THE RELATIONSHIP BETWEEN UNIVERSITY NURSING STUDENT
CLASSROOM ENGAGEMENT
ACTIVITIES AND ACADEMIC PERFORMANCE

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The Relationship Between University Nursing Student Classroom Engagement Activities and Academic Performance

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Abstract

Helen L. Reyes. THE RELATIONSHIP BETWEEN UNIVERSITY NURSING STUDENT CLASSROOM ENGAGEMENT ACTIVITIES AND ACADEMIC PERFORMANCE. (Under the direction of Dr. Margaret Ackerman). School of Education, October, 2007.

Academia is struggling to meet an increasing nursing shortage with limited resources; therefore, student success is paramount in any university nursing program. Research data suggests one major reason for increased attrition rates is course failure. Research also reveals that college students often feel disengaged in the classroom. The purpose of this study was to explore the relationship between classroom engagement activities and the academic performance of professional nursing students. Is there a relationship between nursing student classroom engagement activities and academic performance? The Classroom Survey of Student Engagement (CLASSE) was administered to 317 university nursing students enrolled in seven different courses. Classroom engagement activities were represented by CLASSE participant responses and numeric grades earned in the course represented academic performance. Using correlational research design, the student engagement responses were compared to the numeric grades earned in their respective nursing courses. The resulting data were organized, analyzed, and reported using the data from all seven courses. The data were also analyzed individually and collectively. Data analysis revealed significant relationships between specific engagement practices and the grades earned in the course.
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CHAPTER ONE: STATEMENT OF THE PROBLEM

Problem Background

The United States Bureau of Labor Statistics (Hecker, 2005), projects that more than 1.2 million new and replacement registered nurses (RNs) will be needed by 2014. Furthermore, more than 703,000 new registered nursing positions will be created through 2014, which places registered nursing as one of the top 30 occupations with the largest job growth. Although efforts are being made by colleges of nursing in the United States to decrease attrition rates and increase graduation rates of nursing students, the nursing shortage figures are continuing to be a crisis (American Association of Colleges of Nursing [AACN], 2007).

Problem Statement

There are various reasons for increased student attrition rates in schools of nursing. Deary, Watson, and Hogston (2003) reported burnout and stress as a major contributor to student dropout or failure. As reported by student exit interviews, family difficulties, academic failure and financial issues are among the main reasons for leaving nursing school (Glossop, 2002; Taylor, 2005). However, others found no single contributor to increasing nursing attrition rates outside of academic failure (Last & Fulbrook, 2003). In order to facilitate higher graduation rates, more nursing students must be academically successful in the classroom. This research project examined the relationship between the academic performance of university nursing students and engagement activities in the classroom. The research question asks, “Is there a relationship between university nursing student classroom engagement activities and academic performance?” The first hypothesis states, “There is a relationship between
nursing student classroom engagement activities and academic performance.” The null hypothesis states, “There is no relationship between nursing student classroom engagement activities and academic performance.” The next hypothesis states, “There is no difference in course grades among the demographic groups of gender, age, first-generation college status, and racial groups.” The null hypothesis states, “There is a difference in course grades among the demographic groups of gender, age, first-generation college status, and racial groups. The last hypothesis states, “There is no difference in engagement item responses among the demographic groups of gender, age, first-generation college status, and racial groups.” The null hypothesis states, “There is a difference in engagement item responses among the demographic groups of gender, age, first-generation college status, and racial groups.”

Professional Significance of the Problem

There is increasing concern expressed by faculty and administrators in collegiate education about the lack of student engagement or increased disengagement in the classroom. Research reveals that college students want challenges in the classroom but most often feel detached or disengaged with the course and content in the way it is presented (Kuh, 2001). This research project explored the association between the variables of student engagement scores from the Classroom Survey of Student Engagement (CLASSE) instrument and student academic performance as measured in numerical nursing course grades earned by the students in the respective courses. The purpose of this research study is to explore the relationship of nursing student classroom engagement activities and academic performance. What is the relationship between university nursing student classroom engagement activities and academic performance?
The Texas Nursing Association (TNA) with the Nursing Education Policy Coalition and the Texas Center for Nursing Workforce Studies (TCNWS), concur that schools of nursing must significantly increase graduation rates. In order to narrow the gap between supply and demand for nurses in Texas by 2010, it is estimated that nursing schools must elevate the number of new registered nurse graduates by approximately 50%. The AACN (2006, 2007) reported that baccalaureate nursing programs had increased admission and graduation rates by 9.6% for fall of 2006. Although interest runs high for healthcare professions, many schools of nursing in Texas have reported high attrition rates for professional nursing majors.

Overview of the Methodology

Correlational research studies are quantitative methodologies designed to examine and understand relationships among variables. This research project was designed to explore any relationships between nursing student engagement activities in the classroom and academic performance. The CLASSE survey instrument was administered to nursing students in seven different nursing courses at all levels of the curriculum. The responses to each of the 39 questions instrument questions were used to measure the variable “classroom engagement activities”. Ordinal numbers were assigned to the possible answers of each question, with “1”, “2”, “3”, or “4” respectively. The numeric course grade was used to measure the variable labeled “academic performance”. Descriptive statistics were used to describe the characteristics of the population sample. Parametric testing was also conducted to explore any differences between the grades and engagement responses among the demographic variables. Spearman’s rho, a correlational coefficient was calculated to compare the participant responses to each of the questions in
the survey instrument and the numeric grade earned in the course. The level of significance for the study was $p < .05$ level. The inferential statistics were calculated using all the participant scores as well as course subgroup. The research methodology of this study will be discussed in more detail in chapter three of this document.

Definition of Key Terms

The following terms are defined as they are used in this study to facilitate the reader’s understanding of the study.

Engagement: an active involvement in a particular task with an emphasis on behavioral intensity and emotional connection and attachment to the task (Connell & Wellborn, 1991).

Student Engagement: an active process in which students of different backgrounds interact with one another about a particular topic (Hu & Kuh, 2001a).

Nursing Student Classroom Engagement: (independent variable) the active involvement in particular tasks within the context of the nursing classroom, with an emphasis on behavioral intensity and emotional connection and attachment to the task. Nursing student classroom engagement is operationally defined as the subjects’ score (1 to 4 on a Likert scale) for each item on The Classroom Survey of Student Engagement (CLASSE) (Connell & Wellborn, 1991).

Academic Performance: (dependent variable) Academic performance is the degree to which students attain concept mastery (Greenwood, Horton, & Utley, 2002). Operationally, academic performance is defined as the final numerical course grade (on a 100 point scale) earned by each student as a result of objective testing within the respective courses.
Classroom Survey of Student Engagement (CLASSE): a 42-item survey instrument designed to measure student engagement in the classroom (Ouimet & Smallwood, 2005).

The following courses were chosen for inclusion into the research study:

Theories and Concepts of Professional Nursing (freshman nursing course): The introductory core nursing course, taken before students are admitted into the nursing program.

Foundations to Professional Nursing Practice I (sophomore I): The first foundational nursing course in which students are introduced to the care of patients in healthcare institutions during the first semester sophomore year.

Foundations to Professional Nursing Practice II (sophomore II): The second foundational nursing in which students continue to care for healthy individuals across the lifespan during the second semester sophomore year.

Professional Nursing III: Adult/Gerontologic Acute Care and Mental Health (junior I): The nursing course that focuses on the acute care of the adult in physical and mental distress during the first semester junior year.

Professional Nursing IV: Maternal Child Acute Care and Mental Health (junior II): The nursing course in which students care for the needs of the childbearing family during the second semester junior year.

Professional Nursing in Complex Situations (senior I): The nursing course which focuses on the nursing care of patients in complex situations during the first semester senior year.
Preparation of Professional Nursing Practice (senior II): The nursing capstone course in which students focus on preparation for practice as a professional in the final semester of course work.

For purposes of this paper the following terms are used interchangeably, teacher, instructor, professor, and faculty member and are defined as the person assigned to instruction for a particular course in a college or university. Student engagement and nursing student engagement are also used interchangeably.

Statement of the Hypothesis

This study was designed to explore the relationship between nursing student classroom engagement activities and academic performance. Is there a relationship between university nursing student’s academic performance and engagement activities in the classroom? The research hypothesis states, there is a relationship between university nursing student classroom engagement activities and academic performance. The null hypothesis states, there is no relationship between university nursing student classroom engagement activities and academic performance.

The definition of student engagement used for this research project states Engagement refers to an individual’s active involvement in a particular task with an emphasis on behavioral intensity and emotional connection and attachment to the task (Connell & Wellborn, 1991). Student engagement was measured using participant responses to 39 questions in the CLASSE survey instrument. For purposes of this study, academic performance refers to the numerical grade received for the nursing courses in which the student was enrolled at the time of survey administration. The sample population was taken from nursing students enrolled in a university in the southwestern
region of the United States. Seven nursing courses at all levels of the nursing curriculum were chosen for inclusion in study. The CLASSE instrument was administered in class to the students enrolled in the seven core nursing courses chosen for this study.
CHAPTER TWO: REVIEW OF THE LITERATURE

Overview

This chapter is the review of literature that is pertinent to the study of classroom student engagement activities. This chapter begins with an explanation of the literature review process and how appropriate and pertinent articles were obtained and included in this literature review. Appropriate definitions of student engagement activities are included from current educational literature and research. Several theories from cognitive and educational psychology disciplines form the basis and framework for studies in student engagement. These were compiled, organized and, included in the theoretical framework section of this chapter. The remainder of the literature review was organized by the following topics: student engagement, student disengagement, and factors affecting student engagement, The National Survey of Student Engagement, The Classroom Survey of Student Engagement, and Nursing Student Engagement. Other concepts addressed as subheadings include institutional characteristics, teaching in the classroom, service learning, technology and engagement, and levels of student engagement. The review of literature documents a comprehensive examination of literature pertaining to college and university student engagement.

The review of literature was conducted in three phases. The first phase was completed by accessing university libraries and electronic databases using specific search terms. Empirical theoretical research literature was located and obtained using the following search terms: student engagement, college student engagement, intrinsic motivation, extrinsic motivation, social learning, locus of control, National Survey of Student Engagement, NSSE, Classroom Survey of Student Engagement, CLASSE,
engagement, undergraduate education, nursing education, and engaged learning. Various databases including Academic Search Premier, ERIC, First Search, Cumulative Index to Nursing and Allied Health (CINAHL), Questia, as well as numerous journal reviews were accessed to retrieve research literature.

After retrieval of the articles, the second phase was completed by inspecting the reference lists for further analysis of the literature, which resulted in additional research literature findings. In the third phase of the comprehensive literature review, the articles were reviewed and appropriate articles were chosen to be included in the literature review. There were 154 articles reviewed with 92 articles selected for the focused literature review. The search revealed 44 empirical research articles concerning various aspects of college student engagement. A limited number of research articles containing material about kindergarten through 12th grade (K-12) student motivation and engagement were included not in the literature review, as to focus on current research relating to student engagement and the collegiate experience.

Definition of Engagement

Comerford (2005) believes that student engagement is an active process in which students of different backgrounds interact with one another relating to a particular topic. Hu & Kuh (2001a) believe student engagement is the quality of effort that students expend in purposely educational activities. Engagement is important in the college and university experience because it is a positive influence for student learning and personal development. Engagement also refers to an individual’s active involvement in a particular task with an emphasis on behavioral intensity and emotional connection and attachment to the task (Connell & Wellborn, 1991). Pintrich & De Groot (1990) view student
engagement as motivated behavior by the student and during the motivation period, cognitive strategies are chosen by the students that produce a willing self-regulated behavior enabling the student to persist in difficult tasks. The construct of engagement has many definitions, however most agree there is an association between engagement with the college experience and optimal learning outcomes for the student (Bowen, 2005; Carini, Kuh, & Klein, 2004; Lewis, 2002).

Theoretical Framework

The theoretical framework for this study includes elements of several different theories focusing on motivation. The exploration of multiple theories was necessary in order to fully explicate student engagement. Research in intrinsic and extrinsic motivation is foundational to the study of student engagement. Motivational theorists and clinical psychology researchers such as Bandura (1997) and Rotter (1982) have focused on why individuals choose to engage or disengage from certain activities. For many years, it has been the focus of educational researchers to examine the ways in which students are motivated and what motivates them toward certain desirable outcomes and activities. More recently, researchers are examining student engagement and the factors that foster positive student engagement with the course and subject concepts, the process of learning, and within the context of the institution. Many of the educational research studies in student motivation are focused on the learning needs and experiences of K-12 students. However, research studies explored in this review of literature, generally accept the application of the concepts and principles of motivation as applicable to human behavior at all ages and stages of life.
Motivational theories provide the constructs for the framework for the initial examination of student engagement. The building blocks of motivational theories include the concepts of self-efficacy, locus of control, behavior potential, expectancies, and motivation. The self-efficacy beliefs as described in The Social Cognitive Theory (Bandura, 1997) and Rotter’s Social Learning Theory (1982) are of particular importance to the beginning understanding of student engagement.

Self-Efficacy Beliefs

Self-efficacy, one of the core concepts of The Social-Cognitive theory, is a model of motivation which focuses on the role of perceptions in social and cognitive development. According to the theory, the definition of self-efficacy is an individual’s confidence in their own ability to define a specific course in order to carry out a given task. Self-efficacy concepts also include ideas concerning optimistic beliefs about one’s own ability to handle a variety of stressors. In contrast with other constructs of optimism, self-efficacy addresses functional competence in challenging encounters. According to this theory, self-efficacy beliefs determine how people think, feel, behave, and are motivated. Conversely, those who doubt their own abilities will avoid difficult activities the individual views as threatening. A low sense of self-efficacy is associated with feelings of depression, anxiety and helplessness. In turn these feelings are also associated with those who also have low self-esteem and entertain pessimistic thoughts about their own abilities, accomplishments, and development (Bandura, 1997).

Self-efficacy can be fostered and maintained in the classroom through the provision of mastery experiences. This is accomplished by students overcoming obstacles in the classroom that require perseverance that are neither simplistic nor excessively
difficult. However, the tasks should present an appropriate level of challenge. When students are presented with only simple tasks to complete, discouragement can halt a student’s progress when something more difficult is unsuccessfully attempted. Self-efficacy within an individual is built when continued persistence leads to success (Bandura, 1997).

In Bandura’s work with Barbaranelli, Caprara, and Pastorelli (1996), self-efficacy beliefs and academic functioning were explored. Their research analyzed the psychological factors through which self-efficacy beliefs affect academic function. They found a student’s scholastic achievement, through aspirations and perceived academic capabilities, is affected by their parent’s aspirations and sense of academic efficacy. In other words, students are affected by the expectations and beliefs of their parents. Additionally, a student’s belief in their own self-efficacy, the ability to regulate their own learning and achieve academic success, contributes to independent scholastic achievement. This, in turn, promotes high academic aspirations and prosocial behavior that reduces vulnerability to feelings of depression, anxiety and futility. These researchers also found an indirect relationship between socioeconomic status and academic achievement. However, the research study revealed a direct relationship between socioeconomic status and parental aspiration for their child.

**Social Learning Theory**

Within the discipline of psychology, locus of control is understood as an important aspect of personality development (Connell & Wellborn, 1991; Covington, 2000). Within this construct, control originates from either an internal or external position. The Social Learning Theory was developed by Julian Rotter (1966) as a result
of his work and research in clinical psychology. He believed, in order to understand human behavior, both the individual and the environment must be considered and examined. In doing so, he brought together behavioral and cognitive psychology. Much of his work focused on exploring behavior and how it is affected by various types and levels of reinforcement.

The full term given by Rotter (1966) to the construct of locus of control is the locus of control of reinforcement; however the former term is generally used in literature when referring to this construct. Locus of control is an important aspect of human personality and can be defined as the perceptions of individuals about the causes for certain life events. Individuals, who are functioning from an internal locus of control perspective, believe that behavior is guided by individual effort and personal decisions. Those who believe their behavior is guided by external forces, such as luck, chance, or fate, are functioning from an external locus of control perspective.

An internal locus of control, behavior guided by personal efforts and decisions, is generally considered more desirable in the classroom. It is also thought to be more psychologically healthy to believe that individuals are able to possess some level of control and personal influence in their life. Most theories that focus on locus of control propose that a student can expect to succeed based on his or her belief that they have control of their own successes and failures (Connell & Wellborn, 1991; Covington, 2000; Deci & Ryan, 1985; Rotter, 1982). However, it is important to refrain from taking an overly simplistic view of internal versus external locus of control. Those who are excessively motivated by an internal locus of control, but lack competence, efficacy or an opportunity to succeed could be psychologically unhealthy. As a result, these individuals
may tend to be more anxious (Rotter, 1966). Despite the controversy, research findings have supported the idea that individuals who possess an internal locus of control tend to be more achievement oriented (Mamlin, Harris, & Case, 2001).

Social Learning Theory also includes other constructs such as expectancies, behavior potential, and reinforcement value. Expectancies refer to beliefs of students about themselves or other students with regard to performance on specific tasks or in particular courses. Expectancies are the projected likelihood that a given behavior will lead to a certain outcome. Behavior potential is the probability that a certain behavior will be exhibited in a specific situation. For every possible behavior, there is behavior potential by which the individual will exhibit the behavior with the highest potential (Rotter, 1966). Others agree that student’s beliefs about their own ability to perform academically, has an affect on performance in the classroom. Their perception of what others believe about them has an affect on classroom performance as well (Covington, 2000; Deci & Ryan, 1985; Eccles & Wigfield, 2002).

Reinforcement values are defined as: incentives or reasons for students performing specific activities in a particular manner. In other words, it is the desirability of particular outcomes in certain situations. An outcome that an individual might desire or feel attracted to would be considered a high reinforcement value. The outcomes a person dislikes and tends to avoid are believed to have a low reinforcement value. As a result, individuals will exhibit the behavior with the highest reinforcement value. For example, a child who does not receive positive attention from one or more parents, might seek out negative attention because it has a higher reinforcement value than experiencing neglect (Rotter, 1966).
**Self-determination Theory**

The Theory of Self-determination is also important to the understanding of student engagement in the classroom. This theory resulted from the research work of psychologists Ryan and Deci (1985). The theory focuses on the degree in which people engage in activities at the highest level of reflection with a “full sense of choice”. One of the assumptions of the theory concludes that people are active organisms and they possess an innate propensity toward psychological growth and development. It is theorized that people strive to master challenges, while integrating their experiences into a comprehensive and whole self. In order for the individual to integrate into a coherent individual self, support from the social environment is necessary. Therefore the social environment can either support or hinder the natural tendency toward engagement and growth. When humans are fully functional and supported within an environment, they are self-motivated and inspired, all the while striving to learn and grow within themselves. Conversely, other individuals can reject growth and responsibility regardless of background or environment. In The Self-determination Theory, more than biological factors are considered; inner resources for human development are also explored. Self-determination theory examines inherent growth tendencies and innate psychological needs as well as the social conditions that contribute to the effectiveness of the aforementioned in human development. The application of this theory in the classroom is beneficial to educators in the creation of a supportive and inspirational environment in which students are motivated to learn and engaged with the subject.
Multiple Intelligences

Gardner’s (1993) work in multiple intelligences focuses on student learning and the unique means by which each individual student learns. According to this theory, every person has intelligences by which they can best learn new material. These intelligences are based largely on environmental factors and previous personal experience. The groupings for the intelligences are linguistic, musical, mathematical and logical, visual and spatial, bodily and kinesthetic, interpersonal, and intrapersonal. According to the theory, each individual possesses a unique mixture of the intelligences; however some are more dominant than others. The understanding of these concepts can assist educators in the successful facilitation of classrooms that are made up of diverse students who are uniquely motivated to learn in many ways. Application of this theory in the classroom proves to be helpful in engaging a variety of students with course concepts.

The teaching methodology most often employed in university classrooms is lecture (McKeachie, 2002). This is a method in which the instructor or professor speaks; the student listens and ponders the material silently, with little interactive communication. This particular methodology would most readily appeal to those who possess intrapersonal intelligence as one of their dominant intelligences. However in most classrooms only a small percentage of students possess intrapersonal intelligence as their dominant intelligence. As a result, most students do not find this to be a motivating or engaging classroom environment (Gardner, 1992).

