytelling	16	44.4
Hands on activities	14	38.9
Activities with technology	10	27.8
Worksheets	5	13.9

Table 43 - Continued

Reported Use of Teaching Methods by Faculty

Option	N	*P*
Handouts	13	36.1
Visual aids	15	41.7
Group Activities	19	52.8
Diagramming	2	5.6
Games	6	16.7
Group Discussion	24	66.7

Note. N = 38

The results found four teaching methods that were used by the majority (> 50%) of faculty. These included lecture, group discussion, case studies, and group activities. The overwhelming majority of faculty indicated lecture as the most used teaching method in the classroom with n = 29, (80.6%) choosing this option. The second most used teaching method was having students participate in group discussion with n = 24, (66.7%). The third most used teaching method was case studies with n = 23, (63.9%) and the fourth most used was group activities with n = 19 (52.8%).

The results found eight teaching methods with less than 50% of faculty indicating their use in the classroom. These teaching methods included; diagramming, worksheets, games, activities with technology, handouts, hands on activities, visual aids, and storytelling. The teaching method with the least number of faculty indicating its use was diagramming; with only n = 2, (5.6%). All other teaching methods and their percentages are depicted in Table 43.

Summary of Research Question #3

Overall, the results of the data analysis for this research question found faculty indicated lecture as being the most used teaching method in the classroom with n = 29, (80.6%). Therefore, hypothesis number three; stating there is a teaching method used more frequently than others in the classroom, was supported by the research data. 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 also indicated the utilization of a variety of teaching methods in the classroom by baccalaureate nursing faculty.

Research Question #4

Is there a relationship between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods? To analyze research question number four, the descriptive statistics for items 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 44 depicts the comparison of means and standard deviations for items one through thirty on the faculty and student survey.

Table 44

Comparison of Mean and Standard Deviation for Faculty and Student Data Questions 1-30

Question	Faculty Use *M (SD)*	Student Preference *M* (*SD*)
Q1 - lecture	2.89 (.614)	3.20 (.763)
Q2 - apply skills	2.92 (.632)	3.36 (.754)
Q3 - work in groups	2.66 (.708)	2.46 (.866)

Note.[*] Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

Table 44 - Continued

Comparison of Mean and Standard Deviation for Faculty and Student Data Questions 1-30

Question	Faculty Use *M (SD)*	Student Preference *M* (*SD*)
Q4 - case studies	2.82 (.652)	2.41 (.772)
Q5 - visual aids	3.19 (.776)	3.50 (.664)
Q6 - work individually	2.58 (.599)	2.58 (.790)
Q7 - listen vs. participate in class discussion	3.79 (.474)	2.41 (.838)
Q8 - draw concepts	2.25 (.874)	3.16 (.807)
Q9 - web-based course	1.79 (.977)	1.77 (.857)
Q10 - storytelling	3.32 (.662)	3.39 (.767)
Q11 - complete an assignment prior to class	1.97 (.857)	2.20 (.941)
Q12 - handouts	3.33 (1.014*)	3.69 (.593)
Q13 - classroom interaction with peers and professor	3.76 (.431)	3.13 (.746)
Q14 - combination web-based and classroom study	2.42 (1.089*)	2.35 (.896)
Q15 - read the assignment prior to class	3.58 (.692)	2.59 (.935)
Q16 - use of technology	2.42 (.841)	2.75 (.734)
Q17 - listen to lecture vs. work in groups	2.76 (.723)	2.64 (.898)
Q18 - active participation in group discussions	3.45 (.686)	2.84 (.843)

* Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

Table 44 - Continued

Comparison of Mean and Standard Deviation for Faculty and Student Data Questions 1-30

Question	Faculty Use *M (SD)*	Student Preference *M* (*SD*)
Q19 - play games	1.92 (.682)	2.49 (.913)
Q20 - read the assignment after class	1.11 (.523)	2.48 (.931)
Q21 - classroom structure from professor	3.16 (.646)	3.16 (.823)
Q22 - own notes vs. handouts	2.39 (1.022*)	1.87 (.870)
Q23 - variety of teaching methods	3.18 (.801)	3.15 (.837)
Q24 - know students' names	3.87 (.346)	3.53 (.791)
Q25 - grade for all course work	2.75 (.937)	3.46 (.776)
Q26 - tell why learning new material	3.39 (.679)	3.64 (.594)
Q27 - group assignments with peers during class	2.72 (.659)	2.66 (.982)
Q28 - tell what is needed to know	2.68 (.662)	3.50 (.746)
Q 29 - learning for learning sake	2.61 (.994)	2.67 (.789)
Q30 - grade is all that matters	1.03 (.162)	2.10 (.897)

* Indicates a *SD* > 1.0 due to a wide distribution of data for that variable.

The results of the comparison of data found students had a higher mean preference for fifteen of the thirty items on the survey as compared to what faculty indicated using in the classroom. These fifteen teaching methods included: lecture, application of skills, use of visual aids, drawing concepts on the board, storytelling, reading the assignment prior to class, having handouts, using technology, playing games, reading the assignment after class, having a grade attached to all course work, knowing

why new material is being learned, being told what is needed to know, learning for learning sake, and the grade is all that really matters.

When analyzing the means from faculty data, the results found the mean use by faculty was higher on thirteen out of thirty items on the survey than what was preferred by students. The thirteen teaching methods in this category included: working in groups, case studies, listening versus participating in class discussion, a web-based course, having classroom interaction with peers and professor, having a combination web-based course and classroom study, reading the assignment prior to class, listening to lecture versus working in groups, actively participating in group discussions, taking own notes versus having handouts, using a variety of teaching methods, knowing students' names, and working on group assignments with peers during class.

Two teaching methods were found to have the exact same mean when comparing faculty use with student preference. These two items included: working individually on an assignment; and the classroom structure and guidance from the professor during class. Each item on the faculty and student survey is discussed in the following section.

Lecture

Students had a high preference for the use of lecture with a mean of 3.20 (*SD* = .763). A total of 270 students indicated they either frequently (n = 140, 42.6%) or always (n = 130, 39.5%) preferred to have the professor lecture on a topic. Even though the faculty mean was lower (*M* = 2.89, *SD* = .614) for this teaching method, the majority of faculty (n = 26, 68.4%) indicated frequently using lecture in the classroom setting and four (10.5 %) indicated always using it. The results concluded that students prefer the use of lecture in the classroom setting and faculty are using it as a method of teaching.

Apply Skills

The preference for applying skills in the classroom from the reading assignment was highly preferred by students with a mean of 3.36 (*SD* = .754). For this teaching method, 114 (34.7%) students indicated frequently preferring this method and 169 (51.4%) indicated always preferring this method. When comparing student and faculty responses, the faculty indicated frequently using this teaching method in the classroom with a mean of 2.92 (*SD* = .632). Twenty-six (68.4%) faculty responded as frequently using this teaching method and five (13.2%) responded as always having students apply skills in the classroom. Therefore, the results of this variable indicated the majority of faculty are using this highly preferred teaching method by students.

Work in Groups

Having the students work in groups was ranked by the majority of faculty as a teaching method used occasionally (n = 12, 31.6%) or frequently (n = 21, 55.3%) in the classroom setting with a mean of 2.66 (*SD* = .708). Overall, students had a slightly lower mean for working in groups (*M* = 2.46, *SD* = .866) as compared to faculty use of this teaching method. The majority of students ranked occasionally (n = 160, 48.6%) or frequently (n = 87, 26.4%) preferring to work in groups with their peers on an assignment. The results of the data indicated faculty use of this teaching method is about the same amount as what students indicated preferring it.

