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How Nursing Educators Address the Differing Learning Styles of Students

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COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Kimmie Gore

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2014

Abstract

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Kimmie Sue Gore

MSN/Ed, University of Phoenix, 2010

BSN, University of Phoenix, 2008

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Educational research has shown that student learning styles, and educators' consideration of learning styles, significantly influence the academic success of adult learners. This project study was designed to identify the perceptions and attitudes of nursing faculty concerning student learning styles and consideration of student learning styles in their praxis. The study was guided by Malcolm Knowles' theory of andragogy, and investigated nursing educators' knowledge about learning styles and course delivery with regards to students with different learning styles. It used a descriptive multiple case study approach and collected data among nursing educators using the Principles of Adult Learning Survey (PALS) (n = 9), teacher interviews (n = 9), and classroom observations (n = 6). The qualitative interview data were analyzed using the constant comparative method, and the PALS and observational data were analyzed using descriptive quantitative methods. The results indicated deficiencies in nursing instructors' knowledge of student learning styles and in nursing instructors' learning style-driven course delivery. Respondents notably cited time limitations, class size, and student resistance as barriers in implementing teaching strategies to address learning style differences. A notable study outcome was developing a 3-day seminar for nursing educators focusing on the deficiencies and barriers identified in the study. Implementing this program may promote positive social change for both nursing educators and nursing students by addressing barriers to learning style-driven teaching methods and facilitating student learning style consideration in planning and delivering nursing education, promoting improved academic performance by nursing students.

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Dedication

To Sarah and Sharon; it is with great pride and honor that I call you my daughters, my friends, and my colleagues. And to my wonderful grandchildren; Jacob, Brandon, and Megan: The future is yours. Follow your dreams wherever they may lead you. I love you all.

Acknowledgments

I could not have completed this doctoral journey without the help and support of many people. First and foremost, I want to thank my committee chair, Dr. Wendy Edson, for her encouragement and expert advice. This project would never have come to fruition without her suggestions and guidance. She helped me "quiet the wandering mind" and focus my efforts. Next, I wish to thank my second committee member, Dr. Stephen Brown, for his valuable input, especially helping me find the "so what" factor in the beginning of my dissertation. I also want to thank my URR reviewer, Dr. Tammy Hoffman, for her feedback, which greatly helped me strengthen the overall quality of my product.

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Finally, I want to thank my family and friends who provided me with support and encouragement. Although they are not here to see this result, I owe much to my parents, Lloyd and Norma Gore, who set me on the road to my career and academic achievement. I especially sincerely thank my husband Jeff, who not only acted as my editor, but also put up with and supported me through my whole range of stress, anger, confusion, frustration, tears, and the occasional joy and triumph.

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Section 1: The Problem

Introduction

The concept and importance of learning styles, of differences in personal preferences concerning how to receive and assimilate information, has been well established in educational research. Significant amounts of research have examined teaching styles and methods, including the effectiveness (or lack thereof) of single-type styles versus diversified teaching methods. Single-type teaching is usually lecture teaching, as opposed to diversified or student-centric teaching. Johnson and Mighten (2005) opined that if the goal is for students to process the material being presented, to help transform information into knowledge teachers must make a "…paradigm shift from the lecture model to one that uses a variety of approaches focused on stimulating students to think critically…" (p. 320). A research gap exists, however, with less study and reporting on the degree to which adult educators understand student learning style differences and whether they consider learning style adaptations in planning their classroom teaching. This study addressed this gap by specifically investigating these concerns with nursing instructors.

Nursing education in the United States, like much of adult education, involves students who may possess widely varied learning styles or preferences. One-dimensional teaching such as instruction solely through lecture from faculty or simply telling students to read a textbook chapter is not likely to help all students (NCSBN, 2008, p. 5). Neuman et al. (2009) found that teaching and learning methods must be designed and implemented with an eye toward addressing the needs of students with varied learning

styles in order to effectuate the most productive, efficient, and effective nursing education, and that with the greatest potential for student success.

It is very difficult to design any type of learning style based education enhancement or remediation program without knowing the current state of nursing faculty understanding of student learning style differences and what, if any, methods they use to address them. The current level of this understanding on the part of nursing faculties is currently not well understood or documented.