Engaged learning is interactive. Conversely, a format that is predominately lecture does little to foster interaction and engagement. However, Gardner (1992) believes when teachers include a variety of the intelligences in classroom instruction, more students will
be engaged in the classroom and with the topic of discussion. For example, working in
groups is the preference for those with a high degree of interpersonal intelligence.
According to Gardner’s theory, educational experiences designed to maximize student
interest and address their particular intelligences are more successful.

Student Engagement

Hu and Kuh (2001a) believe that student engagement is the most important factor
in student learning and development in higher education. They define student
engagement as the quality of effort students devote to educationally purposeful activities.
Their research work reveals that student academic performance improves when
challenging goals are presented in the classroom environment. Additionally, students
want to find and master challenges in and out of the classroom. However a great number
of students do not believe they are being adequately challenged to meet their academic
needs. Many students also report they are not participating in activities that are known to
be engaging. Examples of engaging activities include classroom discussions, faculty and
peer interactions, social interactions within the college context, and interactive course
assignments and homework. (Bandura, 1997; Hu & Kuh, 2000; Kuh, 2005, 2006; Ryan &
Deci, 2000).

Palmer (1998) believes there are three components necessary to complete student
engagement in the classroom. First the instructor must take enough interest in the
students to know them, in order to engage them in the classroom. Once the instructor
engages the students, they will in turn, engage the instructor in learning interaction.
Finally, this co-engagement leads each constituent to an intellectual challenge. These are
the fundamental elements of successful student engagement. However, student
engagement is not only an outcome, but a means by which optimal learning outcomes and academic success may be achieved (Pike & Kuh, 2005a). Palmer (1998) also states that many faculty members believe that current students are inferior to those of years past. Many in academia believe these students to be academically, morally, and socially inferior. However this does not relieve academia of the responsibility to effectively educate students. He compares this attitude to a physician asking for only healthy patients, in order to be a more successful clinician. These detached students, who are being labeled as inferior, must be inspired to learn if they are to partake of an enriching and fulfilling collegiate experience.

However, another study conducted in a community college setting, revealed conflicting findings using the Community College Survey of Student Engagement (CCSSE) survey instrument. They found no relationship between student engagement and academic success as evidenced by graduation from the educational institution. For example, students who reported high levels of engagement were no more likely to graduate than those who reported low levels of engagement. They believe the reason for this is due to the type of student that generally attends a community college. In the community college setting, there tends to be a higher number of “at-risk” students, which can be defined as those students who are academically under-prepared, first-generation college students, non-traditional students, or students of color. They found these students to be more highly engaged in the college experience than students of more traditional groups. Although the “at-risk” students scored higher on the engagement scale of CCSSE, they remained in the lower percentages of those students who were academically successful or completed graduation requirements (Ewell, 2006).
Student Disengagement

Current research studies reveal that a large number of students are academically or socially disengaged or both. As a result of research conducted at the University of California at Santa Barbara, Flacks and Thomas (1998) believed there is an emerging “culture of disengagement.” This phenomenon of disengagement is attributed to a variety of societal factors. In an effort to be more inclusive and accommodate higher numbers of students, Flacks and Thomas believe scholastic quality, in the average college and university setting, has been compromised in order to accommodate students who are disengaged or poor performers academically. Students are spending less time studying for classes, participating less in on-campus activities, and spending more time working and socializing off campus. Students seemed to be less prepared academically when they start college courses; therefore they are unable to avail themselves of all the university experience has to offer. Consequently, they are less engaged (McKinnis, 2001).

Boyer (1996) believed that higher education is increasingly a part of the problem of student disengagement as opposed to being a part of the solution. He agreed with the writings of John Elliot’s (1636/1996, p. 12) assertion, “If we nourish not learning, both church and commonwealth will sink”. The original goal of higher education was to train and prepare leaders for civic and religious responsibilities. Although the current higher education system in the United States has experienced explosive growth in knowledge and technology, there is still a failure at some level to affirm a strong commitment to the scholarship of engagement. In his writings, he stated that college and university campuses have become a place in which students are credentialed as opposed to being fostered to address the current problems in society. In order to facilitate the scholarship of
Engagement, academia must connect the rich resource of our students to the responsibility thereof and address the social, civic, and ethical problems of civilization. In doing so, the scholarship of engagement will show its worth and service to a worldwide audience (Boyer, 1996).

The demographic background of the student population is also a factor in character and culture of an institution. Upcraft, Gardner, & Barefoot (2005) believe that student demographics are changing, however the myth of what constitutes a first-year student is still prevalent. Many believe that most college freshmen are new high school graduates, approximately 18 years old, from a middle-class home, academically prepared, and living away from home for the first time. However there are increasing numbers of “non-traditional” students attending colleges and universities. There are increasing numbers of nontraditional students who are in one or more of the following categories: single parent, 25 years of age or older, member of a racial minority group, low socioeconomic status and first generation college status.

College student profiles agree and indicate an increasing level of diversity in today’s college campuses. This highly diverse campus culture has led to changing student expectations as well (Upcraft, et al., 2005). Students want to be challenged and they want to know that their instructor or professor is available to them both in and out the classroom. They also want instructors that will motivate them to engagement with the subject content in the classroom (Kuh, 2003; Kuh, 2001). Conversely, McInnis (2001) found that students are less motivated to study than ever before; therefore they desire an easier approach to gaining information that requires less study time. He also believes that
because more students are not living or working on campus, fewer students are truly a part of the university’s cultural milieu and less engaged overall.

Astin (1998) agrees the lack of student engagement in college may be due in part to character changes in the average college student over the last few decades. Astin reviewed the Cooperative Institutional Research Program (CIRP) database which showed drastic changes in college student attitudes, expectations, and activities over a 30 year period. The collection of data using the CIRP instrument began in 1966. By 1996, nine million freshman students at over 1,500 institutions had been surveyed. In this study, researchers found vast character changes in the average American college student.

Findings reveal that character changes in students over the years may have been the result of the political and societal changes of the times. Furthermore, during the 1980s students began to show signs of disengagement in the classroom and community. They also exhibited a declined interest in social and political issues, which continued into the 1990’s.

Astin (1998) interpreted the CIRP to indicate that various societal factors, such as The Women’s Movement, contributed to a change in college student demographics. For instance, in 1966, only 40.3% of women sought out advanced degrees compared with 67.7% of women in 1996. Furthermore, a change in gender attitudes had occurred as well. In 1967, the majority of respondents agreed that efforts by married women were best confined to keeping their home and family as opposed to seeking advanced degrees. By 1996, attitudes toward women and college had drastically changed and number of women seeking advanced and doctoral degrees had increased. Consequently, today’s average college freshman has more highly education parents, including both mother and
father. Astin also found that the average college freshman was more likely to have parents who were divorced or separated.

CIRP data also revealed that student values had changed during the 30 years of data collection. In the 1960’s, 80% of entering freshman believed that developing a personal philosophy of life was “meaningful” or “very important”. In 1996, only 45% of incoming freshman believed it to be “meaningful” or “very important”. In the same time frame, students who stated they “agreed strongly”, that the foremost reason for attending college was “to be able to make more money” increased from 49.9% to 74.7% (Astin, 1998).

Hendel and Harrold (2004) found a decline in student political involvement and a change in leisure activities of college students. Entering freshman showed a decreased interest over time in knowing about current political affairs. In addition, entering freshman spent increasing amounts of time watching television. However, students who reported reading newspapers and watching television news programs showed a downward trend. Reading news magazines and watching talk shows had also experienced a steady decline. However, the phenomenon of watching rental movies on television increased consistently over time. Other forms of entertainment, such as music, had always been a popular leisure activity among college students, but the frequency of listening to recorded music significantly increased.

The amount of time spent participating in social activities, such as attending parties and spending time with friends and family members did not demonstrate a significant change. However they found that college students spent more time in volunteer activities and less time in political activities. Kuh (2001) found that spending
time accessing the Worldwide Web (WWW) was the leisure activity which demonstrated the greatest increase between 1996 and 2001. During this timeframe, students spent increasingly more time accessing the internet, listening to music, and watching movies. Current research and literature agree that student habits and interests have changed over time (Astin, 1998; Huh & Kuh, 2000; Kuh, 2005, 2006). However, many colleges and universities have not made accommodations to meet the changing needs and expectations of the students (Hendel & Harrold, 2004).

As academia becomes increasingly aware of the changing needs of today’s college student, this knowledge may provide insight into how to meet the changing needs of the average college student. Hativa (1997) believes that a paradigm shift of this magnitude may not be a simple undertaking for colleges and universities. In order to increase student engagement and learning in the classroom, faculty members must address student apathy and disengagement while adopting practices in the classroom that cultivate increased student interest. Most educators gain their teaching skills through trial and error, reflecting on feedback from the students and by self-evaluation. They also learned from teachers and professors of the courses they participated in when they were students. It is an expectation for college or university professors to have expert knowledge in their chosen field. However many possess little more than a rudimentary understanding of educational concepts and theories necessary to conduct consistently engaging classrooms (McKeachie, 2002; Palmer, 1998).

McKeachie (2002) believes faculty lecture to be the teaching methodology most often employed by university instructors and professors. However lecturing is considered the least effective way in which to conduct an effective college classroom. An effective
classroom is one in which students are engaged with one another, the instructor, and subject content. According to findings in The National Survey of Student Engagement (NSSE) annual reports (Kuh, 2005, 2006), most students find current teaching methods, such as lecture, to be less than engaging. Additionally, they found that faculty and student interaction played a significant role in facilitating quality student engagement and satisfaction in the classroom. The study showed a positive correlation between college student engagement scores and availability of faculty for students outside of class time. Findings in educational research consistently support the importance of a supportive relationship between student and faculty to engagement (Kuh, 2005, 2006; Lewis, 2002; Thayer-Bacon, 2004).

Factors Influencing Student Engagement

Institutional characteristics. Review of literature reveals conflicting results between research studies that have examined the relationship between student engagement and institutional characteristics. This may be due, in part, to the variety of ways in which an institution of higher education may be classified. A college or university may be classified by size, number of students, funding base, whether public or private, institutional focus, and Carnegie classification. Additionally, there are colleges and universities that have large numbers of students who live on campus and other institutions whose student body consists mainly of commuter students. Course delivery format can differ as well, with many institutions offering courses predominately online, while others offer courses in a more traditional classroom format (Kuh, 2000; Pike & Kuh, 2005a).
These immutable characteristics of the institution also have an affect student engagement. These are characteristics in which university administration and personnel cannot readily change. However, positive and affirming views exhibited by faculty and staff members can help make the institutional environment an atmosphere conducive to optimal outcomes for student learning (Umbach & Wawrzynski, 2005). An engaging university environment leads to positive faculty and student relations that contribute to higher levels of student engagement both in and out of the classroom (Hu & Kuh, 2000, 2001a; Ryan 2005).

Hu and Kuh (2000) found that regardless of institutional characteristics, students make their own efforts to be engaged in their respective colleges or universities. Conversely, in a later research study (Hu and Kuh 2001a), they found student engagement to be a function of the interaction of the student and various institutional characteristics. In the latter study, private colleges and universities had a higher percentage of students classified as engaged while community colleges had a higher percentage of students classified in the disengaged group. Additionally, students who had more positive views of their college or university campus were more likely to have higher engagement scores (Margonis, 2004).

Results from 2006 NSSE reveal that freshman students enrolled in baccalaureate or master’s level institutions were just as engaged or more so that students who attended prestigious research institutions with a high research focus. However, results from previous studies differ. Kuh and Hu (2001) used data from the College Student Experiences Questionnaire (CSEQ) database in order to compare undergraduate student experiences at research institutions and their counterparts in other college classifications.
Over 2000 students attending colleges and universities, with representation from each Carnegie classification, participated in the study. This study suggests that student engagement is varied among the different types of institutions. They found that liberal arts colleges tended to score better in student engagement than other classifications of colleges while public institutions of higher learning generally scored lower in student engagement than their Carnegie classification counterparts.

Since 1973, the Carnegie classification has served as the framework for institutions of higher education. Since that time, research institutions traditionally enjoy a higher status among all baccalaureate institutions. Pike and Kuh (2005a) conducted a research study using data from 321 participating colleges and universities in varying levels of the Carnegie classifications. They found emerging trends in the types of institutions with regard to engagement and as a result, were able to distinguish between seven types of engaging institutions. As a result, they were able to classify higher education institutions by student educational experiences. The classifications were as follows: diverse but interpersonally fragmented, homogeneous and interpersonally cohesive, intellectually stimulating, interpersonally supportive, high-tech and low-touch, academically challenging, and supportive/collaborative. The purpose of the grouping was to explore a more effective and practical approach to institutional classification. They found the variance of engaging institutions is related to the mission rather than the Carnegie classification of the school. For example, the notion that small, private liberal arts colleges are more engaging institutions is not supported by this study. However, in many studies using NSSE data, liberal arts colleges consistently excel in the benchmarking for faculty-student interaction. It is generally presumed that classes are
smaller and therefore presenting the opportunity for more faculty-student contact (Kuh, 2006).

Hu & Kuh (2001a) examined the influence of student and institutional characteristics on student engagement. The demographic categories most likely to have higher engagement scores are women, African-American students, Hispanic students, American Indian students, and students enrolled in private colleges. They also found men, Caucasian students, and students at public institutions were less likely to be engaged in the collegiate experience as a whole. In addition, academic preparation and higher socioeconomic status were associated with groups with higher scores in engagement survey research. Students, who were a part of a community of learner, also scored higher in engagement studies than those who did not have this type of learning support group. Findings from this study also revealed that student perceptions of the university environment correlated positively with student engagement. If the student believed the university environment to be inviting, the student was more likely to be engaged in positive learning experiences. Conversely, a negative student perception of the university environment is also correlated with lower engagement.

Chickering & Gamson (1987) identified several practices of universities faculty and personnel that are known to lead to higher student engagement in undergraduate education. Fostering an environment that encourages contact between student and faculty was recognized as a “good practice” and is important to the success of an engaged university. A research study conducted by Kuh (2003) using the NSSE instrument agrees that students are more engaged with the university as a whole if there is accessible contact with their instructors and professors in and out of the classroom. They also found
that prompt and early feedback by the instructor to the student is a good practice of undergraduate education. Prompt feedback is also a common expectation of the average college student (Kuh, 2005, 2006). It is equally important that classroom instructors communicate high expectations for student academic performance and learning, all the while developing active and engaging learning among all students in the classroom. Active learning is defined as learning in which the students are reading, writing, and participating in activities that require application of course concepts in an engaging manner. Finally, it is the responsibility of the classroom instructor to respect diversity among students and the various ways of knowing (Chickering & Gamson, 1987).

Defining institutional excellence is only successful in terms of the institution’s effective educational practices or processes (Pascarella, 2001). The most important indicators of excellence, in the university setting, include quality and focus of instruction, faculty and peer interaction, writing experiences, and active involvement in course work. It is equally important for university faculty members and administration to understand enhanced student learning occurs when students perceive the college environment to be affirming. An affirming environment is one in which supportive expectations are clearly communicated by the educator to the students (Kuh, 2001; Pascarella). Student affirmation is correlated with high levels of student satisfaction and achievement in many areas and levels of the college experience, (Astin, 1984; Grant & Dweck, 2003; Pascarella & Terenzini, 1991). Additionally, students who report increased levels of contact with peers and faculty also demonstrate higher levels of positive educational outcomes. In an engaged university, the student is highly involved in the culture of the college both in and out of the classroom. In turn, increased engagement leads to increased
acquisition of knowledge, development of skills, and higher student retention rates (Endo & Harpel, 1982).

Harvey (2005) found a Christian worldview to be influential in encouraging engagement in postgraduate studies. Studies also reveal that positive student engagement flourishes in classrooms in which teachers practiced a servant leadership approach in their classroom. The servant leadership approach to education, places the focus of education on meeting the learning needs of the student. As students are encouraged to reach their potential, they are more likely to be academically successful. Servant leadership as developed by Greenleaf (1970) serves as the foundation to the leadership and engagement program at Columbus State University. Research revealed the adoption of a servant leadership program contributed positively to the overall engagement in the classroom and collegiate experience (Polleys, 2002).

Another study (Umbach & Wawrzynski, 2005) compared NSSE data from 137 schools, which included 42,259 student questionnaires and 4,337 faculty questionnaires. Student questionnaires examined engagement levels, while faculty questionnaires examined faculty attitudes and behaviors. They found that attitudes of faculty members can have a significant effect on the college student experience, in and out of the classroom. Faculty members’ behaviors and attitudes markedly affected students and the level of engagement to the university learning. The findings suggested a significant relationship between positive and affirming instructor attitudes and higher levels of student engagement. This suggests that faculty members play an important role in student learning and engagement, contributing to a positive college experience.
Parr & Valerius (1999) also agree that faculty attitudes can affect student engagement and performance. The researchers asked 452 college instructors and professors to assess the desirability of 56 student behaviors. The student attitudes and behaviors, reported as most desirable by faculty members, included participation in class discussions, completing homework assignments on time, and asking questions. The least desirable student behaviors and attitudes, as reported by faculty members, included eating in class, talking during lecture time, reading the newspaper during class, and sleeping during class time. The results revealed a trend toward more positive student and faculty interactions, which is believed to be most favorable for increased levels of student engagement. The findings in this study did not support a direct link between specific student behaviors and objective measures of academic performance. The study does however suggest that relationships between student and faculty may indirectly affect student academic performance.

Pike and Kuh (2005b) compared first- and second-generation college students in levels of engagement and intelligence development. The researchers used a stratified random sample of 3000 undergraduates who completed the CSEQ. They found most first-generation college students were less engaged overall and generally do not engage in activities associated with success in college, such as living on campus and participating in extra-curricular activities. They believed that these low levels of engagement were not related to student intelligence. However engagement levels, for this group, could be related to being the first one in the family to attend college, financial issues, or the increased likelihood these students were living at home. However, for first-generation college student who persist into the second year of college, the likelihood of graduation
Increases for this group (National Center for Education Statistics [NCES], 2005). Of noteworthy interest, the groups found to be more engaged overall included students living in campus residence halls, females, minority students, and students planning to pursue advanced degrees. These students also reported greater perceived gains in their intellectual development and learning performance (Pike & Kuh, 2005b).

Most studies suggest that engaging institutional environments have a positive effect on learning productivity. These institutions endeavor to engage students in the many aspects of the collegiate experience, including activities outside the classroom, such as social and civic organizations, intramural activities, sports events, and living in the campus community. An institutional commitment to student engagement should be evident in the institution’s mission, vision, and philosophy, which in turn can influence the character of the college or university. The members of the university faculty, staff, and administration must give preference and attention to providing an environment that is engaging to students on campus and in the classroom (Astin, 1984; Hativa, 1997; Hu & Kuh, 2001a; Kuh, 2000; Ryan, 2005).

*Teaching in the classroom.*

John Dewey is believed to be one of 20th century’s most influential thinkers in the discipline of education and study of successful educational practices. His attention was focused on the ways in which students learn and helping educators make sound pedagogical changes in the classroom that encourage positive learning outcomes. As students and issues change in the classroom, so must the solutions change to meet their needs. He also believed that instructors are the guides that help lead students into an
engaging environment of learning. In doing so, the student and teacher both become active subjects in the learning process (Dewey, 1910/1993).

If engagement is to be fostered and encouraged in the university setting, it is important to also examine the environment of learning that instructors create for students. Research shows the most effective teachers, who experience a high degree of success in the classroom, are those who facilitate an environment of learning that is interesting and engaging (Hativa, 1997). A study conducted by Hativa, Barak, and Simhi (1999), revealed that outstanding teachers, who achieve a high rate of effectiveness, incorporate a variety of strategies and teaching methodologies in the classroom. Increased levels of success in the university classroom, as measured by levels of engagement, were apparent when teachers consistently used a variety of teaching methodologies in the classroom. The study further revealed there was no one particular technique or course delivery methodology that yielded a greater number or percentage of engaged students.