Case Studies

Case studies were found to be used on an occasional (n = 9, 23.7%) to frequent (n = 24, 63.2%) basis by the majority of faculty with a mean of 2.82 (*SD* = .652). Students had similar preferences in their ranking for this teaching method, although their mean was 2.41 (*SD* = .772). The majority of students indicated occasionally (n = 160, 48.8%)

or frequently (n = 110, 33.5%) preferring to have a case study to apply new concepts learned. Therefore, the results found faculty are using this teaching method about the same amount as what students indicated preferring it.

Visual Aids

The use of visual aids was highly preferred by students with a mean of 3.50 (*SD* = .664). A total of 101 (30.8%) students indicated frequently preferring this teaching method and 196 (59.8%) indicated always preferring visual aids. Although the mean for faculty use was slightly lower (*M* = 3.19, *SD* = .776) than students, the results found the majority of faculty surveyed indicated frequently or always using visual aids when teaching in the classroom. A total of 14 faculty (36.8%) indicated frequently and 15 (39.5%) indicated always using visual aids. There were no faculty who responded to not using visual aids at all. The results of data analysis concluded that students prefered the use of visual aids in the classroom and faculty indicated using them.

Work Individually

The results for students' preference to work individually on an assignment and faculty use of this teaching method resulted in the exact same mean of 2.58 for both groups. The standard deviation for the students was .790 and the standard deviation for the faculty was .599. The majority of students preferred to work individually either occasionally (n = 150, 45.7%) or frequently (n = 116, 35.4%) on an assignment. The majority of faculty also indicated having students work individually; either occasionally (n = 15, 39.5%) or frequently (n = 21, 55.3%). In conclusion, the results of the data analysis found the faculty surveyed indicated using this teaching method approximately the same amount as what students indicated they preferred it.

Listen versus Participate in Class Discussion

Overall, students ranked their preference for listening versus participating during class discussions as relatively equal with a mean of 2.41 (*SD* = .838). One hundred and fifty four students (47.0%) indicated occasionally preferring to listen versus participate in class discussion while 99 students (30.2%) indicated frequently preferring this teaching method. In comparison, the faculty ranked the use of this teaching method much higher than students with a mean of 3.79 (*SD* = .474). The majority of faculty (n = 31, 81.6%) indicated always encouraging students to participate in class discussions. The results of this teaching method showed that although faculty are encouraging active participation in the classroom, the students surveyed did not indicate having a high preference for it.

Draw Concepts

Having the professor draw concepts on the board for visualization was a highly preferred teaching method by students with a mean of 3.16 (.807). The results found the majority of students either frequently (n = 131, 39.9%) or always (n = 128, 39.0%) preferred this teaching method to be used by faculty in the classroom. However, the comparison of data found that faculty did not rank their use of this teaching method very high with a mean of 2.25 (*SD* = .874). The majority of faculty indicated only occasionally using this teaching method (n = 19, 51.4%) while seven faculty (18.9%) indicated frequently drawing concepts on the board. The results of this data comparison found that although students indicated highly preferring the professor to draw concepts on the board, the majority of faculty are only using this teaching method occasionally.

Web-based Course

The preference for a totally web-based course and the faculty use of a web-based course both had low means between the two groups. The overall mean for student

preference of a web-based course was 1.77 (*SD* = .857) with the overwhelming majority of students indicating they either did not prefer this teaching method at all (n = 147, 44.8%) or only preferred it occasionally (n = 113, 34.5%). Faculty had a low ranking of use for a totally web based course and the majority indicated they do not use this teaching method at all (n = 13, 34.2%). Only four faculty (10.5%) indicated using it occasionally. The comparison of data between the students and faculty found that both students and faculty had low preferences for the use of a totally web-based course with no classroom meetings.

Storytelling

The results of the data analysis found storytelling was highly preferred by students and highly used by faculty as a teaching method. Overall student preference for this teaching method was high with a mean of 3.39 (*SD* = .767). The majority of students either frequently (n = 91, 27.7%) or always (n = 183, 55.8%) preferred this teaching method. The faculty use of storytelling in the classroom was very close to student preference with a mean of 3.32 (*SD* = .662). The results found the majority of faculty frequently (n = 18, 47.4%) or always (n = 16, 42.1%) shared personal stories related to their experience on the topic being taught. Therefore, the results for this teaching method found faculty are using a teaching method that is also highly preferred by students.

Complete an Assignment Prior to Class

Both students and faculty ranked completing an assignment over the reading prior to class as low. Students had a higher preference for this teaching method with a mean of 2.20 (*SD* = .941) as compared to faculty use with a mean of 1.97 (*SD* = .857). The majority of students occasionally (n = 115, 35.1%) or frequently (n = 94, 28.7%) indicated a preference for this to help them learn new concepts. The faculty largely

indicated not having students complete an assignment over the reading prior to class with 16 faculty (42.1%) indicating occasionally doing this and 11 faculty (28.9%) indicating not doing this at all. Overall, the results found this teaching method was not preferred by students and faculty were not using it.

Handouts

Having handouts provided to them in class was the most highly preferred teaching method of students on the entire 30 question survey with a mean of 3.69 (*SD* = .593). The majority of students (n = 243, 74.1%) indicated always wanting handouts provided while the next majority (n = 68, 20.7%) indicated frequently wanting handouts to follow along with while listening to the professor lecture. Faculty also had a high mean for using this teaching method (*M* = 3.33, 1.014) with the majority of faculty indicating always (n = 23, 60.5%) providing handouts. Although the standard deviation for this variable was over 1.0 indicating a wide distribution of data among faculty, the results found the majority of faculty provided handouts which is a highly preferred teaching method among students.

Classroom Interaction with Peers and Professor

The results found faculty ranked classroom interaction between students and themselves as a highly used teaching method with a mean of 3.76 (*SD* = .431). The majority of faculty indicated always encouraging classroom interaction (n = 29, 76.3%) and nine faculty (23.7%) indicated frequently doing this. There were faculty who indicated not using this teaching method. Students also ranked this teaching method high with a mean of 3.13 (*SD* = .746) indicating the majority of students preferred classroom interaction. A total of 146 students (44.5%) indicated frequently preferring this teaching method and 113 students (34.5%) indicated always preferring classroom interaction.

Therefore, faculty indicated they are encouraging classroom interaction and students indicated they prefer it.

Combination Web-based Course and Classroom Study

The results of having a combination web-based course and classroom study had similar means between student preference and faculty use. Overall, faculty indicated using this teaching method more with a mean of 2.42 (*SD* = 1.089) than what students preferred; however, the standard deviation of 1.0 indicated a wide disagreement among faculty. There was no real consensus of majority among faculty in their responses for use of this teaching method.

Student preference for a combination web-based and classroom course of study was higher than a strictly web-based course, but still had a slightly lower mean than faculty (*M* = 2.35, *SD* = .896). The majority of students indicated occasionally (n = 134, 40.9%) or frequently (n = 95, 29.0%) preferring this teaching method. Overall, faculty were very divided on this teaching method, but students indicated they preferred using it some of the time.

Read the Assignment Prior to Class

Students had a lower preference for reading the assignment prior to class with a mean of 2.59 (*SD* = .935) as compared to faculty use of this teaching method with a mean of 3.58 (.692). The majority of students indicated occasionally (n = 105, 32.0%) or frequently (n = 119, 36.3%) reading the assignment prior to class. An overwhelming majority of faculty indicated always expecting students to read prior to class (n = 25, 65.8%). These results indicated that although faculty are expecting students to read prior to class, the majority of students indicated not always preferring to do this.