Definition of the Problem

Nursing education faculty members in the United States bear a unique set of responsibilities. They are tasked with providing student nurses with technical knowledge and skill sets in the ever-changing arena of healthcare. They must also teach prospective nurses more abstract skills such as critical thinking and clinical reasoning (AACN, 2005; Benner, Sutphen, Leonard, & Day, 2010; NCSBN, 2008). A combination of technical knowledge and the ability to think critically is necessary for students to succeed in nursing school, in post-graduation licensure examinations, and in nursing practice.

In order to satisfy these requirements to teach both technical and thinking skills, nursing faculty members must be knowledgeable in both course content and the science of adult education. The American Association of Colleges of Nursing has stated that nursing educators should understand adult learners and adult learning and make decisions concerning both what to teach and how to teach (AACN, 2005). Teachers must make use of varied teaching techniques to promote positive student outcomes (AACN, 2005; Benner, et al., 2010; NCSBN, 2008; Young & Patterson, 2007). The National Council

of State Boards of Nursing (NCBSN, 2008) has said that nurse educators must understand the science of adult learning including learning styles and diverse learners.

Despite these NCBSN and AACN mandates and wide acknowledgement on the part of educational theorists of the importance of student learning styles in adult education, little is known concerning whether nursing instructors do, in fact, understand learning style differences in their students. Even less is known about how, or if, nurse educators incorporate varied methods in their teaching to address learning style differences. Inherent in this deficit is a lack of understanding of any factors that prevent nursing teachers from using such varied methods. This study addresses this lack of knowledge concerning nurse educators' understanding and consideration of learning styles. Knowing both what teachers know about learning styles and what they do to address them is a necessary first step in designing programs to help teachers and students be more effective through understanding and consideration of learning style differences.

Failure on the part of educators to adequately consider student learning style differences, whether due to lack of understanding or other impediments, contributes to problems in academic performance. Despite rigid entrance requirements and testing designed to identify students who exhibit the highest potential for success, a significant number of undergraduate students experience academic difficulty at nursing schools. These difficulties are not limited to coursework: Colorado State Board of Nursing records indicate that from 2008-2012 nearly 10% of license applicants who had graduated from approved bachelor degree nursing courses failed to pass their first attempt at the registered nurse licensure examination (NCLEX Pass Rates, 2012). Additionally,

although it is only an indirect indicator of nursing school performance, nearly half of all students who begin Bachelor of Science in Nursing (BSN) degree programs fail to complete those degrees (Attrition, 2011). Some part of this attrition is likely due to a lack of student success in academics.

Even though many nursing programs offer a study skills course, learning style assessment and learning style-specific study tools are often not included as part of the course, as is the case for the school selected for this study, a public university located in Colorado. Through discussions with the Nursing Program I learned that the university does administer a learning style inventory to students but the information from that assessment is not disseminated to a student's subsequent teachers (J. Smith, personal communication, 2014). The evaluation process for teachers at this university does not include an assessment of those teachers' understanding of student learning styles (J. Smith, personal communication, February 26, 2014).

Concerns about teaching methods were also voiced in personal communications with nursing students at another campus concerning their classroom experiences. Many of those students have voiced concerns about classes that were presented solely through the use of lecture and PowerPoint slides. In March 2013, for example, several nursing students told me that it was difficult for them to assimilate large amounts of technical information absent the use of additional learning strategies such as group projects, open discussions, and hands-on tasks.

This project study explored the knowledge and attitudes of nursing faculty relating to student learning styles. It also gauged the extent to which nurse educators at

the study site incorporated learning style consideration in their course planning and delivery. The results identified a gap in practice in terms of teachers failing to adequately address student learning styles. The results also helped suggest avenues to pursue in closing that gap.

Description of the Local Setting

The setting for this study was an accredited institution of higher education in Colorado that offers several different graduate and undergraduate nursing degree programs. The local study site has two nursing related degree programs, the Associate Degree in Nursing (ADN) and Bachelor of Science in Nursing (BSN); these tracks are designed to prepare students to take and pass the state administered National Council Licensure Examination (NCLEX). Successfully completing the NCLEX leads to the issuance of the Registered Nurse (RN) license and credential necessary for professional practice as a nurse. The study site's residential campus provides nursing classes in traditional brick and mortar classroom settings. The school also offers nursing classes in an online environment.