Regardless of the teaching strategy employed in the classroom, it is important for teachers to emphasize clarity, use appropriate examples, emphasize important points, and speak intelligibly. Other researchers discovered a significant relationship between using a variety teaching methods and increased student engagement (Ahlfeldt, Mehta, & Sellnow, 2005; Rideout, 2001; Woo & Kimmick, 2000). Parker Palmer (1998) believes that successful teachers, those with highly engaged students, do not simply possess a large variety of teaching strategies at their disposal. However, in using those strategies, they teach from within themselves, acting as co-participant in the educational process. As a result of these and similar studies, higher education professionals generally agree that engaged students exhibit higher retention rates, improved learning outcomes, and enjoy a
richer collegiate experience (Ahlfeldt, Mehta, & Sellnow, 2005; Astin, Vogelgesang, Ikeda, & Yee, 2000; (Hu & Kuh, 2000; Pike G. R. & Kuh, 2005).

Reeve, Jang, Carrel, Jeon, and Barch (2004) also found a positive correlation between student engagement and an educator’s motivating style. Teachers that interact with students, using an encouraging and supportive style of class management and course delivery, have more engaged students in their classroom. Engagement levels also increase in the classroom, when a student senses support from the faculty member. This type of student support is more than a faculty member expressing of desire for student success. They believed that effective student support begins by giving students an apt level of autonomy to learn in a way that is comfortable and appropriate for them. In doing so the instructor helps to create an engaging learning environment for all students.

Henning (2005) and Hootstein (1994) believed that open discussion and creative questioning improves student engagement in the classroom. It is important to present course content in a way that it is both interesting and relevant to the student. Students are more interested in learning when the information and concepts have personal significance and value. The use of rhetoric skill was a teaching methodology found to make information both interesting and relevant the students in the classroom. In this methodology, the instructor uses narration to begin the discussion. As student participation increases, the instructor gradually moves students toward a more conceptual understanding of the topic. Increasingly the instructor directs control of the discussion to the students. At all levels of discussion, students are encouraged to actively participate in debate and inquiry (Henning 2005).
Socratic questioning and responding is another classroom technique that was found to be helpful in promoting students from experiential knowledge to a higher understanding of concepts that encourage student classroom engagement. Bain (2004) believed that effective teachers create an environment that is natural to learning. It is an environment in which students feel safe to express their opinions in a nonjudgmental atmosphere. Additionally, he believed that guiding students in understanding the significance of the learning to be an important element of the engaged classroom. Engaging student behaviors consistently increase when the topic is presented in a manner that is interesting and relevant to them. Engagement is further encouraged when student are allowed to work collaboratively, in helping each other find solutions to problems. Finally, teachers who create diverse learning experiences in and out of the classroom will have more engaged and interested students overall (Hootstein, 1994; Margonis 2004).

More engaging techniques in the classroom would lead to better learning experiences for the students (Thompson & Thornton, 2002). The transition from high school to college is difficult for many new freshman students. The typical first day of a college classroom begins with discussion of the syllabus, followed by faculty lecture, and extensive note-taking by the student. Using a variety of engaging techniques would lead to better learning experiences for the students. These researchers applied Gardner’s theory of multiple intelligences to the college classroom. They found they were able to help students change their attitudes toward learning with the use of teaching strategies that appeal to the various intelligences as described by Gardner (1993). As a result, of applying Gardner’s theory, students experienced higher levels of engagement and increased satisfaction levels in the classroom (Thompson & Thornton).
Wigginton (1986) strove to better understand relational features of engaged learning and teaching in his work with student learning and engagement in the classroom. He became concerned with increasing student apathy and defiance in the classroom. However, he refused to blame the students for the lack of learning in the classroom. Instead, in the Foxfire Project, he looked at social circumstances and learning antecedents. He examined the actions of instructors, actions of students, and students’ relations to the subject matter. He believed that faculty and students must form a learning relationship in order for students to be more successful in the classroom. He quickly discovered that friendly relationships were unlikely to result in desired pedagogical outcomes for which he was searching. However he discovered a different connection of a much richer value to him as an educator. When he respected each individual student for their strengths brought to the classroom, student engagement with the subject increased. He found that a relationship built on respect was more conducive to the learning process than one built on mere friendship with the students.

When student resistance to productive learning is experienced, it may be a signal that social relationships in the classroom are unable to support educational engagement and new types of relationships should be sought (Margonis, 2004). The students and instructor should be a part of a greater dynamic in which each act as learner and teacher. The perceived success or failure of an instructor in the classroom can be dependent on whether this antecedent to learning is present. Boyer (1990) also believed that educators must place value in the scholarship of engagement with students and the subject content as co-participants in the educational process. This scholarship of teaching that must take place for students to be fully engaged in the classroom and their educational experience.
Service learning. Many researchers believe if civic and moral engagement is threaded throughout any baccalaureate curriculum, the result will be more highly engaged students in the classroom and civically engaged students outside the classroom (Astin, Vogelgesant, Ieda, & Yee, 2000; Colby, Ehrlich, Beaumont, & Stephens, 2003; McDonald & Dominguez, 2005; Schmidt, Marks, & Derrico, 2004). They believe service learning is the key to moving students from content knowledge to active engagement in the course topics. True service learning is student centered and a more engaging learning experience for students.

Astin et al. (2000) found that service learning showed positive student effects on several outcome measures. The study showed improvement in the academic performance of the students as measured by grade point average (GPA), writing skills, and critical thinking skills. The participating students also showed increased self-efficacy, leadership, values, and commitment to participate in community service after college. Benefits associated with course-based service learning were strongest for academic outcomes, especially writing skills. Service learning also appears to have a strong effect on a student’s decision to pursue a service-related career. The qualitative results of this study revealed four in five students felt that their service in the course made a difference in the lives of others. The most important factor, associated with service learning, was the student’s degree of interest in the subject content.

Another significant outcome of service learning was the resulting class discussion about the service projects and their relevance to the classroom subject (Astin, et al., 2000). Reflection, as a means of connecting the service learning experience to the course content, was important to both faculty members and students. The forms of reflection that
were believed to be most helpful were discussions among peers, discussions with the instructor, and reflective journaling activities. Qualitative findings also suggest that service learning is effective because it helps to increase four types of student outcomes: sense of personal efficacy, awareness of the world, awareness of one’s personal values, and engagement in the classroom. However the results of the study did not support a relationship between performing service as a part of a course and increased interpersonal skills of students.

*Technology and engagement.* Changing student demographics and emerging technology have necessitated a shift from traditional learning models and course designs to models of learning that include more interactivity, more involvement with the teacher as facilitator, and a greater emphasis on technology as a learning tool. Jones, Valdez, Nowakowski, and Rasmussen, (1994) developed the Technology Effectiveness Framework, to examine the interactivity of a classroom. Their work resulted in identifying class tasks that are successfully organized for learning, as well as developing instructional models and strategies for engaged learning. The believed the instructor and student each have a role in the engaged classroom. The framework intersected the two continua of learning and technology effectiveness resulting in four patterns. The resulting groups were engaged learning with high technology effectiveness, engaged learning with low technology effectiveness, passive learning with high technology effectiveness and passive learning with low technology effectiveness. Interestingly, they found that higher technology effectiveness was not significantly correlated with higher levels of student engagement.
Researchers have also examined the effect of internet availability and use on college campuses with student engagement. Laird & Kuh (2005) examined data resulting from over 350,000 NSSE questionnaires from 437 participating colleges and universities. The strength of the relationships between academic uses of information technology and student engagement was examined. The researchers were also interested in information technology as its own form of student engagement and mechanisms through which students naturally engage. The findings revealed that most students used information technology on a regular basis, for both personal and academic reasons, to communicate with instructors and peers. About 40% of the participating students spent more than five hours each week completing academic work online. More than one-half of the students communicated with classmates online for academic reasons. A majority of students used the Worldwide Web (WWW) to obtain resource information for class assignments. However few students examined the quality of the web sources they used. Other disturbing facts stated that 87% of all students said their peers sometimes copy and paste information from the WWW for course work without citing the source. Almost one-third of the students said their peers do this often.

Hu and Kuh (2001b) also examined internet availability on campus and student engagement. 18,844 students from 74 colleges and universities completed The College Student Experience Questionnaire (CSEQ). The CSEQ focuses on four main areas of college interest, including college activities, college environment, estimate of gains, and background. Colleges may also add questions that are of particular interest to the institution. The questionnaire also includes four types of engagement measurement. Skills engagement addresses items such as taking good notes in class, ensuring the material is
Engagement

understood, and general learning strategies. Emotional engagement is demonstrated when the student applies the learning concepts to their own life experiences, express a desire to learn the material, and think about the course material between class meetings. Types of participation engagement includes asking questions, verbally participating in class, having fun in class, and offering help to peers. Performance engagement is demonstrated by students who report feeling confident, getting a good grade, and doing well in class. These researchers found that educationally purposeful activities using information technology, such as emailing faculty members or students about assignments, encouraged collaboration and increased contact with other students and faculty. They also found that the use of information technology had a strong positive relationship with students’ overall measure of engagement. Those college campuses considered to be “best wired campuses” were those that invested substantial finances in technology for student use, such as wireless internet availability. Students, attending these campuses, reported more frequent contact with faculty and increased participation in active learning activities as compared with those students attending “less wired campuses”. Results of this study suggested a possible link between college information technology and engagement.

As the previous study indicated, colleges and universities investing in information technology may or may not have a positive effect on student engagement. Ryan (2005) explored the relationship between financial expenditures and student engagement at 142 universities. Based on the study, data analysis supported a relationship between institutional spending and student engagement. The same study also reported a significantly positive relationship with student engagement and expenditures in instructional support, such as wireless internet and increased technology in the classroom.
However, correlational analysis revealed no relationship between expenditures in academic support and student services and student engagement. Conversely, Astin (1993) reported expenditures devoted to student services had a positive effect on student attitudes and perceptions.

*Levels of Engagement*

Educational research literature also addresses types or levels of engagement that can be measured. Bowen (2005) examined the constructs of various types of engagement, which included engagement with the learning process, engagement with the object of study, engagement in contexts, and engagement with the human condition. He believed interaction or involvement with the learning process, in which the student is actively participating in learning, to be the most basic form of student engagement. At this level of engagement, students are simply involved with learning basic concepts. Student engagement with the object of study facilitates student learning that encourages new experiences. Students are stimulated to learn by becoming intimately involved with a new topic, object, or concept. Civic or service-based learning is student engagement within various contexts. At this level of engagement, students are not only involved with the topic, but are also participating outside the traditional classroom in a service learning environment. Lastly, student engagement with the human condition is engagement with individual subjects, such as would be experienced in social, cultural, or civic dimensions, in which all other disciplines are considered subordinate. This type of engagement is experienced in a clinical setting in which students are actively engaged with individuals, groups, and the human condition (Colby, Ehrlich, Beaumont, & Stephens, 2003).
Student affect, a psychological and emotional state of arousal toward learning, is also considered by researchers to be a demonstration of student engagement. Interest cues, such as student questioning or cognitive or emotional excitement with learning concepts, are examples of positive student affect. Kuh (2001) found that students, with higher levels of affect, exhibited more engaging behaviors that were targeted toward the source of learning. Titsworth (2001) examined the relationship between teacher immediacy and student affective learning and engagement. Teacher immediacy is defined as being sensitive to the student’s needs and responding appropriately and efficiently. He found that teachers who consistently make eye contact, use gestures and humor, and personalize examples in class are more likely to stimulate higher levels of student affect. The study as revealed a positive relationship between teacher immediacy and student engagement. Other studies in student engagement support the notion of teacher immediacy and student engagement (Kuh, 2005, 2006) However, research findings also revealed that certain behaviors may have seemed to demonstrate student affect, such as notetaking, but do not positively affect student engagement. Notetaking can also be used by the students as a passive activity in which engagement may be assumed, but as a lone activity, it may not lead to affective learning and engagement (Titsworth, 2001).

National Survey of Student Engagement

Extensive research has been conducted using the vast NSSE database to explore various areas of student engagement. Reisburg (2000) believed the NSSE findings may provide a new approach to assessing and evaluating institutional quality. The NSSE survey instrument consists of 98 items addressing various kinds and levels of student engagement. Since the initial pilot study, the NSSE survey instrument has been
administered to more than 900,000 first-year and senior students in over 1,000 baccalaureate programs across the United States. Participant institutions include colleges and universities representing every Carnegie classification of higher education. Student engagement data, using the NSSE instrument, is collected every spring and subsequently reported to each institution. The instrument takes about 15 to 30 minutes for the student to complete. The students may receive the web or mail version of the instrument, depending on school preference. The overall NSSE participation rate is between 35% and 42% depending on the instrument version. The instrument survey items include five categories, including student-faculty interaction, level of academic challenge, active and collaborative learning, enriching educational experiences, and supportive campus environment.

The 2005 aggregate results of the NSSE showed both promising and disappointing findings. Findings suggest that students were more engaged in institutions in which faculty members consistently employ pedagogically sound educational practices in their classrooms. Many students said they often discuss ideas from readings or classes with others outside of class. Additionally one-fifth of all seniors worked on a research project with a faculty member. Some of the more disappointing findings revealed that African-American and Asian-American students were among the least satisfied groups, with regard to their overall collegiate experience. Between 40% and 50% of first-year students had never used tutoring services, career services, or financial aid advising services. Self-reported data revealed that three of ten first-year students completed the least amount of work necessary to pass a course (Kuh, 2005).
The 2006 NSSE results revealed higher levels of academic challenge among distance education learners. Findings also suggested that distance learners were more often engaged in deep learning activities, as compared to on-campus students. The report also found that student engagement was positively related to the persistence rates of freshman students and the academic success of both freshman and senior students. Students reported spending 13 to 14 hours each week preparing for class. However, this was less time than faculty members believed necessary for success in their respective courses. The engagement study also revealed that adult learners were less likely to participate in engaging college activities. These activities included community service, research collaboration with faculty, or co-curricular assignments. The results also revealed that part-time students had fewer contacts with faculty members than full-time students. Part-time students also reported less participation in collaborative learning activities, when compared to full-time student responses (Kuh, 2006).

Other aspects of student engagement have been explored within the NSSE survey database. Kuh & Gonyea (2006) used regression models to examine the relationship between student spirituality and student engagement. The data, from 149,801 randomly sampled student NSSE questionnaires, were used to study the relationship between student spirituality and student engagement. They found that students who engaged in spirituality-enhancing practices, such as attending church or Bible study, were more likely to also participate in a cross-section of collegiate activities. They also found that campus culture and institutional mission to be more important to student spirituality and learning outcomes than most other institutional characteristics. They also found that students at faith-based universities engaged in and gained more from spiritual practices.
However, these activities may also be related the characteristics of students who attended these institutions as well. Students who took part in spiritually-enhancing activities were more likely to engage in educationally purposeful activities that resulted in positive educational outcomes. In addition, students who attended a church-related college were less likely to experience changes in their religious affiliation and degree of spirituality (Astin, 1993). Kuh (2005) also found that faculty members, peers, and campus cultures were key factors in the encouragement or discouragement of student participation in religious and spiritual practices. Students who participated in spiritual practices were also more likely to take part in other activities linked with character development, such as participating in civic groups, volunteer activities, and self or social improvement groups (Kuh & Umbach, 2004).

Ahlfeldt, Mehta, and Sellnow (2005) examined the use of problem-based learning (PBL) as a teaching methodology and avenue to student engagement. The PBL model represents a concept which began approximately 30 years ago as an alternative to the traditional means of medical education (MacKinnon, 1999). It is a method with roots in the Progressive and Constructivist philosophies of education, in which students learn by solving problems. In this study, the NSSE instrument was administered in order to examine any correlation or relationship between PBL methodologies and student engagement. They found higher levels of engagement in upper division courses, classified for junior and senior students. They also found a strong correlation between small classes utilizing PBL methodologies and high levels of student engagement. Those classes in which the teacher employed more traditional teaching methodologies, such as
lecture, were found to be less engaging by the students (Ahlfeldt, Mehta, & Sellnow, 2005).

Researchers compared active learning in and out of the classroom by analyzing NSSE data collected at Boise State University. This study focused on 22 items from the NSSE survey which represented indicators of active learning. The items addressed activities such as participating in service learning, interactions with students and faculty, participating in class discussion, and asking questions in class. The study including 305 first-year and senior students, found that neither group were highly likely to participate in a community-based project as a part of any course taken at the university. They also discovered that most students reported they had not worked with faculty members on activities other than course work. In addition, neither group was likely to participate in tutoring other students, discuss ideas, or talk about career plans with a faculty member or adviser outside of class. Results revealed that seniors were much more likely to engage in more active learning behaviors than first-year students, indicating a need for more activities targeted to the engagement of first-year students (Belcheir, 2003).

Hughes and Pace (2003) used data from the NSSE database to examine student retention and attrition. They reported significant relationships between student engagement and persistence as well as student engagement and academic performance. They also found that students, who reported experiencing positive interactions with faculty advisors, were less likely to withdraw from school. Additional findings revealed that a large percentage of students, who withdrew from college, reported they never made a class presentation or worked with other students on class projects. Course grades and residence status were believed to contribute to student retention and withdrawal. The
largest percentage of students who withdrew from college reported having grades that were a “C” or lower. Findings also revealed that students who lived on campus were less likely to withdraw from school than those who lived off campus.

Carini, Kuh, and Klein (2005) conducted a study, using the NSSE survey data, in which they compared engagement data from 14 colleges and 1,058 students with varying levels of academic performance. Academic performance was measured by using GPA, Scholastic Aptitude Test (SAT) scores, the essay portion of Graduate Record Exam (GRE), and tests developed by the RAND Corporation, a non-profit institution that helps improve policy through research and analysis. The results revealed student engagement is linked positively to optimal learning outcomes, such as critical thinking and grade point average. However students who scored lower on SAT tests appeared to derive more benefit from activities that encouraged student engagement than students with higher SAT scores. As a result of the study, they believed increased student engagement to be a major component of university processes that “add value” to student learning experiences (Carini, Kuh, & Klein, 2006).

Zhao, Kuh, & Carini (2005) examined effective educational practices, found to promote student engagement, and compared the engagement levels of international students and American students attending colleges and universities in the United States. NSSE survey data, from over 175,000 college students, were used in this study. They found that international students to be more engaged overall in educationally purposeful activities than the American student counterparts, especially in the first year of college. First-year international students ranked much higher in levels of academic challenge and student-faculty interaction. International students also reported greater gains across the
board in terms of personal and social development as well as general education advancement. First-year international students also reported using computer technology more frequently in learning activities for their courses. However, by the senior year, international students did not significantly differ from their American counterparts in terms of engagement scores. Researchers believed that by their senior year, international students became more adapted to the American university culture and less engaged than when they were first-year university students.

*Classroom Survey of Student Engagement*

The NSSE survey instrument is a product of research conducted by the University of Indiana on college student engagement. Although the data is collected and used by numerous baccalaureate institutions across the United States, there are some limitations in the data instrument for measuring engagement activities in some contexts. The NSSE instrument compares levels of engagement between collegiate institutions, colleges within the institution, or departments within the colleges. Although the instrument covers various aspects of student engagement, it does not focus on student engagement in a particular course. Researchers and subjects have found the NSSE data to be highly beneficial in program evaluation as well as adding to the body of knowledge of student engagement. However, the survey instrument items are not specific enough to address the problem origins of student disengagement in specific courses. The NSSE data results are available by college, division, and department; however, the results are not available for a particular course. There is limited research to identify levels and types of engagement, related to various desirable outcomes, especially student engagement in a particular course of study. The CLASSE instrument is designed to address engagement issues in a
particular course of study. It is to be administered to students in the classroom and addresses classroom engagement in that course. The CLASSE survey instrument was piloted in many colleges and universities in fall semester of 2006 and spring semester of 2007 by the University of Florida in conjunction with the University of Indiana (Ouimet & Smallwood, 2005). The CLASSE survey instrument was utilized in this research project to measure student engagement activities in the classroom.