Use of Technology

Students indicated a preference for the use of technology in the classroom with a mean of 2.75 (*SD* = .734). The majority of students frequently (n = 161, 32.8%) preferred the use of technology in the classroom, however a large number of students also indicated only occasionally (n = 108, 32.8%) preferring this. Faculty had a slightly lower mean for this teaching method (*M* = 2.42, *SD* = .841) with the majority indicating either an occasional (n = 17, 44.7%) or frequent (n = 11, 28.8%) use of providing activities that involve the use of technology to teach new concepts. Although the means for both groups are similar, the results indicated students preferred activities that involved the use of technology slightly more than what faculty reported for actual use of this teaching method.

Listen to Lecture versus Work in Groups

The majority of faculty (*M* = 2.76, *SD* = .723) spend more time lecturing than having students work in groups with their peers with 22 faculty (57.9%) indicating they frequently do this. Students had a lower mean preference of 2.64 (*SD* = .898) for listening to lecture versus working in groups than faculty use of this teaching method. A total of 113 students (34.3%) indicated an occasional preference, while 121 students (36.8%) indicated frequently preferring this teaching method. The comparison of means between the two groups found that students preferred this teaching method less than what faculty reported actually using it.

Active Participation in Group Discussions

When analyzing active participation in group discussions as a teaching method, the results found students ranked their preference for this teaching method lower than faculty reported using it. The overall mean for students was 2.84 (*SD* = .843) with the

majority frequently (n = 135, 41.0%) or occasionally (n = 99, 30.1%) preferring to actively participate in group discussions. Faculty on the other hand, ranked this teaching method as high in use with a mean of 3.45 (*SD* = .686). The majority of faculty frequently (n = 13, 34.2%) or always (n = 21, 55.3%) facilitated active participation in classroom discussion. Although the majority of faculty used this teaching method, the results indicated not all students preferred to participate in classroom group discussions.

Play Games

Playing games was more highly preferred by students than what faculty reported its use as teaching method. The students mean for this teaching method preference was 2.49 (*SD* = .913) while the mean for faculty use of games in the classroom was only 1.92 (.682). The majority of students ranked their preference for playing games as occasional (n = 128, 38.9%) or frequent (n = 104, 31.6%). Only twenty (52.6%) of faculty indicated they occasionally used games to teach or review new material and 10 faculty (26.3%) indicated not using games at all in the classroom. Although students indicated preferring the use of games in the classroom to learn or review new material, the majority of faculty reported not using this teaching method.

Read the Assignment after Class

Students were about equal in their preference for reading the assignment after class with a mean of 2.48 (*SD* = .931). The majority of students responded to either occasionally (n = 116, 35.3%) or frequently (n = 112, 34.0%) reading the assignment after class. Faculty however, ranked encouraging students to wait and read until after class as very low with a mean of 1.11 (*SD* = .523). An overwhelming majority of faculty (n = 34, 89.5%) indicated they do not encourage or expect students to wait and read the assignment until after class. Although almost half of the students surveyed preferred to

read after class, the results found the majority of faculty surveyed did not indicate encouraging this.

Classroom Structure

The second teaching method with the exact same mean of 3.16 for both faculty use and student preference was classroom structure. The students had a standard deviation of .823 while the faculty had a standard deviation of .646. The majority of students indicated they frequently (n = 132, 40.2%) or always (n = 122, 37.2%) preferred classroom structure and guidance from the professor. Similarly, the majority of faculty either frequently (n = 24, 63.2%) or always (n = 10, 26.3%) indicated providing lots of classroom structure and guidance for the students. Therefore, the results of the data analysis found students' preference for classroom structure matched the level of structure faculty indicated providing.

Own 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 2.39 (1.022) with the majority of faculty either frequently (n = 13, 34.2%) or occasionally (n = 9, 23.7%) expecting students to take their own notes. The students however had a much lower mean of 1.87 (.870) for this teaching method with the majority indicating they either occasionally (n = 126, 38.3%) or not at all (n = 132, 40.1%) preferred to do this. Therefore, the results indicated faculty have students take their own notes more than what students actually preferred.

Variety of Teaching Methods

Both students and faculty indicated a high preference for, and use of, a variety of teaching methods in the classroom such as lecture, group work, case studies, etc. The

student mean for this variable was 3.15 (*SD* = .837) with the majority of students indicating a preference for always (n = 136, 41.3%) or frequently (n = 113, 34.3%) learning with a variety of teaching methods. The faculty mean for this variable was 3.18 (*SD* = .801) with the majority of faculty indicating they either frequently (n = 16, 42.1%) or always (n = 15, 39.5%) utilized a variety of teaching methods in the classroom. The results of the data indicated faculty are using a variety of teaching methods just as students indicated preferring variety in the classroom setting.

Know Students' Names

Students and faculty were also very similar in their rankings for knowing students' names. The faculty indicated a high importance of knowing students' names with a mean of 3.87 (*SD* = .346). All faculty surveyed either ranked this as frequently important (n = 5, 13.2%) or always important (n = 33, 68.8%). Students also ranked this variable as important with a mean of 3.53 (*SD* = .791). The majority of students (n = 223, 67.8%) ranked the importance of the faculty knowing their name as always important. A total of 64 students (19.5%) ranked this as frequently important to them. Therefore, the data analysis found both faculty and students viewed the importance of knowing student names as almost equal.

Grade for All Course Work

Having all papers and course work count toward a grade was highly preferred by students with a mean of 3.46 (*SD* = .776). The majority of students indicated they always (n = 201, 61.1%) preferred course work to count toward a grade. An additional 84 students (25.5%) indicated they frequently preferred all course work to count toward a grade. The mean from the faculty responses to this item was lower at 2.75 (*SD* = .937) than student responses. The majority of faculty indicated having grades attached to all

course work was either frequently important (n = 21, 55.3%) or always important (n = 6, 15.8%). Although the majority of students indicated having a grade attached to all course work was important, the results found faculty do not always think this.

Tell Why Learning New Material

Being informed of why new material is being learned was ranked as highly important by students with a mean of 3.64 (*SD* = .594). An overwhelming majority of students indicated it was always important (n = 229, 69.6%) to know why new material is being learned while another 84 students (25.5%) indicated 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 3.39 (*SD* = .679). The majority of faculty indicated they always (n = 19, 50.0%) or frequently (n = 15, 39.5%) viewed this as important. Overall, both students and 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 the students with regard to the importance of participation in group assignments. The faculty mean for this variable was 2.72 (*SD* = .659) with the majority of faculty indicating student participation in group assignments was frequently (n = 18, 48.6%) or occasionally (n = 14, 37.8%) important to them. Although the student mean was slightly lower than faculty at 2.66 (*SD* = .982), the majority of students indicated participating in groups assignments with their peers during class was either occasionally (n = 111, 33.7%) or frequently (n = 96, 29.2%) important to them. The results of the data analysis indicated similar levels of importance between faculty and students for this variable.

Tell What is Needed to Know

The student mean for expecting the professor to tell them what is needed to know was very high at 3.50 (*SD* = .746). The overwhelming majority of students indicated they always (n = 209, 63.7%) or frequently (n = 81, 24.7%) expected this from their professors. The faculty did not have as high of a mean for this variable (*M* = 2.68, *SD* = .662) as compared with students. The majority of faculty indicated they frequently (n = 21, 55.3%) or occasionally (n = 13, 34.2%) told students what they needed to know. Therefore, the results of the data indicated students expect to be told what they need to know by faculty, however, faculty did not always indicate doing so.

Learning for Learning Sake

Both students and faculty had similar means for the question addressing learning for learning sake. When asked if they liked learning for learning sake, the students had a mean of 2.67 (*SD* = .789). The majority of students indicated they frequently (n = 142, 43.3%) or occasionally (n = 118, 36.0%) liked to learn just for learning sake. The results of the data found the faculty had a mean of 2.61 (*SD* = .994) when asked if they emphasized learning for learning sake. The majority of faculty indicated they occasionally (n = 12, 32.4%) or frequently (n = 11, 29.7%) emphasized this. In conclusion, the data results for this variable found students indicated they liked learning for learning sake and the majority of faculty indicated emphasizing this at least occasionally.