**Nursing Student Engagement**

Diekelmann (2005) examined the concept of engagement in the classroom with nursing student and teacher as co-creators of a learning environment. Nursing instructors, who reported levels of boredom while teaching in the classroom, also had students in their classrooms who were not engaged in the learning process. For positive student outcomes in the classroom, teachers must be willing to explore new processes and change the environment of the classroom. Diekelmann (2005) believes that classroom engagement and learning increases in classrooms in which teachers actively listen to their students. The ability to foster engagement in the classroom is more than a list of techniques, but a narrative pedagogy in which teacher and student are co-creating and learning together. Teachers, who nurture engagement in the classroom, will do more than teach what they already know. They will encourage and engage themselves and their students to embrace a narrative pedagogy. This narrative pedagogy encourages dialogue and thinking with peers and students in an environment in which learning and knowledge is also sought outside the classroom. This will not only engage students while they are students in higher education, but encourage them to become life-long learners (Burrage, Shattell, & Habermann, 2005).
Although educational research has focused on student engagement, limited research has been published in regard to nursing student engagement. Educational nursing research has examined student learning in hospital and clinical settings, in which students are participating in hands-on instruction (Idczak, 2007). These learning environments tend to be more engaging by design, because students are encouraged to use problem solving techniques in which they are actively participating with the patients, faculty members, staff members, family members, peers, and the healthcare environment (O'Connor, 2001; Rideout, 2001). However, educational nursing literature is limited in current research that addresses the relationship between nursing student classroom engagement and academic performance. This represents a gap in research literature with regard to nursing student classroom engagement activities. Before students can practice the art and science of nursing in a clinical setting, a knowledge base and skill set must be acquired that are congruent with established nursing standards. If students are not engaged and learning in the classroom, there may be knowledge deficits that could impair their clinical performance and ability to safely care for patients. This could lead to decreased levels of student satisfaction with their course of study or academic failure. Research findings reveal that knowledge deficits and student dissatisfaction with their educational experience increase the likelihood of student failure and attrition (Glossop, 2002; Last & Fulbrook, 2003; Taylor, 2005).
Summary

Academic failure is believed to be a primary contributor to increased attrition rates in schools of nursing (Glossop 2002; Last & Fulbrook, 2003). As the nursing shortage persists nationwide, it is imperative that schools of nursing incorporate evidence-based strategies to increase nursing student retention thereby increasing graduation rates. Research reveals that student engagement plays an integral part to student success in all areas of their collegiate experience. Increasing college student engagement is associated with many positive outcomes that are shown to foster success for the college and university students (Diekelmann, 2005; Kuh 2005, 2006).

Although teaching methodologies in college classrooms have changed very little over the years, the average college student has changed. Data suggest that college and university students are demographically different from years past. There are more nontraditional students attending college than ever before. Academia must implement changes in order to meet the diverse needs of an increasingly diverse student population. Institutions of higher learning can release expenditures for programs that promote a more inviting and engaging campus, but the substantive changes must occur in the classroom.

Research also reveals that students want to be challenged in their academic pursuits, but many are not experiencing the levels of engagement that positively contribute to their academic success. Although current research literature addresses overall engagement of the college or university student within the context of the institution, there is limited research concerning college student engagement in the classroom and more specifically nursing student engagement in the classroom. Faculty
members must create an atmosphere in which students are welcomed as learners and co-
learners if student engagement in the classroom is to exist and thrive.
CHAPTER THREE: METHODOLOGY

General Methodology

The research question for this research project asks, “Is there a relationship between university nursing student classroom engagement activities and academic performance?” This chapter discusses the methodology used to answer the research question. The project was conducted using a correlational research design to examine the relationship between nursing student classroom engagement activities and academic performance. The sample population was taken from the nursing students enrolled in nursing courses at a regional university. Seven courses were chosen for inclusion in the study, each from a different semester and level of the nursing curriculum.

The CLASSE was administered during class in the 11th or 12th week of the spring 2007 semester by the researcher. Subjects were nursing students, in one of the chosen nursing courses, who were present in class on the day the survey was administered, signed the consent form (Appendix A), and completed the CLASSE instrument (Appendix B) and demographic data sheet (C). The variable nursing student classroom engagement activities was measured using student responses to the items in the CLASSE survey instrument. This Likert scale instrument has 39 questions with four possible answers to each question; resulting in ordinal level data. The additional demographic response sheet was attached to the survey instrument, including items that addressed the variables of gender, race, age, and first-generation college status. Course grades were obtained after the course was completed. The variable academic performance was measured by the numeric grade earned in the respective nursing courses.
Descriptive statistics were used to describe the demographic characteristics of the sample population. Parametric testing was also used to examine any difference among the demographic groups with regard to the grades earned in the course and the survey item responses. Correlational analysis, using Spearman’s Rho, was calculated to explore the relationships between the survey item responses and the grade earned in the course. The data was organized and analyzed in the aggregate form, using all the nursing responses in each course. The data was also organized by course, in which correlational analysis was calculated within each of the seven nursing courses surveyed.

Research Context

The research study was conducted at a small regional university in a southwestern region of the United States. The division II university has an approximate enrollment of 7,000 students. The university consists of five academic colleges, in which baccalaureate and master’s degrees are offered in a variety of disciplines, as well as one Doctor of Philosophy degree. The nursing school has been conferring baccalaureate degrees in nursing since 1974 and is the largest department in the Health Sciences College. The school of nursing also offers completion degrees to registered nurses who have not earned a baccalaureate degree. The master’s degrees in nursing are offered in three different nursing role specializations. The courses chosen for the study were not a part of the curriculum for either of these groups. Only students who were seeking their first degree in nursing were chosen for inclusion. The data were collected in the spring 2007 semester in which 350 baccalaureate nursing students were enrolled in various core nursing courses.
Subjects

The sample population for this research study consisted of baccalaureate nursing students, seeking a first-time degree in nursing, attending a small regional university in a southwest region of the United States. The convenience sample was chosen from the nursing students who were enrolled in core nursing courses in the spring semester of 2007. Nursing students who had earned a previous associate, diploma, or baccalaureate degree in nursing were not included in the study. Seven courses were chosen at all levels and semesters of the nursing curriculum to be included in this research project. Each student enrolled in one of the aforementioned courses had an opportunity to participate in the survey by completing the CLASSE survey instrument during the class time in each of the respective courses.

The core freshman nursing course can be taken in either freshman semester and is designed to be taken by students before a secondary admission into the nursing program. This secondary admission occurs at the first semester of the sophomore year of study. Students who have been admitted into the nursing program begin taking foundational nursing courses in the first semester of the sophomore year. Only students, who have been admitted into the nursing program and have not earned another degree in nursing, may enroll in these courses. The baccalaureate nursing curriculum is designed to offer nursing courses beginning the first semester of the sophomore year and every semester thereafter, until graduation. By selecting the primary didactic course in each of the six semesters, all students enrolled in these courses had an opportunity to participate in this study and the possibility of duplicate participant surveys was unlikely. These six courses
and the freshman nursing course comprise the seven courses chosen for this research project.

Seven nursing courses at all levels of the nursing curriculum were chosen for survey administration, giving the majority of students, actively enrolled in the nursing program, an opportunity to participate in the study. Subjects were surveyed in the following nursing courses: an introductory freshman course, two sophomore courses, two junior courses, and two senior courses. The freshman course was designed to be taken by students before admission into the nursing program. The two sophomore nursing courses are foundational courses in which students are introduced to fundamental nursing concepts. The first-semester junior course focuses on the acute care of the adult in physical and mental distress. Students enrolled in the second-semester junior course are caring for the needs of the childbearing family. The first-semester senior course addresses the needs of patients in complex healthcare situations. The nursing capstone course is taken in the last semester, which prepares students for practice as a professional nurse.

There were 350 nursing students enrolled in the seven courses chosen for the research project. A total of 317 survey instruments were returned for a response rate of 90.57%. The high response rate is attributed to two factors. The student subjects were an interested population and were stakeholders with a common interest in nursing education. Additionally, the survey instrument was administered during class time for each course, giving each student that was present in class on the day of survey administration the opportunity to participate in the study.

The subjects completed an additional demographic data sheet (Appendix A), which included gender, age, first-generation college status, and race. During
administration of the CLASSE instrument, students were given the definition of first
generation college students as “neither parent has a four-year college degree” as defined
by guidelines set forth by the institution of survey (Barnes, 2007).

Instrument

The CLASSE survey instrument (Appendix C), a product of faculty research and
work at the University of Florida, was developed in conjunction with originators of the
NSSE survey instrument. It was designed to build on previous knowledge gained by
NSSE instrument data and further explore information on student participation in
institutional projects as well as programs provided for their learning and personal
development. The CLASSE survey instrument collects data concerning the engagement
activities that occur in the college or university classroom. The participant responses to
the 39 questions in the CLASSE instrument provided the data to measure student
engagement activities in the classroom. There are 28 questions in the CLASSE
instrument which are based on questions from the NSSE instrument. The items included
in the survey instrument were developed to represent empirically confirmed "good
practices" in undergraduate education (Ouimet & Smallwood, 2005). That is, the
instrument items reflect behaviors by students and institutions that are associated with
desired outcomes of college attendance. The instrument was also based on some of the
best known “good practices” included in “Seven Principles for Good Practice in
Undergraduate Education” by Chickering and Gamson (1987).

The first 38 questions were asked of each participant of the study, in each course.
There was also an opportunity for the researcher to ask eight additional questions which
may be created to target specific items in the course, such as journaling activities or the
use of case studies in the classroom. For the purposes of this study, one additional course specific question was added to each course instrument. Question 39 addressed a unique engagement activity specific to each individual surveyed course. Appendix D provides a list of the course specific survey items used in this project. Each question in the CLASSE survey instrument provides four possible Likert scale answers. For each of the questions, the subjects were asked to choose the answer that represented the most factual response to the question. The survey instrument used in this project included survey items that addressed engagement activities, cognitive skills, other educational practices, class atmosphere, and a course specific engagement activity. The subjects were also asked to provide a student identification number on the CLASSE form. The additional demographic sheet was completed by the subjects at this time.

As with all surveys, the CLASSE instrument depends on participant self-reports for data collection. The conjecture, that the responses of the subjects were truthful and accurate, represents an assumption of this study. Pike (1995) examined the validity of self-reports, and believes accuracy can be affected by two general phenomena. The first concept refers to a respondents’ ability to provide accurate information in response to questioning (Wentland & Smith, 1993). The second concept addresses any unwillingness of a respondent to share what they believe to be truthful information (Aaker, Kumar, & Day, 1998). Research reveals that people answer questions honestly, unless the answer might place them in an awkward, embarrassing, or uncomfortable position (Bradburn & Sudman, 1988).

The degree to which any instrument is reliable is another important indicator of psychometric quality. Reliability is the degree to which a set of items consistently
measure the same thing across respondents and environments (Ary, Jacobs, Razavieh, & Sorensen, 2006). To establish reliability and validity, the authors of the NSSE instrument, conducted extensive psychometric analysis following the administrations of the instrument at five separate occasions. The analyses were based on 3,226 students in 12 institutions in spring 1999, 12,472 students in 56 institutions in fall 1999, 63,517 students at 276 institutions in spring 2000, 89,917 students at 321 institutions in spring 2001, and 118,355 students at 366 institutions in spring 2002. The psychometric tests indicated the NSSE survey instrument to be statistically reliable (Kuh, 2003). Because the CLASSE instrument is in the piloting stage many of these analyses for the CLASSE instrument have not yet been completed, however the process, for the development and formation of CLASSE and NSSE survey items, was similar.

The yearly administration of the NSSE instrument to colleges and universities is completed by a consistently prescribed administration method. The subjects are randomly selected from one-half of all freshmen and seniors in the institution of survey. Those selected are given the opportunity to participate in the survey. Depending on institutional preference, the survey is administered by traditional mail or electronic mail. Responses are collected, organized, and analyzed by the Center for Postsecondary Research. The results are reported to the participating institution.

The guidelines established by the University of Indiana and University of Florida were followed in the administration of CLASSE instrument. For this project, all nursing students enrolled in one of the seven chosen nursing courses were given the opportunity to participate in the survey. The survey instrument was administered by the researcher, in the 12th or 13th week of spring 2007 semester. The survey administration occurred during
class, at a time agreed upon by the researcher and faculty member of all the surveyed courses. The exception was the administration of the instrument to the students in the freshman, introductory course. The course does not last for the entire semester; therefore it was administered in the 8th, and final, week of the spring 2007 semester instead of the 12th or 13th week.

The paper version of the CLASSE survey instrument was administered in each course by the researcher. The survey instrument was accompanied by a cover letter and consent form (Appendix A) that explained the purpose of the study, procedures, potential risks and benefits, confidentiality, and the rights of research subjects, as well as information concerning participation. Students were assured in writing that participation or non-participation in the survey would not affect their grade nor would there be any remuneration given for participation. Definition of “first-generation college student” status was explained to the subjects as “neither parent has a four-year college degree”. Most of the subjects were enrolled in other courses; therefore the subjects were instructed to answer the survey based on the classroom course in which the survey was administered. Additionally they were also given time to ask questions before administration of the survey.

In 2005, those schools participating in NSSE had a 42% response rate for the web version as compared to a 35% response rate for the paper version. These response rates were based on paper versions that were mailed to the student’s address. For this project the nursing student population surveyed in spring 2007 consisted of 350 students with 317 completed student instruments for a response rate of 90.57%.
Procedures

Application and approval was obtained from the National Survey of Student Engagement Board of Trustees to participate in the CLASSE pilot study (Appendix F). Application was submitted and approval to conduct research was obtained from the research university’s Internal Review Board (IRB) (Appendix E). Additionally IRB consent was obtained from the supporting educational institution, Liberty University (Appendix G). Rosters for each of the specified courses were obtained from the University’s Office of Planning and Analysis for the spring semester of 2007. Each instructor of record, for the surveyed courses, was contacted in writing and by phone concerning the details of the research project. As instructed by CLASSE administration instructions, appointments were made with each instructor to administer the CLASSE instrument during the 12th and 13th week of the spring 2007 semester. The researcher provided a letter of explanation to the instructors of record for each of the courses to be surveyed. They were also provided with a request for final numerical grades for each of the students in the surveyed courses. The letter contained information that described the research project, the IRB process, as well as assurance of student anonymity.

The student CLASSE instrument was administered as a cross-sectional survey during the 12th and 13th week of the spring 2007 semester, using the paper version of the instrument. Research findings suggest that responses do not differ significantly based on web or paper surveys (Carini, Hayek, Kuh, Kennedy, & Ouimet, 2003); however, convenience was a factor in using the paper version in class. Having access to each student in the course at one time provided a return rate of 90.57%. The first pages of the survey consisted of a cover letter and consent form (Appendix B) containing information
stating the purpose of the study, the procedures involved, the potential risks and discomforts, the potential benefits, as well as additional information concerning the research process. Student anonymity was assured in writing and immediately before administration of the survey instrument. Also included was a place for consent by participant signature.

Verbal instructions were given before the administration of the survey in each class. The subjects were given assurance the results of the study will be available upon completion of the project in aggregate and by course. Students were once again assured of participant anonymity, as well as no remuneration for participation or consequences for non-participation. A definition of “first-generation college student” was also given verbally to the subjects. For purposes of the study, a first-generation college student is a student in which neither of the parents of the student have a four-year college degree (Barnes, 2007).

An opportunity for participant questions was allowed before administration of the survey. The students asked such questions as, “Do we complete the survey for this course or do we consider all our courses?” and “What will this information be used for?” All questions of the subjects were answered by the researcher according to administration guidelines and items outlined in the cover letter. All the surveys were administered according to guidelines, at the times as agreed upon by the researcher and instructors of record. Once all the surveys were administered, the forms were placed in a secured area. Rosters with the numerical course grades were collected at the end of the spring 2007 semester. The survey instruments and the numerical course grades will be kept for one year in a locking cabinet. After that time they will be appropriately destroyed.
Analysis of Data

Data Organization

The demographic and survey instrument data were compiled, organized, and electronically stored using the *Statistical Package for Social Sciences* (SPSS) software. Headings for the data included each of the demographic items, nursing course in which the instrument was administered, responses to each of the 39 questions, and final numeric course grade. Each student was identified by a numeric code chosen by the participant.

Each of the 39 questions in the CLASSE survey instrument had four possible answers. Each possible answer was given a score of one, two, three, or four. For example, the possible answers to question one are: “never”, “1 to 2 times”, “3 to 5 times”, and “more than 5 times”. The numeric values given to the answers were 1, 2, 3, and 4 respectively. This is consistent with the process used by the Indiana University Center for Postsecondary Research to score and analyze data from the National Survey of Student Engagement (Kuh, 2003).

For purposes of this study, academic performance was measured by the numerical grade earned by the subjects in each course. Although grades earned by the students at the survey institution, are reported as nominal, request was made of the instructors to supply the numerical grade to the researcher. The numerical course grades were collected from the instructor of record at the end of the spring 2007 semester.

Final grades for the nursing courses surveyed in this project, were determined by objective testing in the classroom. The number of exams for each course varied from three to five non-comprehensive examinations and one comprehensive final examination. Percentages given to each examination differed with each course, with a range of 25% to
50 % for the final examination. The final grade for the freshman introductory nursing course was determined by subjective essay testing.

For purposes of this research project, data for the final numerical course grade was classified as interval level data. There has been controversy in the interpretation of data level for course grades. However, whether grades are considered interval or ratio level data, statistical tests remain the same (Velleman & Wilkinson, 1993). Determining data level for self-reported answers from a Likert scale can be controversial as well. The more possible answers in a survey item, the more likely a Likert scale can be calculated statistically as interval level data. However, many believe five to seven answer items to be ideal for Likert scales (Clason & Dormody, 1994). With four possible answers per question item in the CLASSE survey, the engagement response data was treated statistically as ordinal level data.

Statistical Procedures

Descriptive statistics were calculated to describe the frequency of variables in the sample population. These calculations provided the demographic summaries of the sample population as well as quantitative measurement descriptions. In this study, descriptive statistics gave a concise demographic description of the sample and various subsamples within the groups. These descriptions were reported in narrative and table format. These results are extensively discussed in chapter four of this document.

According to Marczyk, DeMatteo, and Festinger (2005), the goal of correlational research is to determine if there is a relationship between two or more variables. Spearman’s rho is an ordinal coefficient of correlation that is used when data is ranked or ordinal, as with the CLASSE survey instrument. Pearson’s $r$ is a correlation coefficient
used to measure the linear relationship between data sets of interval or ratio level, such as the numeric grade earned in a course. When variables have different scales of measurement, the correlation coefficient for the “lesser scale of measurement” should be used for correlational analysis (Ary, et al., 2006). However, O’Brien believed (1979, p. 852) that Pearson’s r could be used with ordinal level data, stating “If the underlying (true) intervals between ordinal categories are not equal, but are instead randomly different, this creates little distortion when using Pearson’s r.” Correlational analysis, using Spearman’s rho was determined to be the appropriate correlation coefficient used to explore the relationship between university nursing student engagement classroom engagement activities and academic performance. However, a correlational research design makes no inference to cause-and-effect conclusions. The level of significance for the study was set at $p < .05$ to reject the null hypothesis, which indicates there is no relationship between university nursing student classroom engagement activities and academic performance.

Student engagement scores were obtained from the CLASSE instrument data, once ranking order numbers were assigned to each answer as described in the data organization section of this chapter. The numerical grade earned in the nursing course was used to represent academic performance. Student responses to the questions in the CLASSE instrument and demographic sheet, as well as the final course grade were entered by computer into an SPSS database. Missing values for engagement item responses and age were replaced with the series mean. Three demographic variables were coded as nominal data, which included gender, first-generation college status, and race. Additional variables were also included in the database, such as nursing course in which
the student was surveyed and a student identification number reported by the student. Although age was reported as interval data in years, it was categorized into two nominal groups which included “traditional students, 25 and under” and “non-traditional students, over 25”. The delineation of age 25 has been used historically in educational research to document the difference between traditional and non-traditional students (Bean & Metzner, 1985).

Parametric testing was conducted to examine any differences in the final course grades and the demographic categories from the survey. Statistical analyses using t tests were calculated to ascertain any statistically significant differences in the grades earned by the students between gender groups, traditional and non-traditional student age groups, and first-generation college status groups. Analysis of variance (ANOVA) was used to calculate the difference in the grades earned by the students among racial groups.

Statistical analysis was also conducted to examine the difference in student responses to each of the 39 survey items and the demographic categories from the survey. In order to examine the difference in student responses and the demographic categories, t tests were calculated for each question by gender groups, traditional and non-traditional age groups, and first-generation college student groups. Statistical analysis using ANOVA was used to determine the difference between question responses by racial group.

Correlational analysis was used to compare the variables of student engagement activities and academic performance. Using Spearman’s rho, student responses to each of the questions and course grades were compared to determine any statistically significant relationships. The individual engagement activity scores and course grades were
compared, analyzed, and reported in aggregate form, using all the participant data. The engagement responses and course grades were also correlated within each individual nursing course. Each statistically significant relationship between course grades and survey engagement item was reported individually with statistical analyses. These significant relationships were reported as comprehensive results as well as individual course results. The analyses and results of the research study are given in more detail in the next chapter.

Summary

The research project was designed to answer the question, “Is there a relationship between university nursing student classroom engagement activities and academic performance?” Correlational research was designed and conducted to examine the relationship between university nursing student’s classroom engagement and academic performance. Descriptive statistics, using demographic data, were calculated in order to describe the sample. Parametric statistics were calculated and analyzed to determine any significant differences in the course grades among demographic groups in the sample. Parametric testing was also conducted to ascertain any significant differences in the survey responses among the demographic groups. Using correlational analysis, response data from the CLASSE survey instrument and numeric grades course grades were compared to determine any statistically significant relationships. The significance for this research project was set at the $p < .05$ level. The next chapter presents detailed results of the research project.
CHAPTER FOUR: FINDINGS

Overview

This study was inspired by the need to lower attrition rates for university nursing students, thereby increasing graduation rates and increasing the number of professional registered nurses in the workforce. Because many schools of nursing have high attrition rates, it is important to not only recruit students into the field of nursing, but retain them (AACN, 2006, 2007). Research studies revealed the most cited reason for leaving nursing school was failure in nursing courses that halted progression to graduation (Glossop, 2002; Last & Fullbrook, 2003). This study examined the relationship between classroom engagement activities of university nursing students and academic performance. The research question asks: “Is there a relationship between university nursing student classroom engagement and academic performance?”

Independent t tests and ANOVA were calculated to determine any differences between the demographic groups with regard to grade earned in the course and engagement item responses. Using Spearman’s rho, the ranking score of each question was compared to the final numeric grade earned in the course. The comparison results were organized and reported using all the collective data in aggregate form and within each individual course.

Participation

The convenience sample for this research project included all students who were registered in seven selected nursing courses spanning the four years of the professional nursing curriculum at one regional university. Although the freshman nursing course is required, students may enroll in the course before acceptance into the nursing program.
Because some students were taking multiple nursing courses in one semester, only one course, in each of seven semesters of the nursing curriculum, was chosen for the survey. This prevented the likelihood of duplication of responses by the same students.

A total of 350 students were registered for the seven courses, with 317 subjects in the research project for a participation rate of 90.57%. Participation by class ranged from 82.14% to 100%. Table 1 shows the participation percentage rate for each of the courses as well as the overall participation rate.
Table 1

Participation Rate ($N = 317$)

<table>
<thead>
<tr>
<th>Nursing Course</th>
<th>Course Enrollment</th>
<th>Participation (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>70</td>
<td>60</td>
<td>85.71</td>
</tr>
<tr>
<td>Sophomore I</td>
<td>51</td>
<td>44</td>
<td>86.27</td>
</tr>
<tr>
<td>Sophomore II</td>
<td>52</td>
<td>52</td>
<td>100.00</td>
</tr>
<tr>
<td>Junior I</td>
<td>56</td>
<td>46</td>
<td>82.14</td>
</tr>
<tr>
<td>Junior II</td>
<td>45</td>
<td>42</td>
<td>93.33</td>
</tr>
<tr>
<td>Senior I</td>
<td>41</td>
<td>39</td>
<td>95.12</td>
</tr>
<tr>
<td>Senior II</td>
<td>35</td>
<td>34</td>
<td>97.14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>350</strong></td>
<td><strong>317</strong></td>
<td><strong>90.57</strong></td>
</tr>
</tbody>
</table>
Description of the Sample

Gender and age characteristics of the subjects ($N=317$) appear in Table 2. The sample by gender included females ($n = 273, 86.1\%$) and males ($n = 44, 13.9\%$). The age range for subjects ($N=317$) was 18 to 56 with a mean age of 25.85 years ($SD = 7.46$). One participant did not report an age on the demographic sheet and the missing datum was replaced with the series mean. The median age for this group was 23 years with 151 subjects (47.8\%) reporting an age of 22 years or younger. The data revealed 62 students (35.1\%) reporting an age of 21 years for the sample mode. The sample contained 22 students (6.9\%) under 20 years of age, 225 students (71.0\%) from age 20 to 29, 44 students (13.9\%) from age 30 to 39, 20 students (6.3\%) from age 40 to 49, 5 students (1.6\%), and 1 (0.3\%) unreported age. Students were defined by age as traditional (age 25 and under, $n = 206$) and non-traditional (age 26 and over, $n = 110$).
Table 2

Description of the Sample I (N = 317)

<table>
<thead>
<tr>
<th>Gender and Age</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>44</td>
<td>13.9</td>
</tr>
<tr>
<td>Female</td>
<td>273</td>
<td>86.1</td>
</tr>
<tr>
<td>under 20</td>
<td>22</td>
<td>6.9</td>
</tr>
<tr>
<td>20-29</td>
<td>225</td>
<td>71.0</td>
</tr>
<tr>
<td>30-39</td>
<td>44</td>
<td>13.9</td>
</tr>
<tr>
<td>40-49</td>
<td>20</td>
<td>6.3</td>
</tr>
<tr>
<td>50-56</td>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>unreported</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>25 and under</td>
<td>206</td>
<td>65</td>
</tr>
<tr>
<td>over 25</td>
<td>110</td>
<td>34.7</td>
</tr>
<tr>
<td>unreported</td>
<td>1</td>
<td>0.3</td>
</tr>
</tbody>
</table>
The characteristics of subjects with regard to first-generation college status and race appear in Table 3. The classification of first-generation college student was defined as “neither parent has a four-year college degree”. Nine students did not report first-generation college status, but all students reported race.
Table 3  
Description of the Sample II ($N = 317$)

<table>
<thead>
<tr>
<th>First-Generation and Race</th>
<th>$n$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>First generation college student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>133</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>175</td>
<td>55.2</td>
</tr>
<tr>
<td>Unreported</td>
<td>9</td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>243</td>
<td>76.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>39</td>
<td>12.3</td>
</tr>
<tr>
<td>Black non-Hispanic</td>
<td>15</td>
<td>4.7</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>17</td>
<td>5.4</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>Non-resident alien/Foreign National</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100</td>
</tr>
</tbody>
</table>
Description of the Sample by Course

The descriptions of the course subsamples are listed in Table 4. Frequency data revealed there were more females than males in the sample (N = 317). There were also more female than male subjects in each course. The number of males within the courses ranged from lowest frequency (n = 3, 6.8%) to highest frequency (n = 14, 23.3%).

Age groups were categorized by traditional (≤ 25) and non-traditional (>25). In each course there were more students who reported their age as 25 years or younger. The freshman course contained the highest number of traditional students as categorized by age (n = 39, 66.1%). However the first-semester junior course had the highest percentage of traditional students as categorized by age (n = 34, 73.9%).

Students were asked to report “yes” or “no” as to their status as a first-generation college student. By course, more students reported they were not a first-generation college student with one exception, the first-semester senior course. The frequency for first-generation college students ranged from (n = 14, 31.8%) to (n = 22, 57.9%) by course.

The demographic categories by race included White non-Hispanic (White), Hispanic, Black non-Hispanic (Black), Asian/Pacific Islander (Asian/PI), American Indian/Alaskan Native (AI/AN), and Non-resident alien/Foreign National (NA/FN). There were no individual courses in which students from all six racial categories were represented. The second semester senior course had the lowest diverse representation with students from three racial categories. The freshman and second-semester senior course had the highest representation with students from five of the racial groups.
### Table 4

**Description of the Course Subsamples**

<table>
<thead>
<tr>
<th></th>
<th>Freshman</th>
<th>Soph I</th>
<th>Soph II</th>
<th>Junior I</th>
<th>Junior II</th>
<th>Senior I</th>
<th>Senior II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14 (23.3)</td>
<td>3 (6.8)</td>
<td>9 (17.3)</td>
<td>5 (10.9)</td>
<td>4 (9.5)</td>
<td>4 (10.3)</td>
<td>5 (14.7)</td>
</tr>
<tr>
<td>Female</td>
<td>46 (76.7)</td>
<td>41 (93.2)</td>
<td>43 (82.7)</td>
<td>41 (89.1)</td>
<td>38 (90.5)</td>
<td>35 (89.7)</td>
<td>29 (85.3)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 25</td>
<td>39 (66.1)</td>
<td>32 (72.7)</td>
<td>35 (76.3)</td>
<td>34 (73.9)</td>
<td>23 (54.8)</td>
<td>25 (64.1)</td>
<td>18 (52.9)</td>
</tr>
<tr>
<td>&gt; 25</td>
<td>20 (33.9)</td>
<td>12 (27.3)</td>
<td>17 (32.7)</td>
<td>12 (26.1)</td>
<td>19 (45.2)</td>
<td>14 (35.9)</td>
<td>16 (47.1)</td>
</tr>
<tr>
<td><strong>1st Gen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27 (47.4)</td>
<td>14 (31.8)</td>
<td>21 (43.8)</td>
<td>15 (32.6)</td>
<td>18 (42.9)</td>
<td>22 (57.9)</td>
<td>16 (48.5)</td>
</tr>
<tr>
<td>No</td>
<td>30 (52.6)</td>
<td>30 (68.2)</td>
<td>27 (56.3)</td>
<td>31 (67.4)</td>
<td>24 (57.1)</td>
<td>16 (42.1)</td>
<td>17 (51.5)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>42 (70)</td>
<td>37 (84.1)</td>
<td>35 (67.3)</td>
<td>37 (80.4)</td>
<td>28 (66.7)</td>
<td>35 (89.7)</td>
<td>29 (85.3)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12 (20)</td>
<td>4 (9.1)</td>
<td>6 (11.5)</td>
<td>4 (8.7)</td>
<td>7 (16.7)</td>
<td>2 (5.1)</td>
<td>4 (11.8)</td>
</tr>
<tr>
<td>Black</td>
<td>3 (5)</td>
<td>1 (2.3)</td>
<td>5 (9.6)</td>
<td>2 (4.3)</td>
<td>2 (4.8)</td>
<td>1 (2.6)</td>
<td>1 (2.9)</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>2 (3.3)</td>
<td>2 (4.5)</td>
<td>6 (11.5)</td>
<td>3 (6.5)</td>
<td>4 (9.5)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>AI/AN</td>
<td>1 (1.7)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (2.6)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>NA/FN</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (2.4)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>
Academic Performance and Demographic Data

In this study, the relationship between nursing student classroom and academic performance was examined. Academic performance was represented by the numerical grade earned in the course. There was no significant difference in grades earned in the course with regard to gender, race, age group or first-generation student status.

The mean grade earned in the surveyed courses for all subjects was 85.94 (SD = 8.47). The mean course grade and standard deviation for each course that was surveyed is listed in Table 5. Missing values for the age variable were replaced with the series mean. The Levene’s Test for Equality of Variance was conducted to ascertain homogeneity of variance. For the appropriate statistical tests, p values reported were based on results from the Levene’s test. An independent t test was calculated comparing course grades by gender, age classification, first-generation college status, and race. There was no statistically significant difference among these variables which supports the hypothesis that states, “There is no difference in course grades among the demographic groups of gender, age, first-generation college status, and racial groups.” The null hypothesis was rejected.
Table 5

Academic Performance by Course

<table>
<thead>
<tr>
<th>Academic Performance</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman course</td>
<td>60</td>
<td>95.03</td>
<td>6.86</td>
</tr>
<tr>
<td>Sophomore I</td>
<td>44</td>
<td>89.68</td>
<td>4.86</td>
</tr>
<tr>
<td>Sophomore II</td>
<td>52</td>
<td>85.45</td>
<td>5.75</td>
</tr>
<tr>
<td>Junior I</td>
<td>46</td>
<td>79.14</td>
<td>6.11</td>
</tr>
<tr>
<td>Junior II</td>
<td>42</td>
<td>78.83</td>
<td>5.80</td>
</tr>
<tr>
<td>Senior I</td>
<td>39</td>
<td>80.67</td>
<td>6.31</td>
</tr>
<tr>
<td>Senior II</td>
<td>34</td>
<td>89.80</td>
<td>5.98</td>
</tr>
</tbody>
</table>
Classroom Engagement Activities and Demographic Data

For purposes of this study, the 39 item CLASSE instrument item responses were used to measure classroom student engagement activities (Appendix C). Analysis of the internal consistency reliability of the instrument for the sample revealed a Chronbach’s alpha level of .8566. Responses data from all subjects were used to calculate statistical tests using classroom engagement activities and demographic variables. An independent \( t \) test was calculated for engagement item scores by question and grouped by gender. The Levene’s Test for Equality of Variance was conducted to ascertain homogeneity of variance. For the appropriate statistical tests, \( p \) values reported were based on results from the Levene’s test. An independent \( t \) test was calculated for engagement item scores by question grouped by gender. Three questions revealed a statistically significant difference.

1. (Question 5) How often have you included diverse perspective (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments in your class? \( t(315) = 2.918, p = .004 \), (two-tailed)

2. (Question 30) How frequently do you take notes in your class? \( t(315) = -3.026, p = .003 \), (two-tailed)

3. (Question 39, senior I course specific) How much do the case study activities encourage interest in the topics addressed in class? \( t(315) = -2.517, p = .016 \), (two-tailed)

An independent \( t \) test was conducted to explore the differences between engagement scores of students 25 years and younger and students over 25 years of age.
There were 11 questions in which statistical testing revealed a significant difference in the engagement question answers of these two groups.

1. (Question 2) How often have you contributed to a class discussion that occurred during your class? $t(315) = -2.73, p = .007$, (two-tailed)

2. (Question 3) How often have you prepared two or more drafts of a paper or assignment in you class before turning it in? $t(315) = -2.336, p = .021$, (two-tailed)

3. (Question 4) How often have you worked on a paper or a project in your class that required integrating ideas or information from various sources? $t(315) = -2.11, p = .036$, (two-tailed)

4. (Question 6) How often did you come to class without having completed readings or assignments? $t(315) = 3.208, p = .002$, (two-tailed)

5. (Question 10) How often have you tutored or taught other students in your class? $t(315) = -2.034, p = .043$, (two-tailed)

6. (Question 17) How often have you discussed ideas from your readings or classes with your instructor outside of class? $t(315) = -2.296, p = .022$, (two-tailed)

7. (Question 25) How often in your class have you been required to prepare written papers or reports of more than 5 pages in length? $t(315) = -2.255, p = .025$, (two-tailed)

8. (Question 27) In a typical week in your class, how many homework assignments take you more than one hour each to complete? $t(315) = -2.70, p = .007$, (two-tailed)
9. (Question 28) In a typical week in your class, how often do you spend more than 3 hours preparing for your class (studying, reading, doing homework or lab work, analyzing data, rehearsing, and other academic matters)? \( t(315) = -3.255, p = .001 \), (two-tailed)

10. (Question 29) How many times have you been absent so far this semester in your class? \( t(315) = -2.812, p = .005 \), (two-tailed)

11. (Question 31) How often do you review your notes prior to the next scheduled meeting in you class? \( t(35) = -2.007, p = .046 \), (two-tailed)

An independent t test was conducted to compare engagement question responses between students who are first-generation college students and those who were not. There were six questions in which there was a statistically significant difference.

1. (Question 5) How often have you included diverse perspective (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments in your class? \( t(315) = 2.40, p = .017 \), (two-tailed)

2. (Question 25) How often in your class have you been required to prepare written papers or reports of more than 5 pages in length? \( t(315) = 2.37, p = .019 \), (two-tailed)

3. (Question 34) How interested are you in learning the course material? \( t(315) = 2.19, p = .029 \), (two-tailed)

4. (Question 36) How much do you enjoy group work with your classmates in your class? \( t(315) = 1.998, p = .047 \), (two-tailed)
5. (Question 39, freshman course specific) How much have the assigned journaling activities encourage interest in the topics addressed in class?

\[ t(315) = 2.52, \ p = .015, \text{ (two-tailed)} \]

6. (Question 39, sophomore II course specific) How much have the assigned journaling activities encourage interest in the topics addressed in class?

\[ t(315) = 2.02, \ p = .049, \text{ (two-tailed)} \]

Statistical analysis, using ANOVA, was conducted to determine if a difference in responses to engagement questions among racial groups existed. Seven questions revealed a difference of statistical significance.

1. (Question 1) How often have you asked questions during your class?

\[ F(5, 311) = 2.385, \ p = .038, \text{ (two-tailed)} \]

2. (Question 2) How often have you contributed to a class discussion that occurred during your class? \[ F(5, 311) = 2.551, \ p = .028, \text{ (two-tailed)} \]

3. (Question 13) How often have you discussed grades or assignments with the instructor of your class? \[ F(5, 311) = 2.566, \ p = .027, \text{ (two-tailed)} \]

4. (Question 22) How much of your coursework emphasized synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships? \[ F(5, 311) = 2.513, \ p = .03, \text{ (two-tailed)} \]

5. (Question 27) In a typical week in your class, how many homework assignments take you more than one hour each to complete?

\[ F(5, 311) = 2.985, \ p = .012, \text{ (two-tailed)} \]

6. (Question 33) How often have you attended a review session or help session to enhance your understanding of the content of your class?
\[ F(5, 311) = 2.517, p = .03, \text{ (two-tailed)} \]

7. (Question 39, freshman course specific) How much have the assigned journaling activities encourage interest in the topics addressed in class?

\[ F(5, 311) = 2.688, p = .041, \text{ (two-tailed)} \]

In each of the demographic groups there were engagement activities in which there were statistically significant differences between the groups of gender, age, first-generation college status, and racial groups. The hypothesis was not supported and the null hypothesis stating “There is a difference in engagement responses between demographic groups of gender, age, first-generation college status, and racial groups” was not rejected.

Classroom Engagement Activities and Academic Performance

Aggregate Data Results

The relationship between university nursing student classroom engagement scores and academic performance was statistically examined using Spearman’s rho. With data from all the courses combined, a total of 30 questions in which a statistically significant relationship with the course grade was revealed. For this study, the significance was set at \( p < .05 \) level. Using aggregate data, the null hypothesis was rejected. Discussion of the findings can be found in the next chapter. When using aggregate data, the following questions were found to be statistically significant with course grades.