Grade is All That Matters

The grade being all that matters was a variable more students indicated they believed in than what faculty emphasized. The students' mean was 2.10 (*SD* = .897) compared to the faculty mean of 1.03 (*SD* = .162) for this variable. When examining the

data, the majority of students indicated they occasionally (n = 118, 36.1%) or frequently (n = 92, 28.1%) thought the grade is all that really matters. Faculty on the other hand, overwhelming indicated not emphasizing the grade being all that really matters with n = 37 (97.4%). Although the results of the data indicated faculty do not emphasize this, the majority of students indicated the grade being all that matters is important at least some of the time.

Top Five Teaching Methods

The top five teaching methods students indicated preferring the most to help them learn included: lecture (n = 252, 76.8%); hands on activities (n = 247, 75.3%); visual aids (n = 240, 73.2%); handouts (n = 184, 56.1%); and storytelling (n = 140, 42.7%). The top five teaching methods faculty indicated using the most in the classroom included: lecture (n = 29, 80.6%); group discussion (n = 24, 66.7%), case studies (n = 23, 63.9%); group activities such as presentations (n = 19, 52.8%); and storytelling (n = 16, 44.4%).

The comparison of data discovered a relationship between student preferences and faculty use of lecture and storytelling as teaching methods. The majority of students indicated a preference for lecture as their top teaching method and faculty indicated using this teaching method the most. The second relationship between students and faculty was storytelling. Students ranked storytelling as the fifth most preferred teaching method and faculty ranked this teaching method as the fifth most used in the classroom.

Summary of Research Question #4

In summary, results of the data analysis for research question number four discovered many relationships between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods in the classroom. Therefore, research question number four was supported; there was a relationship between preferred

teaching methods of baccalaureate nursing students and faculty use of teaching methods. The most significant relationship between students and faculty was lecture as teaching method. The majority of students indicated a preference for lecture and the majority of faculty indicated using this teaching method the most. 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 two-tailed *t*-test revealed four statistically significant findings between Generation X and Y students and their preferred teaching methods including; lecture, listening to the professor lecture versus working in groups; actively participating in group discussion; and the importance of participating in group assignments. The results of the ANOVA found seventeen statistically significant findings among levels of students (freshmen/sophomores, juniors, & seniors) and their preferred teaching methods. 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 methods was also found in the analysis of data.

CHAPTER V: DISCUSSION AND SUMMARY

Introduction

Nursing education is experiencing a generational phenomenon with student enrollment spanning three generations. Classrooms of the early 21st century include the occasional Baby Boomer student and a large number of Generation X and Generation Y students. Each generation presents its own unique set of characteristics shaped by values, trends, behaviors, and events in society; creating vast opportunities to learn, but also challenges.

This chapter will review the research study, the purpose of the study and the research design as well as discussion of the results. Specifically, the chapter will discuss the following: interpretation of results for each of the four research questions; correlations to the literature review and theoretical context; limitations of the study; implications for nursing education; and suggestions for future research.

Purpose of Study and Research Design

Although the review of literature found a wide range of studies conducted on student learning styles within the nursing education field, few studies were found to have investigated the preferred teaching methods of nursing students or the generational differences among nursing students. The purpose of this quantitative, descriptive study was to compare the preferred teaching methods of multi-generational baccalaureate nursing students with faculty use of teaching methods.

This quantitative study used two 30-item Likert scale descriptive surveys; one for student participants and one for faculty participants. The surveys were a modified and adapted version of “Walker’s Teaching Method Survey” (WTMS) to examine the preferred teaching methods of different generations and levels of students as well as the

teaching methods being used by nursing faculty. Differences in preferred teaching methods of baccalaureate nursing students were compared with the teaching methods being used by nursing faculty.

The research study included 367 participants; 38 nursing faculty and 329 nursing students from five different colleges within the Midwest region. The generational diversity among students within the study consisted of six Baby Boomer students; 49 Generation X students; and 272 Generation Y students. The large number of Generation Y students in this study correlated with the large number of journal articles and research studies found discussing this generation within the review of literature. A shift has occurred in the literature from the study of Generation X to the study of Generation Y.

The generational diversity among faculty consisted of 19 participants from Generation X and 18 from the Baby Boomer generation, with only one faculty participant from the Veteran Generation. This finding was surprising in the fact that only one Veteran was among the faculty ranks, and the Baby Boomers and Generation X faculty were almost equal in numbers. The years of faculty experience in the study ranged from less than a year to thirty-eight years with a mean of 11.14. This number was also lower than expected; however it correlated given the high number of Generation X faculty in the study with fewer years of experience.

The review of literature found the majority of journal articles and research studies focused on Baby Boomer faculty dealing with Generation Y students. The literature provided no studies specifically on Generation X faculty dealing with Generation Y students. This is most likely due to the relatively low number of Generation X faculty nationwide in higher education in the year 2009; specifically nursing education.

Research Question #1

What types of teaching methods do different generations of baccalaureate nursing students prefer?

The number of participants in the study included 272 Generation Y students, 49 Generation X students, and six Baby Boomer students. Because the Baby Boomer generation was significantly underrepresented in the sample, the data from this generational cohort were not used in the analysis of this research question. Therefore, only students from Generations X and Y were compared to determine the types of teaching methods preferred.

The results of the data analysis found many similarities in preferred teaching methods between Generation X and Y students. The research study also revealed four statistically significant differences between the two generations and their preferred teaching methods. In comparison to Walker et al. (2006) who conducted a similar study on generational differences among nursing students, this study found statistically significant differences while Walker's study did not. The statistically significant differences between the two generations included the following teaching method preferences: lecture; lecture versus group work; active participation in group discussion; and the importance of participating in group discussion.

Lecture

The first statistically significant finding between Generation X and Y students was the preference for lecture *(p* = .038). The data analysis found Generation X students had a higher preference for lecture as a teaching method with a mean of 3.41 (*SD* = .704) compared to Generation Y students who had a mean of 3.17 (*SD* = .758). The difference between the two generations may be reflective of Generation Y's preference for more

active learning strategies. The review of literature discussed how Generation Y students prefer active and interactive learning activities such as games and simulation with peer-to-peer collaboration in group settings (Carlson, 2005; Johnson & Romanello, 2005; Skiba, 2005). Lecture, traditionally a passive form of education, does not allow for active interaction between professors and students.

Overall, however, both Generation X and Generation Y students had a high preference for lecture within the study. Walker et al. (2006) had a similar finding in their study on generational differences in nursing students preferred teaching methods with the majority of students (83%) from both Generations X and Y indicating a preference for lecture. However, Walker et al. (2006) found no statistically significant findings between these two generations for this teaching method.

The high preference for lecture was somewhat surprising given the number of journal articles in the review of literature discussing student preferences for active learning. Interestingly, in one journal article within the literature, a Generation Y student stated faculty should toss the lecture and use a variety of multi-media when teaching (Windham, 2005). This statement however, was not reflected in the data results of this study.

The preference for lecture may be due to students' continual exposure to this teaching method within the educational system of the 21st century. Traditional lecture, which follows the pedagogical model of teacher-centered education, was found to be the most utilized teaching method by faculty within the review of literature. Lecture is an easy way to convey information in an organized format and may be more appealing to faculty especially when trying to cover large amounts of content in a short class time. In

fact, it is estimated that 80 percent of college instruction occurs utilizing the lecture format (Hartman, Dziuban, & Brophy-Ellison, 2007).

Lecture vs. Group Work

The second statistically significant finding between Generation X and Generation Y in the research study was students' preference to listen to the professor lecture versus work in groups with their peers on an in-class assignment (p = .021). This teaching method was more preferred by Generation X students with a mean of 2.92 (SD = .838) compared to Generation Y students with a mean of 2.60 (SD = .904).

The statistically significant difference for lecture versus group work between Generation X and Y students may again be due to Generation Y's preference for more active learning strategies and their need to socialize with others in the learning process. Generation Y students, who have grown up working with their peers on assignments since elementary school, are more social and prefer to learn through interaction and group work (Skiba & Barton, 2006). Generation X students on the other hand, are more independent in their learning and have less preference for group work as compared to their Generation Y peers (Collins & Tilson, 2006). Generation X students' preference for lecture may be due to their continual exposure to this teaching method in the classroom setting over the past twenty years.

The results of this variable differed from Walker et al. (2006), who found no difference between Generation X and Y students related to lecture versus group work. In fact, Walker et al. (2006) found the majority of both generations of students did not prefer any type of group work inside or outside of class.

Active Participation in Group Discussion

Actively participating in group discussion was the third statistically significant finding in the study between Generation X and Y students at $p = .000$. The results of the survey data found this teaching method was highly preferred by Generation X students with a mean of 3.27 (*SD* = .785) compared to Generation Y students with a mean of 2.77 (*SD* = .831).

Generation X students clearly preferred actively participating in group discussion more than Generation Y students. This result was consistent with the literature in that Generation X students prefer to be more responsible for their own learning with faculty facilitation of group discussions and group activities (Aviles, Phillips, Rosenblatt, & Vargas, 2005).

Another reason for the difference in preference for group discussion between Generations X and Y may be students' life experiences and developmental levels. Generation Y students are the youngest of the cohorts with the least amount of real-life experience, while many Generation X students are returning to college for second degrees and come to classrooms with an abundance of real-life experiences to share and relate.

According to Knowles's Andragogical Theory of Adult Learning, educators must take into account the role of the learners' experiences to facilitate self-directed learning (Knowles' 1984). Although Generation Y students have some life experience, they may not be as comfortable with group discussion as their Generation X peers because they have fewer life experiences to draw from, and therefore may not indicate as high of a preference for this teaching method. Although life experience was not one of the

variables investigated in this research study, it warrants consideration for investigation in future studies comparing different generations of students.

Importance of Participating in Group Assignments

The fourth statistically significant finding in preferred teaching methods between Generations X and Y students was the importance of participating in group assignments with peers during class time (p = .001). Generation Y students indicated a higher level of importance for this teaching method with a mean of 2.75 (SD = .971) compared to Generation X students with a mean of 2.27 (SD = .908).

Once again, the results of the data analysis were consistent with the literature findings in that Generation Y students prefered a more social environment that provides the ability to interact with their peers. The review of literature also found that if Generation Y students are not provided with opportunities to interact with their peers or work in groups, they may not opt to come to class (Skiba & Barton, 2006).

Additional Findings

Although no other variables within the analysis of this research question had statistical significance, there were some additional findings between the two generations studied which correlated to the review of literature. The additional findings significant for implication to nursing education are discussed in the following section.

Preference for working in groups.

When examining the students' preference for working in groups versus individually, Generation X students had a higher preference for this method as compared to Generation Y students. This again correlated with the literature that Generation Y students prefer more interaction with peers and group work for learning (Skiba & Barton, 2006).

Case studies.

Students' preference for using case studies to learn new concepts was slightly higher among Generation X students compared to Generation Y students. Generation X's preference for case studies may have been higher due to this cohort's request for real-life applicability to what is being taught (Collins & Tilson, 2006; Johnson & Romanello, 2005).

Walker et al. (2006) also asked students' to rank their preference for case studies and found conflicting results; over half of the students (59%) in both generations did not prefer case studies to learn in most situations. However, the majority from both generations in Walker et al. (2006) indicated a strong preference for using case studies when encountering difficult to understand material. Therefore, the results from Walker et al. (2006) did not correlate with what was found in this research study.

Visual aids.

Both generations had a high preference for the use of visual aids, including video, pictures, diagrams, and having concepts drawn on the board. The results did find Generation X had a slightly higher mean for each of these teaching methods as compared to Generation Y; however, the review of literature found that both Generations X and Y prefer different forms of visual aids to learn new material (Coates, 2007; Collins & Tilson, 2006).

Web-based course of study.

One of the most interesting findings, which did not reveal any statistical significance, was the extremely low preference for a totally web-based course of study with Generation X and Y students. Both generations had almost identical means in their low preference for this teaching method. Walker et al. (2006), found similar results in

their study with 90% of the students from both Generations X and Y not preferring a totally web-based course of study.

These findings did not however correlate with the some of the studies within the review of literature (Arhin & Cormier, 2007; Johnson & Romanello, 2005), which discussed the preference of distance learning and web-based courses with younger generations of learners. According to Johnson and Romanello (2005), both Generation X and Y students have a higher preference for distance learning in part due to their comfort with technology.

The findings changed when students were asked about their preference for a combination web-based and classroom course of study. This teaching method was more preferred by both generations with Generation X students indicating a higher mean preference than Generation Y students. This may have resulted in a higher preference among all students because it allows for some classroom interaction with peers and faculty which Generation Y students prefer. The fact that Generation X had a higher preference for a combination course with web and classroom study may be due to this generation's preference for independence and readiness to be more self-directed in their learning (Johnson & Romanello, 2005).

Walker et al. (2006) however, did not see any difference in results for a combination web-based and classroom course of study. In fact, the results were the same with 90% of students from both generations indicating they did not prefer this teaching method (Walker et al., 2006). The inconsistent correlation with the literature regarding this teaching method warrants a need for future studies to examine generational differences between students who choose on-line formats of learning.

Storytelling.

Storytelling, as a teaching method, was more highly preferred by students in Generation Y, however both generations had means greater than 3.20 for this variable. Although Walker et al. (2006) did not disclose the difference in means between each generation in their study, the results found the majority of students (72%) from both generations had a strong preference for hearing stories and correlated with the results from this study.

Use of technology.

Students overall indicated similar preferences for the use of technology in the classroom with Generation X students having a higher mean preference than Generation Y students. This finding was surprising given all of the literature on the use of technology with Millennial students. Generation Y is known as the most technologically savvy generation in history and members of this cohort have grown up with technology all of their lives to the point where it is embedded in their world (Coates, 2007; Skiba, 2005). According to Skiba and Barton (2006), Generation Y students have a strong preference for the incorporation of technology into the learning environment. However, the results did not indicate a strong preference for the use of technology in the classroom from this generational cohort. In fact, Generation Y students only had a mean of 2.31, indicating an occasional or frequent preference for the use of technology by the majority.

Although students use technology in every aspect of their personal lives to communicate, perhaps this does not translate to their preference for use of technology in classroom settings. This finding also warrants further investigation in future studies, especially as technology continues to change the entire global environment.

Reading prior or after class.

The results related to students' preference for reading the assignment prior to class or after class found some distinct differences between the two generations. Generation X had a higher preference for reading the assignment before class, while Generation Y had a higher preference for reading the assignment after class. Perhaps this generational difference was due to Generation X's preference and readiness for more self-directed learning as compared to Generation Y students.

When comparing Generation X's mean preference for reading before class and the mean preference for reading after class, this generation had a higher overall preference for reading after class. This finding was similar to what Generation Y prefers and is a variable faculty should consider when making reading assignments. Perhaps the rationale for not reading prior to class relates more to a lack of how the material was relevant to their learning. The literature consistently discussed how both generations prefer all assignments to be worthwhile and relevant to real-life situations. However, this is more characteristic of Generation X students who value time as a precious commodity and have little regard for wasted time or non-relevant information (Coates, 2007; Johnson & Romanello, 2005).