1. (Question 6) How often have you come to your class without having completed readings or assignments? \( r_s(315) = -.308, p = .001, \text{ (two-tailed)} \)

2. (Question 7) How often have you worked with other students on projects during your class? \( r_s(315) = .221, p = .001, \text{ (two-tailed)} \)
3. (Question 8) How often have you worked with classmates outside of your class to prepare class assignments? $r_s(315) = -.316, p = .001$, (two-tailed)

4. (Question 9) How often have you put together ideas or concepts from different courses when completing assignments or during class discussion in your class? $r_s(315) = -.115, p = .041$, (two-tailed)

5. (Question 10) How often have you tutored or taught other students in your class? $r_s(315) = -.113, p = .043$, (two-tailed)

6. (Question 12) How often have you used email to communicate with the instructor of your class? $r_s(315) = -.146, p = .009$, (two-tailed)

7. (Question 13) How often have you discussed grades or assignments with the instructor of your class? $r_s(315) = -.221, p = .001$, (two-tailed)

8. (Question 14) How often have you discussed ideas from your class with others outside of class (students, family members, coworkers, etc.)? $r_s(315) = -.269, p = .001$, (two-tailed)

9. (Question 15) How often have you made a class presentation in your class? $r_s(315) = -.124, p = .028$, (two-tailed)

10. (Question 17) How often have you discussed ideas from your reading or classes with your class instructor outside of class? $r_s(315) = -.208, p = .001$, (two-tailed)

11. (Question 19) How often have you worked harder than you thought you could to meet your class instructor’s standards or expectations? $r_s(315) = -.174, p = .002$, (two-tailed)
12. (Question 20) How much of your coursework emphasized memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form? $r_s(315) = -.309, p = .001$, (two-tailed)

13. (Question 21) How much of your coursework emphasized analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components? $r_s(315) = -.187, p = .001$, (two-tailed)

14. (Question 22) How much of your coursework emphasized synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships? $r_s(315) = -.246, p = .001$, (two-tailed)

15. (Question 23) How much of your coursework emphasized making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions? $r_s(315) = -.112, p = .046$, (two-tailed)

16. (Question 24) How much of your coursework emphasized applying theories or concepts to practical problems or in new situations? $r_s(315) = -.219, p = .001$, (two-tailed)

17. (Question 25) How often in your class have you been required to prepare written papers or reports of more than 5 pages in length? $r_s(315) = -.111, p = .049$, (two-tailed)

18. (Question 26) To what extent do the examinations in your class challenge you to do your best work? $r_s(315) = -.310, p = .001$, (two-tailed)
19. (Question 27) In a typical week in your class, how many homework assignments take you more than one hour each to complete?

$r_s(315) = -0.214, p = 0.001$, (two-tailed)

20. (Question 28) In a typical week, how often do you spend more than 3 hours preparing for your class (studying, reading, doing homework or lab work, analyzing data, rehearsing, and other academic matters)?

$r_s(315) = -0.412, p = 0.001$, (two-tailed)

21. (Question 29) How many times have you been absent so far this semester in your class? $r_s(315) = -0.192, p = 0.001$, (two-tailed)

22. (Question 30) How frequently do you take notes in your class?

$r_s(315) = -0.437, p = 0.001$, (two-tailed)

23. (Question 31) How often do you review your notes prior to the next scheduled meeting in your class? $r_s(315) = -0.186, p = 0.001$, (two-tailed)

24. (Question 32) How often have you participated in a study partnership with a classmate in your class to prepare for a quiz or a test?

$r_s(315) = -0.415, p = 0.001$, (two-tailed)

25. (Question 33) How often have you attended a review session or help session to enhance your understanding of the content of your class?

$r_s(315) = -0.264, p = 0.001$, (two-tailed)

26. (Question 35) How comfortable are you talking with the instructor of your class? $r_s(315) = 0.176, p = 0.002$, (two-tailed)

27. (Question 36) How much do you enjoy group work with your classmates in your class? $r_s(315) = 0.143, p = 0.011$, (two-tailed)
28. (Question 37) How difficult is the course material in your class?

\[ r_s(315) = -0.398, p = .001, \text{ (two-tailed)} \]

29. (Question 38) How easy is it to follow the lectures in your class?

\[ r_s(315) = 0.319, p = .001, \text{ (two-tailed)} \]

30. (Question 39, freshman course specific) How much have the assigned journaling activities encouraged interest in the topics addressed in class?

\[ r_s(315) = 0.262, p = .045, \text{ (two-tailed)} \]

**Individual Course Results**

The results were also organized by individual courses, which included the following courses: freshman course, sophomore I, sophomore II, junior I, junior II, senior I, and senior II. For the seven courses, a total of 20 engagement item responses revealed a statistically significant relationship with grade earned in that course. The data from first semester sophomore course revealed no statistically significant relationships between engagement activity items and the grade earned in the course. In this course, data analysis does not support the rejection of the null hypothesis. However, in the remaining six courses, data analysis supports the rejection of the null hypothesis at the \( p < .05 \) level.

In the freshman course (\( n = 60 \)) there were two questions that showed a statistically significant relationship with the grade earned in the course.

1. (Question 29) How many times have you been absent so far this semester in class? \[ r_s(58) = -0.254, p = .05, \text{ (two-tailed)} \]

2. (Question 39, freshman course specific) How much have the assigned journaling activities encouraged interest in the topics addressed in class? \[ r_s(58) = 0.262, p = .045, \text{ (two-tailed)} \]
From data collected in the second-semester sophomore course \((n = 52)\), there was one engagement item which had a statistically significant relationship with the grade earned in the course.

1. (Question 5) How often have you included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments in your class? \(r_s(50) = .331, p = 0.16\), (two-tailed)

Data from the first-semester junior course \((n = 46)\) four questions in which there was a statistically significant relationship with the grade earned in the course.

1. (Question 1) How often have you asked questions during your class?  
\(r_s(44) = .414, p = .004\), (two-tailed)

2. (Question 2) How often have you contributed to a class discussion that occurred during your class? \(r_s(44) = .313, p = .034\), (two-tailed)

3. (Question 4) How often have you worked on a paper or a project in your class that required integrating ideas or information from various sources? \(r_s(44) = .332, p = .024\), (two-tailed)

4. (Question 37) How difficult is the course material in your class?  
\(r_s(44) = -.318, p = .031\), (two-tailed)

In the second-semester junior course \((n = 42)\), there were six engagement items that revealed a statistically significant relationship with the grade earned in the course.

1. (Question 5) How often have you included diverse perspectives (different races, religions, genders, political beliefs, etc. (in class discussions or writing assignments in your class? \(r_s(40) = -.358, p = .02\), (two-tailed)
2. (Question 8) How often have you worked with classmates outside of your class to prepare class assignments? $r_s(40) = -.380, p = .013$, (two-tailed)

3. (Question 17) How often have you discussed ideas from your readings or classes with you instructor outside of class? $r_s(40) = .331, p = .032$, (two-tailed)

4. (Question 20) How much of your coursework in your class emphasized memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form?

   $r_s(40) = -.396, p = .009$, (two-tailed)

5. (Question 32) How often have you participated in a study partnership with a classmate in your class to prepare a quiz or a test? $r_s(40) = -.339, p = .028$, (two-tailed)

6. (Question 35) How comfortable are you talking with the instructor of your class? $r_s(40) = .396, p = .009$, (two-tailed)

Data from the first-semester senior course (n = 39) revealed statistically significant relationships between the grades earned in the course and three engagement activity questions.

1. (Question 1) How often have you asked questions during your class?

   $r_s(37) = .319, p = .048$, (two-tailed)

2. (Question 5) How often have you included diverse perspectives (different races, religions, genders, political beliefs, etc. (in class discussions or writing assignments in your class? $r_s(37) = -.374, p = .0019$, (two-tailed)

3. (Question 34) How interested are you in learning the course material?
There were four items from the second-semester senior \((n = 34)\) survey data in which a statistically significant relationship was revealed between specific engagement activities and course grades.

1. (Question 7) How often have you worked with other students on projects during your class? \(r_s(32) = .447, p = .008,\) (two-tailed)

2. (Question 9) How often have you put together ideas or concepts from different courses when completing assignments or during class discussions in your class? \(r_s(32) = .347, p = .044,\) (two-tailed)

3. (Question 29) How many times have you been absent so far this semester in your class? \(r_s(32) = -.450, p = .008,\) (two-tailed)

4. (Question 33) How often have you attended a review session or help session to enhance your understanding of the content of your class? \(r_s(32) = -.368, p = .032,\) (two-tailed)

Question 5 from the survey instrument, concerning inclusion of diverse perspectives, showed a statistically significant correlation with course grades in three different courses. However, two revealed negative relationships and one a positive relationship. Responses from two questions had statistically significant relationships with course grades in two different courses. Question 1, concerning asking questions in class, had statistically significant positive relationships with grades in two courses. Responses from question 29, concerning the number of absences from class, revealed a statistically significant negative relationship with grades in two courses. The other 13 statistically significant question responses were only significant in one of the courses.
Summary

The participation rate for those enrolled in the nursing courses was 90.57%. However there was a 100% participation rate for those present during the CLASSE instrument administration. Using parametric testing, the grades earned in the courses were examined among the demographic groups. Analysis revealed no statistical significance for grades earned in the courses by gender, race, age grouping, or first-generation college status, allowing for rejection of the null hypothesis which states, “There is a difference in course grades among the demographic groups of gender, age, first-generation college status, and racial groups”. Responses to the CLASSE questionnaire items were compared among the same demographic groups. There were three questions (diverse perspectives, taking notes in class, and journaling activities) in which responses of the two gender groups differed significantly. There were seven item responses (asking questions in class, class discussions, discussing grades with the instructor, synthesizing ideas, and preparing for class, review sessions, and journaling activities) that differed significantly among the racial groups. Statistical comparison revealed five engagement activities (diverse perspectives, papers greater than five pages, interest in learning course material, group work, and journaling activities) that differed significantly between students who stated being a first-generation college student and those who were not a first-generation college student. Eleven item responses (class discussion, two or more drafts of a paper, integration of ideas, read material, tutoring other students, discussions with instructors, papers greater than five pages, homework assignments, studying for class, absences, and reviewing notes prior to class) differed significantly between the age groupings of traditional and non-traditional students. These
data results do not support the demographic engagement responses hypothesis and the null hypothesis stating, “There is a difference in engagement responses among the demographic groups” was not rejected.

Correlational analysis, using Spearman’s rho, was calculated to explore the relationship between responses to survey items and grades earned in the courses. The significance for this study was set at a $p < .05$ level. The data were organized and analyzed in two groups. One analysis computation included the data from all the courses surveyed ($N = 317$). This analysis revealed a statistically significant negative relationship between 30 different engagement activities and the course grades, which supported the rejection of the null hypothesis.

Correlational analysis was also computed by course for each of the seven courses surveyed. Using Spearman’s rho, correlational analysis was computed using the engagement responses and grades in each of the courses. In six of the seven courses, there were statistically significant relationships between engagement activities and academic performance, rejecting the null hypothesis in each case. There were responses from 16 different questions that revealed a significant relationship with grades earned in the courses surveyed. However, statistical analysis for one course revealed no statistically significant relationship between engagement activities and academic performance. The null hypothesis was not rejected in this course.
CHAPTER FIVE: DISCUSSION

This research project was designed to explore the relationship between university nursing student classroom engagement activities and academic performance. The findings of this project support the hypothesis that a relationship between university nursing student classroom engagement activities and academic performance exists. In this chapter, the research problem, methodology and results of the project are discussed. The major sections of the chapter summarize the results and discuss their implications to practice as well as the relationship to prior research. Finally, this chapter discusses the limitations of the study, unexpected findings, and recommendations for future research.

Statement of the Problem

Academia is struggling to meet an increasing nursing shortage with limited resources; therefore student success is paramount in any university nursing program. In order to facilitate higher graduation rates, more nursing students must be academically successful in the classroom. The research question asks, “Is there a relationship between university nursing student classroom engagement activities and academic performance?” The research hypothesis was “There is a relationship between university nursing student classroom engagement activities and academic performance.” The null hypothesis was “There is no relationship between university nursing student classroom engagement activities and academic performance.”

Review of the Methodology

Using correlational research design, engagement activity responses were compared to the numerical grade earned in the surveyed course to examine any significant relationships. Parametric testing was used to examine differences in the grades
and engagement item responses of each of the demographic groups described in previous chapters. The results were organized and reported using data from all the courses and by each individual nursing course participating in the survey.

Summary

The results of data analysis support the hypothesis that there is relationship between university nursing student classroom engagement activities and academic performance. As discussed in Chapter 3, results of the data were organized and reported using data from the surveyed courses using aggregate data and individual course data. Correlational analysis using aggregate data revealed a statistically significant relationship between specific engagement activities and course grade for 30 of the 39 questions in the survey instrument.

Upon examination of the course data, correlational analysis revealed no statistical significance between specific engagement activities and the grade earned in the course in the first-semester sophomore course. In this case, the null hypothesis was not rejected. However, in each of the other six courses surveyed, correlational analysis revealed statistically significant relationships between specific engagement items and the course grade. Among the seven courses, a total of 16 questions representing different engagement activities were shown to have a statistically significant relationship with the course grade. Three questions were shown to be statistically significant in more than one course.

Parametric testing using $t$ tests revealed no statistical difference between final course grades between gender groups, traditional or non-traditional age groups, or first-generation college student groups. In addition, analysis of variance revealed no difference
in the course grades among racial groups. Statistical analysis was performed to compare responses to each engagement question according to the same demographics. There were three questions in which there was a statistically significant difference between the two gender groups. Statistical analysis examining the difference between engagement activity responses between traditional and non-traditional age groups, revealed eleven questions in which there was a statistically significant difference. There were six questions in which there was a significant difference between engagement activities and the first-generation college student groups. Analysis of variance calculations revealed a statistically significant difference in seven engagement activity questions among racial groups.

Correlational analysis of aggregate data revealed a statistically significant relationship between engagement activities and course grade in 30 of the 39 survey questions. Upon examination of each individual course, statistical analysis revealed significant relationships between various nursing student classroom engagement activities and academic performance in six of the seven courses. However the results for each of these courses were unique, revealing something different about each course and classroom environment.

Discussion

Demographic Data

There were no statistically significant differences between course grades among the demographic subgroups. Although this was an expected finding, it is important to note the numbers of subjects in each of the demographic subgroups were disparate. However the demographic data in this study is consistent with the demographic composition of practicing nurses. Interestingly, there were statistically significant
differences in survey item responses among each of the demographic groups. Because there was no identified pattern in these item responses, the data do not support modification of engagement activities specifically directed to improve engagement with any demographic group. Because the demographic data were reported in aggregate, the differences among the demographic groups could also be a result of teaching practices or classroom management strategies of different instructors. Therefore, these results should be reviewed and interpreted with caution. Because the same instructors tend to teach the same classes, it would be interesting to note if the data results would be consistent longitudinally. If further research revealed consistent items responses by demographic variables, faculty development activities could be designed to address specific engagement activities.

Parametric testing revealed there were no significant differences in the grades earned in the courses of males and females, as stated previously. However, there were three questions in which the responses of males and females were significantly different. Interestingly, the data revealed that men are more likely to include diverse perspectives in classroom discussions and written work, when women are generalized characterized as more caring, concerned and inclusive, particularly in current media. More women than men reported taking notes in class, in my experience as an educator; this is consistent with classroom observation. More women than men also reported that case studies encouraged interest in the topic of study. This is a finding that would warrant further investigation for potential revision of engagement activities in the classroom. Historically the percentage of female students in nursing programs is much higher than that of male students. Although the subgroups within the sample were nonhomogeneous, it is not an
unexpected finding. Because of the disparate numbers between gender groups, any
differences in engagement responses should be further investigated.

Participant age was also divided into traditional (≤ 25) and non-traditional (> 25)
age groups. There were no statistically significant differences in the grades of the two age
groups. However, there were significant differences between the two groups in the
responses to 11 of the survey questions. These questions were given in detail in chapter
four. Research supports differences in metacognition between the two age groups,
especially between females, which represent 86.1% of this sample. The college classroom
is experienced differently by older students, who tend to be more intrinsically motivated
than their younger counterparts (Justice & Dornan, 2001). However, differences in the
responses to engagement questions may be less related to age group than the course in
which the participant was surveyed. For example, one of the questions in which
responses between the groups were significantly different asked if the participant had
prepared two or more drafts for papers in the course. Examination of the response
frequencies revealed response differences between the courses themselves. For example,
55.9% of the second-semester senior subjects stated that “1 or 2” times they had prepared
“2 or more drafts” for course assignments. Only 20.5% of the first-semester seniors gave
the same response. The differences in responses may not be truly significant between
demographic groups of students, but between the students in different courses. The
differences in assignments, coursework, and course delivery may influence a student’s
opportunity to prepare “2 or more drafts”.

First-generation college status was defined as “neither mother nor father earned a
four-year college degree”. Statistical analysis revealed no significant difference in course
grades between the two groups. However, there were significant differences in responses on six survey items. According to the National Center for Education Statistics (2005), the biggest difference between first-generation and non-first-generation college students, with regard to persistence, performance, and academic success is more prevalent in the first year of college. It is during this time, the first-generation college student is likely to withdraw from school. After the first year of college, the two groups are more similar in persistence rates, performance, and academic success. The difference between first-year first-generation college and those students who have persisted to the second year of college and beyond may be more influential in the response differences (NCES, 2005).

This research finding indicates that engagement responses in six of the seven courses are not related to student’s first-generation college status. This finding was not supported by my research study.

The results from ANOVA calculations revealed no statistically significant difference among race subgroups with regard to grades earned in the courses. However, there were 11 questions in which the engagement responses were statistically significant among the groups.

Group frequencies reveal that two of the racial groups consisted of less than 1% of the total sample, having less than three in the group. These extremely small numbers may result in invalid interpretations. Therefore, any conclusions related to differences in the racial subgroup responses would be suspect. While a difference may exist due to the extremely small subsample size, further investigation is warranted with more homogeneous sample sizes.
**Aggregate Results**

As reported in chapter four, correlational analysis using combined data from all the courses revealed that responses to 30 of the 39 survey engagement questions had a statistically significant relationship with the course grades. The instrument items can be found in Appendix C of this document. Some of the findings are consistent with engagement research and literature; however some of the findings are not. Of the 30 questions in which a relationship was indicated, the results from eight of the item responses could be considered anticipated findings that are consistent with engagement literature and research. The results of the remaining 22 questions were not consistent with current engagement literature. Therefore analyzing and reporting the data from all courses in summative form should be reviewed to determine the appropriateness of this instrument to be used in reporting aggregate data. Therefore a longitudinal study with a much larger sample size could give more insight into a summative engagement score and could lend more confidence in aggregate results.

The following results from the aggregate data are consistent with engagement literature. The frequency in which the participant reported coming to class without having completed readings or assignments was found to have a negative relationship with course grades. It was equally anticipated that the number of absences would also be negatively correlated with the course. These are expected findings. Clearly lower grades are an expected consequence for students, who are so disengaged or distracted that they fail to attend class or complete reading or other assignments.

The extent to which students enjoyed group work and working with other students on projects were both positively correlated with academic performance. Positive
correlations were revealed with course grades and the comfort level of talking to the instructor of the course as well as the ease of following lectures in class. These findings are consistent with current literature and NSSE results (Kuh, 2006). Students are more engaged when relationships within the learning community are fostered.

Working harder than anticipated to meet course standards and the difficulty level of the course work were both negatively correlated with academic performance. Closer examination of these findings may represent engagement activities that are common to each of the courses, therefore were anticipated findings when data from all the courses are combined. Although NSSE (Kuh, 2005, 2006) data reveals that students want to be challenged in the classroom, courses in which the work is difficult with no perceived application to life situations is not engaging. When course work is perceived to be so difficult that the student does not anticipate success, self-fulfilling prophecy could explain disengaging activities by the student, e.g. not completing assignments or attending class.

Statistical analysis of the combined survey responses revealed a negative relationship between note-taking activities by the students and academic performance. Research reveals that taking notes in class is passive in nature and not an activity that encourages engagement (McKeachie, 2002; Gardner, 1993). The results of this study support that notion. However, taking notes in the college classroom is a common practice that is expected of students by many faculty members as a way of staying focused in class; therefore it is uncertain whether this is an unusual finding. It may be dependent upon the instructor’s expectation of note-taking in class.
Current research suggests that various levels of communication, with classroom peers and instructors, are engaging activities that are supportive of student retention and satisfaction (Bain, 2004). However, many of the findings, when reported in aggregate, were inconsistent with current research. Discussions with the instructor and other students as well as emailing the instructor were all negatively correlated with academic performance. Further examination of the response frequencies between the courses may provide an explanation for unexpected results. In the freshman course, 58.3% of the students stated they had never emailed their instructor, while 58.8% of the second-semester seniors stated they had emailed their instructor “5 or more times”. With regard to discussing grades with the instructor, 56.7% of the freshman group stated they had never discussed grades with their instructor, while 29.4% of the second-semester seniors stated that “5 or more times” they had a discussion with their instructor about grades. The exploration of frequency data supports the notion that differences in responses between the courses may reveal more about engagement than analysis of combined data responses.