Walker et al. (2006) found both generations of students preferred to read the assignment prior to class and then hear the professor lecture on the topic. A similar question asked of students in this research study, found Generation X still had a higher preference for reading prior to class and then hearing the professor discuss key points as compared to Generation Y. This may be due to the students' preference for knowing how the material is relevant or be directly related to the level of self-directed learning the student portrays.

Handouts versus own notes.

The results of students' preference for having handouts versus taking their own notes in class found only slight variations in means between the two generations with the majority of students highly preferring handouts. Both generations also indicated a very low preference for taking their own notes. These results were similar to what Walker et al. (2006) found in their study in which 95% of students in both generations indicated a high preference for having handouts. Again, the reason for this preference may be due to what students have become accustomed to having. If handouts are always provided, then students expect to have them to follow along with for each lecture or class.

Classroom interaction with peers and classroom structure.

Even though the literature discussed how Generation Y students like to socialize and network with peers, Generation X had a higher preference for classroom interaction with peers than Generation Y. Both generational cohorts had an overall high preference for classroom structure and guidance from the professor. This finding was similar to what was found in Merritt's study (1983) in which traditional students (ages 18-22) and non-traditional students (ages 23 years and older) both had a high preference for a teacher-controlled environment.

The overall preference for classroom structure from both generations may be due students' exposure to traditional pedagogy in which teachers have full responsibility for what, when, how, and why something is learned (Knowles, 1984). Generation Y students have grown up in a busy and structured environment in which everything was planned for them (Coates, 2007), so the fact that they preferred more structure in the classroom was not a surprising finding. Generation X on the other hand, has a higher preference for independence and self-directed learning and also prefers faculty to facilitate this process

(Aviles, Phillips, Rosenblatt, & Vargas, 2005; Johnson & Romanello, 2005), so the high preference for structure in the classroom setting from this generation was somewhat surprising.

Variety of teaching methods.

Overall, both generations of students indicated having a high preference for the use of a variety of teaching methods such as lecture, group work, case studies, etc. Burnard and Morrison (1992) also found students highly preferred a variety of teaching methods and further discovered nursing faculty supported a student-centered learning environment more than nursing students did.

The review of literature highly supported the use of a variety of teaching methods. Munro and Rice-Munro (2004) advocated for the use of a variety of teaching methods and stated information needs to be presented in a variety of ways to stimulate learning because there is not a single instructional method that will reach all learners.

Professor knows my name.

The importance of faculty knowing students' names was ranked as highly important by both generations of students within the study. However, in comparison, Walker et al. (2006) found students were divided in their responses with no majority preference one way or the other for faculty knowing their names. No other studies in the review of literature discussed this topic for comparison.

Knowing why new material is being learned.

Knowing why new material is being learned was ranked as nearly identical in importance between both Generations X and Y students. Walker et al. (2006) also found this to be true in their study where 100% of students from both generations responded as always wanting to know why they are learning new material. The review of literature

supported this and found that students from both of these generations prefer to know the relevance and real-life applicability of what is being presented before learning it (Coates, 2007; Johnson & Romanello, 2005).

Expect professor to tell me what I need to know.

Although both generations expected the professor to tell them what they needed to know, Generation Y students expected this more than Generation X students. This preference may once again derive from Generation Y's upbringing with lots of structure and involvement from their parents. Because this generation has relied heavily on their parents to assist them through every aspect of their lives, the findings for this response were not unexpected.

Learning for learning and the grade is all that matters.

The results of the data analysis found Generation X students ranked "learning just for learning sake" as higher than Generation Y students' rank. In Walker et al. (2006), both generations ranked this as being of moderate importance; however no information was disclosed as to which generation ranked it higher. The literature did not discuss any generational characteristics for either Generations X or Y related to learning for learning sake; in fact the majority of the literature actually discussed how students from both Generations X and Y wanted to know the relevance of what they are learning and how it will be applied to their real-life situations.

Generation Y students ranked "the grade is all that really matters" as higher in importance than Generation X students. In contrast to what was found in the study, the review of literature revealed the Generation X students preferred to have points attached to all assignments (Collins & Tilson, 2006; Johnson & Romanello, 2005). Walker et al. (2006) found that both generations ranked the grade being all that really mattered as

moderately to always important, but did not indicate which generation had a higher ranking for comparison with this study.

Summary of Research Question #1

In summary, the data analysis for research question number one, found many connections to the review of literature as well as four statistically significant differences between Generation X and Generation Y students' preferred teaching methods. The four statistically significant differences were related to: lecture; working in groups; actively participating in class discussions; and participating in group assignments with peers during class time.

Despite these differences, the data analysis also found many similarities in preferred teaching methods between both generations, including the preference for a variety of teaching methods. Therefore, the research data supported the hypothesis that different generations of baccalaureate nursing students do have similar preferences in teaching methods.

Research Question #2

Is there a relationship between the levels of baccalaureate nursing students and their preferred teaching methods?

The sample for the research study included six freshmen, 98 sophomores, 110 students and 110 seniors. As a result of the low number of freshmen students, the decision to combine the freshmen and sophomores into one group was made to analyze the data using ANOVA.

The results of the Analysis of Variance found many statistically significant differences between levels of baccalaureate nursing students; especially between the freshmen and sophomore combined group of students and the senior level students. A

total of 17 out of 30 questions were found to have statistically significant differences among levels of students and included the following: lecture (p = .007); applying skills (p = .003); case studies (p = .014), working individually (p = .007); drawing concepts (p = .030; handouts (p = .005); combination of web-based and classroom study (p = .011); reading after the assignment (p = .005); classroom structure from the professor (p = .002), a variety of teaching methods (p = .043; professor knows my name (p = .049); knowing why I am learning new material (p = .025); completing group assignments with peers during class (p = .000); expecting the professor to tell what is needed to know (p = .005), learning for learning sake (p = .044); and the grade is all that really matters (p = .044).

The research data concluded there is a relationship between the levels of baccalaureate nursing students and their preferred teaching methods with the majority of the relationships between the freshmen and sophomore students combined and the senior level students. This particular research question and the results of the data were difficult to correlate with the literature because only one study in the review of literature was found to have investigated teaching method preferences of different levels of students. Wells & Higgs (1990) examined the predominant learning style and learning preference of baccalaureate nursing students and differences in levels of students, but the study was limited to only junior and senior level students. The following paragraphs discuss the significant findings in Wells and Higgs study as compared to the results from this research study.

When examining the preference for lecture among the three levels of students within the study, all levels had a higher preference for this teaching method than the seniors. A statistically significant difference of p = .025 was found between the freshmen and sophomores combined and the seniors. A statistically significant difference of p =

.013 was also found between the juniors and seniors in the research study. Wells & Higgs (1990) found juniors had a higher preference for lecture (p = .04) than the seniors. Perhaps the reason for the higher preference for lecture among the lower levels of students is due to the preference for more structure or the lack of readiness to be more self-directed in their learning.

Although the seniors had the highest preference for the use of technology compared to the freshmen/sophomores combined and the juniors, the data results found no statistically significant difference among levels of students for this teaching method. Wells & Higgs (1990) however did find a statistically significant difference of p = .01 for the use of slides, filmstrips and audiotapes; all forms of visual aids at the time of their study. The juniors in Wells and Higgs's (1990) study indicated a higher preference for this teaching method than the seniors, which did not correlate with the findings in this study.

Group discussion as a teaching method did not find any statistically significant differences among levels of students. In fact, freshmen/sophomore students combined had the highest preference for this teaching method while juniors and seniors had the exact same preference for group discussion. Wells & Higgs (1990) however did find a statistically significant difference of p = .02 for group discussion. Their results found juniors had a higher preference for this teaching method than seniors. This finding also did not correlate with the findings in this study.