When using the combined data, all five of the cognitive skills activities were negatively correlated with academic performance. The engagement activities referred to the extent in which the cognitive skills of memorization, analysis, synthesis, judgment, and application were emphasized in the classroom. The findings may be due to the differences in responses between the courses. The responses available for cognitive skills questions ranged from “very little” to “very much”. When asked about the emphasis of memorization in class, the response frequencies revealed 5.9% of the second-semester senior subjects answered “very much” compared to 42.9% of the second-semester junior
subjects who answered the same. There were differences noted between the courses in each of the cognitive skills response frequencies.

Some of the unanticipated findings from the aggregate data may have been related to whether the opportunity to engage in a particular activity was presented in each class. There were negative relationships with academic performance and tutoring other students, class presentations, completing papers of 5 or more pages, and attending a review session. Analysis revealed a significant negative relationship between course grades and time spent preparing for class and assignments as well as bringing in concepts from other courses. This finding is inconsistent with research and contrary to basic educational principles. However, the differences in workload among courses might have also contributed to these findings. When asked how often the participant spent 3 or more hours preparing for class, 0% of freshman course said “5 or more times” while 66.7% of both the second-semester junior and first-semester senior subjects responded “5 or more times”. Consideration should be given to the level of commitment, maturity, and engagement with nursing as a program of study.

Finally analysis of aggregate data suggested a significant negative relationship between academic performance and how often the participant was challenged to do their best work. This is contrary to current engagement research data that suggests that students want to be challenged in their academic pursuits and the level of challenge is positively related to the level of student engagement (Kuh, 2001).

By examining each of the item response frequencies, the trends within the courses themselves are more apparent than when the responses are organized, reported, and analyzed in aggregate. Although data analysis findings indicated a significant relationship
between many of the engagement responses and academic performance, these results are not consistent with current educational research and should be reviewed and interpreted with caution. Therefore, the next section focuses the discussion of the relationship between classroom engagement activities and academic performance within each of the individual courses.

*Individual Course Results*

This research project was designed to explore classroom engagement activities of nursing students at all levels of the curriculum, as well as any relationship these activities might have with academic performance. Another component of the research project was to organize and report the correlational analysis between engagement activities and academic performance in each course. Pedagogical concepts provided the foundation for rationale of organizing and reporting the statistical analysis of data by course. The discussion focus of this section will explore these rationale and concepts.

The CLASSE survey instrument was designed to reach a level of understanding into the construct of student engagement that was not being provided by the NSSE survey instrument. Ouimet and Smallwood (2005) wanted to know more about student engagement activities specific to the classroom setting. As a result, the CLASSE instrument was also designed to allow for course specific questions (Appendix D) that would give more insight in the engagement activities into a particular course section. The developers of the CLASSE believed that engaging activities may occur differently in every course. Although the first 38 questions are the same for each participant in every course, differences in each classroom environment cannot be accounted for if cumulative
scores are reported. Although, all the courses surveyed were nursing core courses, the learning expectations and concepts are different in each.

Organizing and reporting the results of all the subjects collectively did not allow for differences in teaching styles and methods of course delivery. Although university instructors are generally considered experts in a particular discipline, the method by which they facilitate learning in the classroom is as unique as the individuals themselves (Palmer, 1998). Each of the instructors bring a unique knowledge base and experience level to the classroom that is translated into various classroom structures, activities, and levels of facilitation in the classroom. Some of these variations in classroom management and course delivery are more effective in facilitating classroom engagement than others (Chickering and Gamson, 1987). In question 25 of the survey, 76.9% of students in the first-semester senior course reported preparing papers of more than five pages in length, “3 or more times”. In the first-semester junior course, 82.6% of them reported completing no papers of more than five pages in length. The simple reason for the difference relates to different assignments in different courses. If these results are reported together, results may not reveal a true account of the engagement activities within the classroom. Therefore, combining the course results of most of these questions would not yield reliable or truly significant results.

By organizing the results by course, the researcher is also able to account for differences in students that might be due to the level of progression in the curriculum. It is reasonable to assume that students, who have successfully progressed through several nursing courses, may possess more student nursing experience than students who have been exposed to fewer nursing courses and student nursing experiences. This level of
experience may also be reflected in the classroom as increased confidence or level of comfort. This in turn, might result in variations in certain classroom engagement behaviors between courses, such as participation in class discussions or discussing ideas with the instructor or peers (Pascarella & Terenzini, 1991, Rotter, 1966).

In addition, the matter of university education must be understood as a relational activity. Thayer-Bacon (2002) believes that education is accomplished in socially constructed environments by people who are in relationship with each other and the greater environment. As in most nursing programs, students progress through the nursing curriculum in a prescribed manner with very little or no variation with regard to sequencing of courses. Foundational nursing concepts are addressed early in the curriculum with specific courses being offered in a particular order. This produces cohorts of students who have participated in nursing courses with many of the same students throughout their nursing student career. As each student cohort progresses through the nursing curriculum, a community of learners is formed, each bringing his or her own individual and group experience to the classroom. As the individuals form a cohort that is focused on the concepts and activities of a specific course, engagement activities may differ within and between groups (Hu & Kuh, 2001a).

As stated in Chapter Four, statistical analysis in six of the seven courses revealed a statistically significant relationship between 16 specific engagement responses and the grade earned in the courses. However, there were no statistically significant correlations between the two variables in the first-semester sophomore course. This course has three different instructors which divide class time for teaching among the three. The differences in teaching styles, methodologies, and course delivery may have some effect
on whether the same engagement activities were consistently facilitated in the course.

Also, this is the first semester in which students are in healthcare institutions with patients. As a result, students sometime express a high level of anxiety related to going to the clinical sites for the first time. Whether this would have an effect on student engagement activities is unknown.

Data analysis from the freshman course revealed two engagement activities that were significantly correlated with the course grade. This is not a surprising finding, as part of the grade for this course was related to attendance in class. The other engagement activity for this course was related to the extent in which the journaling activities encouraged interest in the topics of the course. The journaling activities were 50% of the total grade for the course. It can be assumed that more interest would be in the journaling activities because of the assignment weight on the final grade. Although statistically significant, the correlation coefficient indicates a weak relationship.

Data from the second-semester sophomore course revealed a positive correlation with grades on one engagement activity which referred to the extent in which the students had included diverse perspectives in class discussions or writing assignments. Perhaps, future research recommendations would include qualitative data collection by using focus groups to have subjects discuss some of the aspects of the classroom environment that supports diverse perspectives. This could lead to a richer and deeper understanding of the human condition.

In the first-semester of the junior year, nursing students are spending much more time in the healthcare institutions and in classroom courses that are focused specifically on principles of professional nursing care. It is during this semester that students begin to
learn more complex nursing concepts related to caring for the acutely ill adult.

Correlational analysis revealed four engagement activities that were related to the grades earned in this course. The first engagement activity was positively correlated with course grades and referred to the frequency in which the participant asked questions in class. How often the participant contributed to class discussions and how often class work required a variety of sources to complete were two other activities that were positively correlated with the course grades. Classroom engagement is not a passive exercise and both of these activities would lend themselves to engagement with the subject and with one another. As a topic for future research, the use of focus groups to determine methods to encourage classroom discussion to further understanding of varying the stimuli to enhance active classroom engagement.

The last engagement activity may be the most revealing about this group. There was a negative relationship with course grades and the student’s perception regarding the difficulty level of the course work. As stated earlier, this is the semester in which the time commitment for nursing courses is twice that of previous semesters. Upon examination of the response frequencies for this question, 67.9% of the students in this course, as compared with 17.6% of second-semester seniors, believed the coursework to be “difficult” or “very difficult”. For future research, the calculation of attrition rates for these courses might add to better understanding of these results, as well as exploring the relationship between student perceptions of course difficulty and attrition rates.

Data analysis of the second-semester junior course revealed six engagement activities that were significantly correlated with grades earned in the course. Two questions referred to the frequency of working with students outside of class on
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assignments and the frequency of working with students in study partnerships to prepare for a quiz or test. Research reveals that working with peers on assignments and preparing for tests can be engaging activities (Kuh, 2006), but was not supported by the data from this course. Examination of the response frequencies for these questions did not provide insight into understanding these relationships. It may be related to other circumstances within the course environment. Students in this course may not have perceived a need for study groups or partnerships. Family commitments, work schedules, or other course work may have precluded the students from participating in study groups or partnerships. Historically, students at this level are being actively recruited by healthcare institutions to work as unlicensed assistive personnel. As a result, students tend to work more hours around this time in their academic career.

In the same course there was another engagement response in which data analysis suggests a negative relationship with course grades. The question asked the extent to which the course work requires memorization with similar recitation of the material. At the junior level of the nursing curriculum, it is an expectation that students would perform at cognitive levels that would exceed memorization and would be able to synthesize and apply concepts to their course work. Therefore, this finding is consistent with the notion that memorization is not an engaging activity for students in an upper division nursing course.

Two other significant engagement activity responses referred to how often the students reported discussing ideas with their instructor and how comfortable they were with talking to their instructor. These data results support current engagement research
which concludes that faculty members, who appropriately communicate with their students in and out of the classroom, have more engaged students (Kuh, 2005, 2006).

The student responses from the first-semester senior subjects revealed significant correlations with course grades on three engagement activities. However, two of these are closely related. For this group of students, the question that refers to the extent to which diverse perspectives are included in their class discussions or writing assignments, a negative relationship with course grades was revealed. The understanding of this phenomenon may be difficult without classroom observation. However the Westinghouse effect might negate any benefit derived from collecting observational data. Another interesting finding from this group, revealed a positive relationship between the level of interest in the course material and academic performance. At this level of the curriculum, students are introduced to more complex nursing concepts related to critical illness as well as emergency and trauma healthcare. Comparing the responses to this question in other courses, this course was the only one in which 100% of students responded in the two interested categories. Students who are interested in the course material should be more engaged in their course work and consequently perform better academically (Hootstein, 1994; Kuh, 2005, 2006).

The second-semester senior course is the capstone course for the nursing curriculum. It is important that nursing students are able to incorporate their educational understanding into a meaningful experience that will prepare them for a career in professional nursing. Consequently an important finding is the frequency in which ideas or concepts from different courses were used to complete class assignments was related to course grades. Capstone courses are usually sequenced in the last semester of
curriculum coursework. They are designed to help students incorporate the concepts and ideas from all their educational endeavors into a cogent experience. Ideally, at this stage of their education, students are transforming into independent nursing professionals. This data also supports that the capstone course learning objectives have been met.

Student responses also revealed a negative relationship between frequency of absences and course grade. This is an understandable finding, especially if grade consequences are attached to classroom absences. However, it is unknown whether the instructors of any of the courses enforced policies in which absences resulted in loss of grade points. It is also possible that absences from class could negatively affect a student’s understanding of the material, consequently affecting the course grade.

There was also a negative correlation with the frequency in which students attended a review session and the course grade. Response frequencies reveal that 73.5% of the students in this group did not attend a review session. Upon further investigation it was determined that review sessions were not offered by the instructor in this course. Therefore, the question is not valid for this course.

Additionally, correlational analysis revealed a positive relationship between students working together on projects and academic performance. This analysis represents another important finding for this course, specifically as a capstone course. Effective program evaluation is crucial in determining the quality of graduates that are being produced. It is in the capstone course, that quality is being determined. Responses from employer surveys reveal they want graduates that can work independently and in a team equally well. It is crucial that students demonstrate the ability to develop effective
teamwork strategies and skills. This finding supports both the objectives of the course and the needs of nursing’s constituents.

*Interpretation of the Findings*

The purpose of this study was to explore the relationship between university nursing student classroom engagement activities and academic performance. The data collected for this project were organized, analyzed, and reported using the data from all the courses and each individual course. Data analysis, in aggregate and by course, supports the research hypothesis that states, “There is a relationship between university nursing student classroom engagement activities and academic performance.” However, additional research is recommended to further investigate the relationship between the constructs of classroom engagement and academic performance.

As discussed previously, there are aspects of engagement which may be course specific and are not revealed when data are analyzed together. The results of the data analysis, as reported by course, may give nursing education insight into the classroom levels of engagement that heretofore have not been achieved by previous research methods and findings. The NSSE instrument is used by numerous universities and colleges as a measure of general student engagement; however, use of CLASSE instrument provides a closer examination of the student engagement practices at the level of the classroom and in specific courses. In this research project, analysis of the data by individual course has provided an impetus to further investigate university nursing student classroom engagement activities and the relationship to academic performance and success.
Statistical analysis revealed no significant difference in the academic performance of the subjects between gender, age, race, or first-generation college status groups. There were several questions in which the engagement survey responses of the demographic groups were significantly different. However, the results of the parametric testing should be reviewed and interpreted with caution, due to the disparate group sizes, as discussed earlier in the chapter. Therefore, the results of the parametric testing may not be reliable in their significance to the overall findings in this research study.

Analyzing and reporting the data of the research subjects in aggregate form revealed several statistically significant relationships between engagement activity responses and grades earned in the course. As discussed previously in this chapter, analysis of the item response frequencies between courses, revealed inconsistencies between the course groups that may invalidate some of the suggested relationships. Analysis and interpretation of the data by course provided more insight into the engagement activities of individual courses and any relationship with academic performance. The data analysis results were also more consistent with the student’s level of progression in the curriculum. Responses from the senior capstone course revealed a statistically significant relationship between academic performance and the extent to which subjects were able to put together ideas or concepts from different courses. It was the only course in which this engagement activity was significantly correlated to course grades. From a curricular perspective, it is important that this type of engagement activity occur in a senior capstone course.

The analysis of aggregate data revealed a statistically significant relationship between 30 engagement responses and academic performance. However, eight of the
engagement items were consistent with engagement literature, while 22 of the engagement items were not. Upon further examination of the question frequencies, the eight engagement items that were consistent with current literature are items that could be translated to most classrooms. For example, comfort with talking to instructor, difficulty of coursework, number of absences, working with other students, and coming to class unprepared represent concepts that are expected elements of most university classrooms. The other correlational findings were unanticipated and inconsistent with current educational research. However, results from the data analyzed and reported by course were consistent with current engagement research and were expected findings.

The lack of relationship between particular classroom engagement activities and academic performance also merits discussion. In the first-semester sophomore course, there were no statistically significant relationships revealed between academic performance and engagement activity responses. It is during this course in which students are admitted into the nursing program. It is also the first semester in which the students begin clinical rotations into healthcare institutions. Members of this course are forming new relationships with students as a cohort or community of learners. In addition, members of this course are learning to form professional relationships with patients in healthcare institutions. It can be an emotionally overwhelming experience. The research findings may suggest that students, who are beginning this new phase of nursing education, are not yet consistently engaged in the nursing classroom.
Unexpected Findings

This section summarizes some of the more significant unexpected findings. Current research literature supports the idea that student engagement is related to student satisfaction with the college experience and various levels of performance. However, much of the engagement research and literature focuses on student engagement in the university as a whole, as reported by the National Survey of Student Engagement and The Center for Postsecondary Research (Kuh, 2005, 2006). The expected findings would support the research hypothesis. However, analysis of the data resulted in several unexpected findings.

When using aggregate data to correlate all student responses with all grades earned in the course, there were 30 engagement activities that were statistically correlated with academic performance. Of the 30 survey items in which significant relationships were revealed, 22 of the items were related to unexpected findings in which the relationship is not consistent with current research literature. These findings are addressed more thoroughly in the discussion section earlier in this chapter. For future replication of the study, it is recommended that data analysis be reported by each individual course.

When the same data was organized, analyzed, and reported by each individual course, the findings were more consistent with current educational literature. The responses to 16 questions were found to have a statistically significant relationship with academic performance. Correlational analysis between classroom engagement activities and academic performance in the first-semester sophomore course revealed no significant relationships, which was a surprising finding. However, data analysis supported a
significant relationship between engagement activities and course grade in six of the surveyed courses.

**Relationship to Previous Research**

The study of student engagement is based on the theoretical framework of intrinsic and extrinsic motivation. Motivational theorists and clinical psychology researchers such as Bandura (1997) and Rotter (1982) have focused much of their work on why individuals choose to engage or disengage from certain activities. The building blocks of motivational theories include the concepts of self-efficacy, locus of control, behavior potential, expectancies, and motivation. The self-efficacy beliefs as described in The Social Cognitive Theory (Bandura, 1997) and Rotter’s Social Learning Theory (1982) are of particular importance to the understanding student engagement.

More current research related to student engagement in higher education has focused on engagement with the institution as a whole. Research using the NSSE instrument has provided a wealth of information relevant to the study of university student engagement. As reported in chapter two of this document, numerous studies have been conducted to explore various aspects of engagement among a variety of populations. The results of the NSSE engagement data have been used for program evaluation on many campuses across the United States, allowing institutions to explore levels of engagement within an institution. However, when results revealed engagement levels could be improved, there was no way to specify the department or course in which engagement is occurring or not occurring. The CLASSE instrument was developed by the authors of the NSSE survey instrument and was designed to focus on engagement at the classroom level. Based on the research question and hypothesis of this project, the study
was designed to explore a specific type of engagement experienced in the classroom. This study and similar studies which focus on classroom engagement in higher education are the next logical step in engagement research.

It is important to note that classroom engagement is also important to the study of nursing education. The shortage of professional nurses in healthcare is alarmingly high, while the retention rate for nursing students is extremely low for many schools of nursing. Educational research must seek to provide empirical evidence that supports student engagement in the classroom, thereby increasing student retention rates. Studies that examine nursing student engagement activities and their relationship to academic performance are essential to increasing the body of knowledge in nursing education.

Findings in this study related to individual course results are consistent with current literature (Hootstein, 1994; Hu & Kuh, 2001; Kuh, 2005, 2006):

1) Frequency in which the subjects asked questions in class
2) Frequency in which the subjects contributed to discussions in class
3) Relational activities, such as group work outside of class and study partnerships
4) Memorization as a non-engaging activity
5) Expression of diverse perspectives in the classroom
6) Incorporation of meaningful, experiential learning in the classroom
7) Attendance and preparation for class

The only findings that were inconsistent with current literature were in the analysis of the aggregate data. Further investigation of item frequencies revealed
inconsistencies between courses. This was the impetus for examining the data item by item within each course.

Limitations

There are several possible limitations that threaten the external validity of this study. Therefore these results are not readily generalizable to a larger population for the following reasons. Although the study reported a 90.57% participation rate, the sample used in this study was small ($N = 317$). Also, the sample was drawn from one small regional institution in the southwestern United States. Because the data was collected from one small institution, the ability to generalize to another student population is limited. Another limitation of the study was the disparate size of the demographic subgroups. Using a sample population from a discipline that is composed of predominately white females, may not offer generalizable findings for larger more diverse populations. However it is reflective of current nursing practice demographics.

The instrument is also possibly a limitation to the study. The NSSE instrument has been established as a reliable and valid instrument through extensive psychometric testing and research. Since the pilot phase in 1999, the NSSE has surveyed freshmen and seniors in more than 1,000 four-year colleges and universities. The CLASSE instrument was developed to assess engagement in the classroom that was not being addressed by the NSSE. Although the CLASSE is currently being piloted in many educational institutions, the instrument has not yet been exposed to extensive psychometric testing.

The numbers of students surveyed in this research project were predominately nursing majors, although students in the freshman course were not yet admitted into the nursing program. The study may be helpful in understanding the relationship of specific
Engagement practices to academic performance; however the results can not be readily applied to a population in another discipline or one of diverse disciplines. The experiences to which students are exposed can be quite different among disciplines; therefore engagement activities that are significantly correlated with academic performance may differ as well.