The use of games in the classroom did not reveal any statistically significant difference among levels of students. Overall, the results found juniors had the highest preference for games followed by the freshmen/sophomores combined and the seniors. Wells & Higgs (1990) did find a statistically significant difference of p = .02 for group

games as a preferred teaching method. Their results found seniors had a higher preference for this teaching method as compared to juniors. Therefore, this variable did not correlate with the research findings in this study.

Summary of Research Question #2

In summary, the data analysis found seventeen statistically significant differences between levels of students in preferences for various teaching methods, but also found many similarities. Therefore, hypothesis number two was supported by the research data; different levels of baccalaureate nursing students did have similar preferences in teaching methods. Due to the lack of research studies found in the review of literature on levels of nursing students and their preferred teaching methods, this is an area in need of further research to determine where differences and similarities lie.

Research Question #3

Is there a specific teaching method used in the classroom by faculty more frequently than others?

The sample size for the faculty in the research study included 38 participants with a mean of 11.14 years of experience in nursing education. To analyze the data for this research question, the descriptive statistics for questions 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, group discussion had the highest mean of use among faculty followed by the facilitation of classroom interaction between peers and the professor. The two teaching

methods with the lowest mean of use among faculty included having students wait and read the assignment until after class; and conducting a web-based only course of study.

The interesting aspect of this analysis came with the examination of the top five teaching methods faculty indicated using. An overwhelming majority of faculty chose lecture (80.6%) as the top teaching method used in the classroom. This result is consistent with what was found in the review of literature regarding faculty use of teaching methods. Felder and Silverman (1988) found that lecture was the predominant teaching method used by faculty, as did Reynolds and Beeman (1999).

However, the use of lecture was also found to be somewhat controversial within the literature. Johnson and Mighten (2005) found lecture to be ineffective as a teaching method and suggested a combination of teaching strategies to ensure success in nursing education. Boman (2006) agreed and stated when lecture is not supplemented with other teaching methods, teachers do not know if students have been reached. McGlynn (2005) agreed and further stated that diversity in teaching methods is what is needed to meet the needs of as many students as possible. The use of lecture as a teaching method also brought up the debate over 19th century versus 21st century pedagogy. According to Coates (2007), educators continue to teach using 19th century pedagogy and must begin to develop new pedagogy that instead serves the learners' needs for the 21st century.

Since the majority of 21st century educators most likely had lecture as the primary mode of teaching throughout their education, many utilize it in their own classrooms because they have become accustomed to its use. According to Strauss and Howe (1991), how an individual is taught will affect how that individual will teach others. However, the review of literature challenged educators to look at the generational impact of lecture as a

teaching method because it “may not meet the expectations of students raised on the internet and interactive games” (Oblinger, 2003, p. 44).

Additional teaching methods ranked as the top five most used by faculty included group discussion, case studies, group activities, and storytelling. Each of these was mentioned in the review of literature as effective teaching strategies for engaging students in the learning environment; however, no specific studies were found to have examined their effectiveness.

Summary of Research Question #3

Overall, the results of the data analysis for this research question found faculty indicated lecture as being the most used teaching method in the classroom with n = 29, (80.6%). Therefore, hypothesis number three; stating there is a teaching method used more frequently than others in the classroom, was supported by the research data. 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 #4

Is there a relationship between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods?

The debate over matching student preferences with faculty use of teaching methods was the premise for this research question. The descriptive statistics for questions 1-30 from the results of the faculty survey were compared with the results from the student survey to analyze the data for this research question.

The comparison of means for questions 1-30 between faculty and student data, found a total of 15 teaching method preferences on the student survey that were more highly preferred by students than what faculty indicated using. The results also found 13 teaching methods used more frequently by faculty than preferred by students and two teaching methods that had the exact same mean for student preference and faculty use. Interestingly, this analysis of data indicated somewhat of a balance between faculty use and student preference of teaching methods. The literature consistently recommended a variety of teaching methods (Burnard & Morrison, 1992; Johnson & Romanello, 2005; Munro & Rice-Munro, 2004). The data from this study revealed a variety of use from the faculty and a variety of preferences for teaching methods from students, therefore providing further support for the literature.

The most interesting finding related to this research question was in the analysis of the top five teaching methods students prefer and faculty utilize the most, in the classroom setting. The top five teaching methods students indicated preferring the most to help them learn included: lecture, hands on activities, visual aids, handouts, and storytelling. The top five teaching methods faculty indicated using the most in the classroom setting included: lecture, group discussion, case studies, group activities such as presentations, and storytelling.

Ironically, the top teaching method preferred by students was also the top teaching method utilized by faculty. Traditional lecture, as discussed earlier, was found to be the most used teaching method by faculty. The debate over how often it should be used is still debatable within the literature. Its effectiveness is controversial, however lecture will most likely continue to be used throughout education as faculty contemplate the call for a shift from teacher-centered to learner-centered.

Another interesting finding from the results of the data was storytelling as the fifth highest teaching method preferred by students and the fifth most used teaching method by faculty. According to Brown, Kirkpatrick, Magnum, and Avery (2008), storytelling is one of the most effective ways to relay information, capture interest, and bring facts to life. Both Generation X and Y students prefer a casual and fun learning environment, and prefer for information to be relevant (Johnson & Romanello, 2005), therefore these characteristics may have contributed to their preference for storytelling. Most Baby Boomers who are faculty have a multitude of life experiences from which they can draw from to help younger generations apply what they have learned. Storytelling not only allows for personal narratives, but also creates the capacity for understanding caring and culture (Brown, et. al., 2008) both of which are fundamental values in the nursing profession.

Although there were no studies in the review of literature that specifically compared student preference with faculty use of teaching methods, there were studies which investigated the benefit of matching teaching methods. Rochford (2003) found students perform better if they are given the opportunity to learn with their preferences and recommended faculty design lessons to accommodate students' preferences in teaching methods. O'Shea (2003) also found benefit in matching teaching methods and stated "matching teaching methods with self-directed learning readiness offers the best opportunity for learning (p. 66).

Not all studies in the review of literature supported matching student preferences with faculty teaching methods. In fact, the majority of the literature did not agree with this. Spoon and Schell (1998) found no benefit in attempting to match teaching methods with student preference as did Dux (1989) and Kizilay (1991).

The majority of studies in the review of literature however discussed the benefit of utilizing a variety of teaching methods instead. This research study also concluded that the utilization of a variety of teaching methods is the most effective way to reach a variety of diverse students including those from different generations.

Summary of Research Question #4

In summary, the results of the data analysis found many relationships between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods in the classroom. Therefore, research question number four was supported; there is a relationship between preferred teaching methods of baccalaureate nursing students and faculty use of teaching methods. The most significant relationship between students and faculty was lecture as a teaching method, however, the wide range of preferences and use of teaching methods by both students and faculty suggests a variety of teaching methods is the most effective.

Delimitations of the Study

A delimitation of this study is that the data analysis was confined to baccalaureate nursing students and faculty from five small private colleges in the Midwest region. This study only looked at classroom teaching methods and did not include strategies used in clinical teaching. This study only investigated the teaching method preferences of baccalaureate nursing students and did not examine the preferences of nursing students from associate or diploma nursing programs. This study also did not take into account the use of teaching methods among faculty in associate or diploma nursing programs.

Limitations of the Study

One limitation of this study was the inability to obtain a higher reliability of the survey tools due to modification of the student survey and creation of the faculty survey.

Due to the time frame for which the study was conducted, a test - re-test was not completed. Although this test may have assisted in obtaining better reliability of the survey tools, obtaining the exact same participants for this method would have been challenging for the design of this research study.

Another limitation of this study was the use of purposive sampling. This type of sampling did not allow for random selection of participants and since the study was only conducted in the Midwest region of the United States, it may have been atypical of the more global population, therefore affecting the variables being studied.