The more tests of significance that are calculated on a data set, the more likely a type I error may be committed (G. Kelley, personal communication, September 13, 2007). Parametric statistics were calculated using each of the four demographic variables, gender, age group, first-generation college status, and race. Each t test and ANOVA had different results when examining the differences of engagement responses between the groups. Because the demographic groups were unequal in number and equality of variance could not be assumed in all groups, these results must be reviewed with caution. Any assumption that there were significant differences between demographic variables on the grades or responses of the subjects could not be made or rejected based on this study.

Organizing and reporting the data in aggregate form gives a larger sample size from which to perform correlational analysis. However, organizing and reporting the data in aggregate form may yield unreliable results. The rationale for reporting by course was discussed extensively in the individual course results under the discussion section earlier in this chapter. In brief, the CLASSE was designed to explore engagement in the classroom. When results are combined, differences in teaching style, method of delivery, course activities, level of study within the curriculum, and the participant’s academic maturity can not be accounted for in the results. Therefore, organizing and reporting the
data in aggregate form yields very low external validity. Because the instrument was designed to measure classroom engagement within a course, reporting the aggregate data may not produce reliable results.

Another limitation of the study concerns the possible outliers of earned course grades. The study design does not make consideration for extreme highs and lows of the course grades which could possible affect the correlation coefficient outcome. There was also no accommodation in the study for students who were not present in the class when the CLASSE instrument was administered. Absences from class are considered less engaging activities and the input of these students may have changed the data calculation outcomes.

Implications for Practice

Healthcare is experiencing a shortage of professional nurses; therefore it is imperative that schools of nursing increase graduation rates. With an additional shortage of qualified nursing faculty, increasing admission rates to schools of nursing may not be a viable option. With high attrition rates in some schools of nursing, it is vital that student retention in schools of nursing be considered a priority (AACN, 2006, 2007). Nurse educators in higher education must explore new ways to engage students in the classroom. Continued research and faculty development are imperative if nursing education is to meaningfully contribute to alleviating the nursing shortage.

The findings in this study supported the hypothesis that there exists a relationship between classroom engagement activities and academic performance. Data analysis by individual nursing course revealed aspects of engagement (diverse perspectives, communication with faculty and peers, asking questions in class, class discussions,
perceived difficulty of course work, and preparation for class) that were significant in different courses. However, more research into classroom engagement is necessary to further understand what constitutes classroom engagement and how nursing education can better facilitate engagement for nursing students. The findings in this study and similar studies can begin to give nursing educators insight into the facilitation of an environment in which students can experience a more engaging classroom, thereby increasing student satisfaction and academic success.

Recommendations for Future Research

The foremost recommendation is to replicate the study with a larger sample size. Also the study could be replicated in a greater number of institutions of higher education. Replicating the study with students in other educational disciplines might yield beneficial insight into classroom engagement as well. Replicating the study with only nursing students who have been accepted into a nursing program, might address engagement issues (diverse perspectives, communication with faculty and peers, asking questions in class, class discussions, perceived difficulty of course work, and preparation for class) that are specific to students who are committed to a particular course of study. Although the majority of subjects in this study were admitted into the nursing program, the majority of subjects from the freshman course had not yet been admitted. This study might be designed as a longitudinal study over the three year period that a student would be in the nursing program. Conducting action research that would apply specific techniques to target diverse perspectives, communication with faculty and peers, asking questions in class, class discussions, and perceived difficulty of course work, and preparation for class is recommended.
Persistence between gender groups was another serendipitous finding that might also be an area of future research. Before students can enroll in the first-semester sophomore nursing courses, they must apply in a secondary admission process and compete for a limited number of admissions slots. Once students are admitted into the nursing program, the numbers for males in each course stayed fairly consistent, while the numbers for females dropped. It is even more pronounced starting with the first junior semester, with five males (10.9%) and 41 females (89.1%). The second-semester senior group is composed of five males (14.7%) and 29 females (85.3%). Another area of future research would explore the attrition rates and persistence rates of men and women in nursing school.

There were gender differences with relation to diversity, note taking in class and valuing case study scenarios. It would be interested to conduct a study to explore specific classroom engagement activities that would be effective for both men and women. Results could be helpful in designing classroom activities that are engaging to both male and female students.

Adding a series of focus groups within the courses surveyed, would be another possibility for future research. This might increase understanding of specific engagement activities and how they are implemented in different courses. Observation of engaging activities in the classroom could also be incorporating into the research design. These research strategies might also lend depth to a research study by having both quantitative and qualitative data to analyze and explore.

For future research, it would be interesting to explore the relationship between the educational experience of the instructor and engagement activities in the classroom. A
questionnaire for the instructor could be added to the study that included information concerning years of experience, teaching philosophies, and the faculty member’s level of engagement with nursing concepts and nursing education. It would also be important to ascertain which of the engaging activities are actually being implemented in the classroom setting.

This study began with a set of basic questions that were initially difficult to articulate. What happens in the classroom that can influence a nursing student’s academic performance? How can nursing instructors facilitate a more engaging classroom? Are the two concepts of academic performance and classroom engagement related in any way? Although the findings in this study revealed some insights into the relationship between nursing student classroom engagement and academic performance, more questions have come to the forefront. Can the facilitation of a more engaged classroom encourage nursing student retention? Can faculty development increase classroom engagement? Is there a relationship between classroom engagement activities and the expectations of the instructor? As more research is conducted to increase the level of understanding into the construct of student classroom engagement, more of these questions will be answered.
References


APPENDIX A

Cover Letter and Consent Form
CONSENT FORM

West Texas A&M University
College of Nursing and Health Sciences

CONSENT TO PARTICIPATE IN RESEARCH

Baccalaureate Nursing Student Classroom Engagement and Academic Performance

You are asked to participate in a research study conducted by Helen Reyes, RN, MSN - faculty from the Department of Nursing, College of Nursing and Health Sciences, West Texas A&M University and student, Liberty University, College of Education. Results will contribute to researcher’s doctoral dissertation.

If you have any questions or concerns about the research, please feel free to contact Helen Reyes at (806) 651-2649 or (806) 537-5411.

PURPOSE OF THE STUDY

The purpose of this research study is to explore the relationship of nursing student classroom engagement and academic performance. "What is the relationship between nursing student classroom engagement and academic performance?" is the research question. The construct of engagement has varied definitions, however most agree that engaged learning in the college classroom is associated with and considered an important predictor of student achievement. To that end, faculty and administrators in collegiate education are increasingly concerned about student engagement in the classroom. Research reveals that college students want to be challenged in the classroom but most often feel detached or disengaged with the course and content. The variables in which an association is being explored include student engagement scores from the CLASSE instrument and student performance as measured in numerical nursing course grades.

PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

Complete the Classroom Survey of Student Engagement which includes demographic data and information concerning classroom engagement practices specific to the nursing course the participant is currently enrolled.

POTENTIAL RISKS AND DISCOMFORTS

There are no potential physical, mental, or emotional risks associated with the study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY
Participants will have access to the aggregate research findings once completed.

With a nursing shortage that is expected to double by the year 2020, it is important to increase retention rates. Linking student engagement with academic success would be an important factor for increasing student success and ultimately retention rates. Because correlational research is designed to show relationships or association only, there are no cause-and-effect conclusions to be drawn from this study.

**PAYMENT FOR PARTICIPATION**

There will be no payment of any kind to the participant for taking part in the survey.

**CONFIDENTIALITY**

Every effort will be made to ensure confidentiality of any identifying information that is obtained in connection with this study. Results of the surveys will be reported in aggregate form only. The survey documents will be kept for one-year or until the research project is completed in a secured area. The aggregate results will be made available to the participants. The data will be used for doctoral dissertation work.

**PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. Grades or progress in the nursing program will not be affected by whether or not you participate in this study or how you answer the survey questions. You may exercise the option of removing your data from the study. You may also refuse to answer any questions you don’t want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise that warrant doing so.

**RIGHTS OF RESEARCH PARTICIPANTS**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact:

Helen Reyes  Telephone: (806) 651-2649
West Texas A&M University  E-mail: hreyes@mail.wtamu.edu
WTAMU Box 60969  Fax: (806) 651-2632
Canyon, TX 79016
SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

I have read the information provided for the study “Baccalaureate Nursing Student Classroom Engagement and Academic Performance” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

____________________________________________________________________________________________
Name of Participant (please print)

____________________________________________________________________________________________
Name of Legal Representative (if applicable)

____________________________________________________________________________________________
Signature of Participant or Legal Representative Date
APPENDIX B

Demographic Data
# Demographic Data

Please circle or write the appropriate response.

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race or Ethnicity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White – non-Hispanic</td>
<td></td>
</tr>
<tr>
<td>Black – non-Hispanic</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td></td>
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<tr>
<td>American Indian/Alaskan Native</td>
<td></td>
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<tr>
<td>Non-resident Alien/Foreign National</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
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<table>
<thead>
<tr>
<th>1st Generation College Student</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
APPENDIX C

Sample CLASSE Student Instrument
This survey includes items that ask about your participation in [nursing course] and about educational practices that occur in this class. Your honest and straightforward responses to these questions will help us identify targets for improvements and enable us to provide an even higher quality academic experience.

**PART I: ENGAGEMENT ACTIVITIES**

So far this semester, how often have you done each of the following in your [NURSING COURSE] class?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>1 or 2 times</th>
<th>3 to 5 times</th>
<th>More than 5 times</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asked questions during your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Contributed to a class discussion that occurred during your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. Prepared two or more drafts of a paper or assignment in your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>before turning it in</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Worked on a paper or a project in your [NURSING COURSE] class that required integrating ideas or information from various sources</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td></td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments in your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6. Came to your [NURSING COURSE] class without having completed readings or assignments</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>7. Worked with other students on projects <strong>during</strong> your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>8. Worked with classmates <strong>outside of</strong> your [NURSING COURSE] class to prepare class assignments</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>9. Put together ideas or concepts from different courses when completing assignments or during class discussions in your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>10. Tutored or taught other students in your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>11. Used an electronic medium (list-serv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment in your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>12. Used email to communicate with the instructor of your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>13. Discussed grades or assignments with the instructor of your [NURSING COURSE] class</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
14. Discussed ideas from your [NURSING COURSE] with others outside of class (students, family members, coworkers, etc.)

15. Made a class presentation in your [NURSING COURSE] class

- □ Never
- □ Once
- □ 2 times
- □ More than 2 times

16. Participated in a community-based project (e.g., service learning) as part of your [NURSING COURSE] class

- □ Never
- □ Once
- □ 2 times
- □ More than 2 times

17. Discussed ideas from your readings or classes with your [NURSING COURSE] instructor outside of class

- □ Never
- □ Once
- □ 2 times
- □ More than 2 times

18. Received prompt written or oral feedback on your academic performance from your [NURSING COURSE] instructor

- □ Never/Rarely
- □ Sometimes
- □ Often
- □ Very Often

19. Worked harder than you thought you could to meet your [NURSING COURSE] instructor’s standards or expectations

- □ Never/Rarely
- □ Sometimes
- □ Often
- □ Very Often

**PART II: COGNITIVE SKILLS**

So far this semester, how much of your coursework in your [NURSING COURSE]

- Very Little
- Some
- Quite a Bit
- Very Much
class emphasized the following mental activities?

20. **Memorizing** facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form □ □ □ □ □

21. **Analyzing** the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components □ □ □ □ □

22. **Synthesizing** and organizing ideas, information, or experiences into new, more complex interpretations and relationships □ □ □ □ □

23. **Making Judgments** about the value of information, arguments, or methods, such as examining how others
gathered and interpreted data
and assessing the soundness
of their conclusions

24. Applying theories or concepts
to practical problems or in
new situations

**PART III: OTHER EDUCATIONAL PRACTICES**

**So far this semester**

25. How often in your [NURSING COURSE] class have you been required to prepare written
papers or reports of more than 5 pages in length?

- □ Never
- □ Once
- □ 2 times
- □ 3 or more times

26. To what extent do the examinations in your [NURSING COURSE] class challenge you to do
your best work?

- □ Very little
- □ Some
- □ Quite a bit
- □ Very much

27. In a **typical week** in your [NURSING COURSE] class, how many homework assignments take
you more than one hour each to complete?

- □ None
- □ 1 or 2
- □ 3 or 4
- □ 5 or more

28. In a **typical week**, how often do you spend more than 3 hours preparing for your [NURSING
COURSE] class (studying, reading, doing homework or lab work, analyzing data, rehearsing,
and other academic matters)?

- □ Never/Rarely
- □ Sometimes
- □ Often
- □ Very Often

29. How many times have you been absent so far this semester in your [NURSING COURSE]
30. How frequently do you take notes in your [NURSING COURSE] class?
- □ None
- □ 1 - 2 absences
- □ 3 – 4 absences
- □ 5 or more absences

31. How often do you review your notes prior to the next scheduled meeting in your [NURSING COURSE] class?
- □ Never/Rarely
- □ Sometimes
- □ Often
- □ Very Often

32. How often have you participated in a study partnership with a classmate in your [NURSING COURSE] class to prepare for a quiz or a test?
- □ Never
- □ Once
- □ 2 times
- □ 3 or more times

33. How often have you attended a review session or help session to enhance your understanding of the content of your [NURSING COURSE] class?
- □ Never
- □ Once
- □ 2 times
- □ 3 or more times

34. How interested are you in learning the [NURSING COURSE] course material?
- □ Very uninterested
- □ Uninterested
- □ Interested
- □ Very Interested

PART IV: CLASS ATMOSPHERE

So far this semester, what are your general impressions of the [NURSING COURSE] class atmosphere?

35. How comfortable are you talking with the instructor of your [NURSING COURSE] class?
- □ Uncomfortable
- □ Somewhat
- □ Comfortable
- □ Very Comfortable
36. How much do you enjoy group work with your classmates in your [NURSING COURSE] class?

□ Very Little  □ Some  □ Quite a Bit  □ Very Much

37. How difficult is the course material in your [NURSING COURSE] class?

□ Easy  □ Somewhat  □ Difficult  □ Very Difficult

38. How easy is it to follow the lectures in your [NURSING COURSE] class?

□ Difficult  □ Somewhat Easy  □ Easy  □ Very Easy

**PART V: OPTIONAL [NURSING COURSE] ITEMS**

So far this semester

39. How much have the assigned journaling activities encouraged interest in the topics addressed in [NURSING COURSE]?

□ Very Little  □ Some  □ Quite a Bit  □ Very Much

Please enter your student identification number here: ____________________________

If you do not know your ID number, please print your first and last name.

We ask you to identify yourself by student identification number in order to permit us to relate your responses to the particular educational experience you’ve had at West Texas A&M University. Please know that your individual responses will remain confidential. No individual responses will ever be identified in any report, shared with your faculty instructor, or in any other way made available. As a student-centered university, we know we will make the best decisions to improve
the educational experience when those decisions are informed by student feedback. Thank you for helping us attain this goal.

Thank you for taking the time to complete this survey

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APPENDIX D

Course Specific Questions
Course Specific Questions

Question Number 39

Freshman:

How much have the assigned journaling activities encouraged interest in the topics addressed in the nursing course?

Very Little      Some      Quite a Bit     Very Much

First-semester sophomore:

How much have the assigned journaling activities encouraged interest in the topics addressed in the nursing course?

Very Little      Some      Quite a Bit     Very Much

Second-semester sophomore:

How much have the assigned journaling activities encouraged interest in the topics addressed in the nursing course?

Very Little      Some      Quite a Bit     Very Much

First-semester junior:

How much do the case study activities encouraged interest in the topics addressed in the nursing course?

Very Little      Some      Quite a Bit     Very Much
Second-semester junior:

How much do the case study activities encouraged interest in the topics addressed in the nursing course?

Very Little  Some  Quite a Bit  Very Much

First-semester senior:

How much do the case study activities encouraged interest in the topics addressed in the nursing course?

Very Little  Some  Quite a Bit  Very Much

Second-semester senior:

How much do the case study activities encouraged interest in the topics addressed in the nursing course?

Very Little  Some  Quite a Bit  Very Much
APPENDIX E

Approval to Participate in Pilot Study
The College Student Report
Item Usage Agreement

The National Survey of Student Engagement’s (NSSE) survey instrument, *The College Student Report*, is copyrighted and the copyright is owned by The Trustees of Indiana University. Any use of survey items contained within *The College Student Report* is prohibited without prior written permission from Indiana University. When fully executed, this Agreement constitutes written permission from the University, on behalf of NSSE, for the party named below to use an item or items from *The College Student Report* in accordance with the terms of this Agreement.

In consideration of the mutual promises below, the parties hereby agree as follows:

1) The University hereby grants West Texas A&M University (“Licensee”) a nonexclusive, worldwide, irrevocable license to use, reproduce, distribute, publicly display and perform, and create derivatives from, in all media now known or hereafter developed, the item(s) listed in the proposal attached as Exhibit A, solely for the purpose of including such item(s) in the survey activity described in Exhibit A, which is incorporated by reference into this Agreement. This license does not include any right to sublicense others. This license only covers the survey instrument, time frame, population, and other terms described in Exhibit A. Any different or repeated use of the item(s) shall require an additional license.

2) In exchange for the license granted in section 1, Licensee agrees:

a) there will be no licensing fee to use NSSE items for the purposes described in Exhibit A;

b) to provide to NSSE frequency distributions and means on the licensed item(s);

c) on the survey form itself, and in all publications or presentations of data obtained through the licensed item(s), to include the following citation: “Items xx and xx used with permission from *The College Student Report*, National Survey of Student Engagement, Copyright 2001-06 The Trustees of Indiana University”;

d) to provide to NSSE a copy of any derivatives of, or alterations to, the item(s) that Licensee makes for the purpose of Licensee’s survey (“modified items”), for NSSE’s own nonprofit, educational purposes, which shall include the use of the modified items in *The College Student Report* or any other survey instruments, reports, or other educational or professional materials that NSSE may develop or use in the future. Licensee hereby grants the University a nonexclusive, worldwide, irrevocable, royalty-free license to use, reproduce, distribute, create derivatives from, and publicly display and perform the modified items, in any media now known or hereafter developed; and

e) to provide to NSSE, for its own nonprofit, educational purposes, a copy of all reports, presentations, analyses, or other materials in which the item(s) licensed under this agreement appear.
National Survey of Student Engagement

Agreement, or modified items, and any responses to licensed or modified items, are presented, discussed, or analyzed. NSSE shall not make public any data it obtains under this subsection in a manner that identifies specific institutions or individuals, except with the consent of the Licensee.

3) This Agreement expires on December 31, 2007.

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

[Signature]
George Kuh
Chancellor's Professor and Director,
National Survey of Student Engagement

Date: 12/15/06

For Licensee:

[Signature]
Helen Reyes
Undergraduate Coordinator
West Texas A&M University
College of Nursing and Health Sciences
Department of Nursing

Date: 1/18/06
APPENDIX F

IRB Approval Research Institution
November 21, 2006

Helen Reyes
Department of Nursing

We are pleased to inform you that your study titled, “The Relationship Between Baccalaureate Nursing Student Classroom Engagement and Academic Performance” has been approved by the WTAMU IRB. This approval is extended to you for one year. Should data collection proceed past one year, or should you make changes in the methodology as it affects human subjects, you must resubmit the study to the IRB.

Thank you for your cooperation with the IRB and we wish you well with your research project.

Sincerely,

Dr. James Hallmark, ex-officio
Dean, Graduate School and Research

Dr. Reed Welch
Chair, WTAMU IRB
APPENDIX G

IRB Approval Liberty University
Dear Helen,

We are pleased to inform you that your study, "Baccalaureate Nursing Student Classroom Engagement and Academic Performance," has been approved by the Liberty IRB. Your IRB approval number is 516, received originally on March 28, 2007. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must resubmit the study to the IRB. See the IRB website for appropriate forms in these cases.

Thank you for your cooperation with the IRB and we wish you well with your research project. We will be glad to send you a written memo from the Liberty IRB, as needed, upon request.

Sincerely,

Fernando Garzon, Psy.D.
IRB Chair, Liberty University
Center for Counseling and Family Studies
Liberty University
1971 University Boulevard
Lynchburg, VA 24502-2269
(434) 592-4054
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