A third limitation to the study had to do with the number of variables analyzed. There were numerous variables analyzed in this study and the identification of correlations between variables was at times difficult to control. There was also 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 a lack of exposure. This in turn could have possibly affected the overall results of the data.

Implications for Nursing Education

This research study has numerous implications for nursing education. It adds new 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 levels of nursing students. 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 methods 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.

Suggestions for Future Research

Although the review of literature found a vast array of research studies on learning styles, there were relatively few studies that investigated generational differences among nursing students, therefore this topic is in need of further research. A replication of this study is suggested to compare the results and determine additional correlations. If this study were to be replicated, it is suggested that the survey tools be modified with an improved Likert scale that provides a wider range of options to obtain better variability in participant scores and reliability of the tools. Additional replication of the study might also be expanded to include associate and diploma programs, as well as schools of nursing from areas other than the Midwest region of the United States of America.

Lecture and its effectiveness as a teaching method was overwhelmingly the most investigated teaching method within the review of literature. Therefore, more studies need to be conducted on the effectiveness of additional teaching methods, such as case studies, visual aids, etc. as discussed in this study. Additional suggestions for future research includes; the relationship between generational differences and gender as well as disciplines other than nursing. It would be interesting in future studies to also determine if there was a relationship between generational cohorts and students' learning styles or Myers'-Briggs preferences.

Summary of Chapter V

Nursing education is experiencing a generational phenomenon in the 21st century with student enrollment spanning three generations. Classrooms present unique

challenges for faculty when trying to balance the learning needs of a combination of Baby Boomer, Generation X and Generation Y students.

Differences in generations have existed since the beginning of time. According to Coates (2007), “today’s learners are quite different from past generations of learners…primarily because the world is quite different” (pp. 38-39). Student preferences for learning styles and teaching methods are not necessarily static and may change over time. As stated by Pedrosa de Jesus et al. (2004), as students continue to develop in their learning process, they discover new, different and better ways of learning.

To enhance the learning environment for all generations of students it is important for educators to also develop in the learning process; become educated about generational learning styles; acknowledge personal generational characteristics and learning styles; and use a variety of teaching methods with a variety of assignments (Johnson & Romanello, 2005).

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Appendix A

Walker/Delahoyde Teaching Methods Survey

Walker/Delahoyde Teaching Methods Survey

An adaptation of the Walker Teaching Methods Survey (WTMS), 2004

This survey is designed to determine student preferences for teaching methodologies in the classroom. It is part of a larger study to compare preferred teaching methods of different generations of baccalaureate nursing students and faculty use of teaching methods.

All survey responses will be confidential. Please read the following information regarding consent to participate before proceeding.

18 years or younger
If you are 18 years of age or younger, you are not able to consent to participate in any research study without parental approval in the state of Nebraska. Please hand the survey back into your proctor. Thank you for your consideration to participate.

19 years or older
If you are 19 years of age or older, you may consent to participate or not participate in this research study. By filling out this survey, you have provided consent to participate in this research study.

Thank you for your participation!

Begin survey here

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.

Age: _____ (to compare different generations of students' preferences)

Year in current nursing program: Freshman Sophomore Junior Senior

Type of Program: Traditional 4 Year BSN Accelerated BSN
BSN completion Other: _____ (please specify)

Gender: Female Male
Is this your first degree? Yes No
If no, please list your other degree(s) _____

1. I prefer to listen to my professor lecture (speak) on a topic.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

2. I prefer to apply skills in the classroom that were covered in the reading assignment.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

3. I prefer to work in groups with my peers versus individually on an assignment.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

4. I prefer a case study in order to apply new concepts learned.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on back of this page

5. I prefer visual aids when learning new concepts (video, pictures, diagrams, etc).

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

6. I prefer to work individually on an assignment versus in a group with my peers.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

7. I prefer to listen versus participate during class discussions.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

8. I prefer to have the professor draw out new concepts on the board so I can visualize them.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

10. I prefer to hear stories of actual events and experiences from my professor.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

11. I prefer to read the assignment prior to class.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

12. I prefer handouts to follow along while I listen to my professor lecture (speak).

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

13. I prefer to have classroom interaction with my peers and my professors.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

14. I prefer to have a combination of web-based study and classroom study.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

15. I prefer to read the assignment prior to class and then hear the professor discuss key points and share his/her experience on the topic.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

16. I prefer activities that involve technology during class to learn new concepts.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

17. I prefer to listen to my professor lecture rather than work in groups with my peers on an in-class assignment.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

18. I prefer to actively participate in class discussion with my professor and peers.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on next page

19. I prefer to play games to learn new material (Jeopardy, etc.).

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

20. I prefer to read the assignment after class versus prior to class.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

21. I prefer to have a lot of classroom structure and guidance from my professor.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

22. I prefer to take my own notes during class versus having handouts from the professor.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

23. I prefer to learn with a variety of teaching methods, such as lecture, group work, case studies, diagramming, etc.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

24. It is important for my professor to know my name.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

26. It is important to know why I am learning new material.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

27. It is important to me to participate in group assignments with my peers during class time.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

28. I expect my professor to tell me what I need to know.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

29. I like learning just for learning sake.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on back of this page

Check the five teaching methods you prefer the most to help you learn:
___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, drawings, etc.)
___games (Jeopardy, etc.)
___group discussion (participating in classroom discussion on a topic)
___other – please specify_____

End of Survey

Thank you very much for participating! Please turn your completed survey into the proctor.

Appendix B

Delahoyde's Teaching Methods Faculty Survey

Delahoyde Teaching Methods Faculty Survey

Questions adapted from the Walker/Delahoyde Teaching Methods Survey, 2008
and the Walker Teaching Methods Survey (WTMS), 2004

This survey is designed to determine student preferences for teaching methodologies in the classroom. It is part of a larger study to compare preferred teaching methods of different generations of baccalaureate nursing students and faculty use of teaching methods.

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)

Type of program you teach in: (circle all that apply)
Traditional 4-year BSN Accelerated BSN BSN completion
Other: _____ (please specify)

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

6. I have students work individually on an assignment.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on back of this page

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on next page

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

28. I tell students what they need to know.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

29. I emphasize learning just for learning sake.

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

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

1	2	3	4	5
Not at all	Occasionally	Frequently	Always	Not applicable

Continue survey on back of this page

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 _____

End of survey

Thank you very much for participating! Please turn in completed survey.

Appendix C

Sample Cover Letter

Sample Cover Letter

(Name of researcher)
(Home address of researcher)
(Date)

(Name of Dean)
(Title of Dean)
(Address of college)

Dear (name of Dean),

Thank you for providing me the opportunity to conduct my doctoral research study titled "Generational Differences in Baccalaureate Nursing Students' Preferred Teaching Methods and Faculty Use of Teaching Methods" at (name of college). The purpose of this study is to compare preferred teaching methods of multi-generational baccalaureate nursing students with faculty use of teaching methods.

I am inviting all BSN students and faculty who teach in your BSN 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 5-10 minutes to complete. There is one survey for students and one survey for faculty.

I would ask that the student surveys be handed out to all baccalaureate nursing students by a member of faculty or proctor at the beginning or end of class. All completed surveys should be collected by the faculty member or proctor. Faculty surveys are to be completed by any faculty member teaching in your BSN program and can be distributed in any manner in which you think works best. Please place all completed student and faculty surveys in the postage paid envelope and mail them back to me by (date).

Again, thank you for this opportunity to survey your faculty and students. I look forward to receiving the completed surveys to begin the data analysis. 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 (work number) and my home number is (home number). You can also reach me via e-mail at (e-mail address)

Sincerely,

(Name of Researcher)
(Title of Researcher)

Enclosures