There were approximately 500 students enrolled in the nursing programs at the study site in autumn of 2014. At the time of the study, about 22 nursing faculty members were engaged in teaching in the ADN and BSN programs. As both a traditional classroom and online institution, the school is representative of most nursing schools in Colorado including both traditional and e-learning facilities.

Rationale

Evidence of the Problem at the Local Level

Unlike many other adult educational fields, nursing education includes teaching students how to critically think and problem solve. The National League for Nursing has stated that "graduates of nursing programs are required to demonstrate critical thinking, reflection, and problem solving skills" (as quoted in Staib [2003], p. 498). Nursing educators must therefore ensure that students are both ready to provide patient care and are equipped with the critical thinking skills that they will need to be successful on the National Council Licensure Examination (NCLEX) and eventually to function professionally.

A failure on the part of faculty members to adapt their teaching strategies to address varied student learning styles and diverse learning needs can negatively impact student readiness and contribute to academic difficulties (Benner, et al., 2010; Billings & Halstead, 2005; Oermann & Gaberson, 2009; Young & Paterson, 2007). Through experience, individuals develop one or more preferred learning style or styles (Fleming & Baume, 2006; Knowles, Holton, & Swanson, 2011). People tend to use elements of all learning styles; they tend to not confine their learning efforts to one style only. However, people prefer to use one or perhaps two modes of learning as opposed to others (Fleming & Baume, 2006). All people learn actively but they do so in different ways. Different learning styles call for different teaching approaches.

To remediate any deficiencies in nursing school academic achievement, it is necessary to identify the root cause or causes of those difficulties (Cowen & Moorhead,

2006; Oermann & Gaberson, 2009; Young & Paterson, 2007). While learning style theory is well known and widely accepted in education circles, the extent to which nursing school instructors, specifically those at the subject school, are varying their instructional methods to address those styles and differentiated learner needs is not known. There is little available data to indicate whether nursing instructors are using pedagogies that are designed for, driven by, or centered on the individual needs of their students or those that are designed considering only what the instructor feels is effective, efficient or convenient. This is the key difference between a teacher-centric and a learner-centric classroom.

Purpose of the Study

Knowing the degree to which each type of teaching style is being used in the subject institution is a prerequisite to the design or implementation of any type of professional development course meant to help teachers teach and students learn more successfully. More successful teaching and learning are necessary to help alleviate the academic deficiencies noted. However, remediation efforts would be inappropriate prior to knowing what specifically needs to be remediated (Merriam, Caffarella, & Baumgartner, 2007; Palomba & Banta, 1999). Therefore, the determination of whether instructors are leading teacher- or learner-centric classes was central to this project. To that end, I conducted interviews with teachers in the nursing education program to find the degree to which they are familiar with learning style theory, whether they are aware of the learning styles of students in their classrooms, and what, if any, teaching methodologies they are using to address those learning styles. I also used an established

and validated instrument to survey instructors concerning learning style issues, and performed in-classroom observations to help in making the determinations referred to above.

This purpose of this study was to find if nursing faculty members who are familiar with learning style theory and the differentiated needs of their students are employing varied means of teaching to address them. Also, in the case of nursing faculty members who know about learning style differences but have not implemented varied teaching strategies, it was important to determine why they have not chosen to do so. All of these factors must be assessed before any substantive action can be taken to correct deficiencies. Therefore, the primary problem addressed by this study was that not enough was known about nurse educators' knowledge of student learning styles and whether those nurse educators are using varied teaching methods. Determinations must be made concerning both knowledge and utilization before any subsequent steps can be taken toward improving the academic performance of the nursing education program.

Evidence of the Problem from the Professional Literature

Many contemporary educational theorists have explored the topic of learning styles and differences in how various adult students learn. Knowles (1980) proposed key theories concerning adult education methods, referred to as andragogy, and the need to adjust its delivery to appeal to learners with varying personal preferences for how to receive and interpret information. Gardner (1993) was not a proponent of the term learning styles but did seminal work on different styles of intelligence and developed the theory of Multiple Intelligences, or MI, which is closely related to theories of learning

styles. Other researchers and theorists including Kolb (1984) and Fleming (1992) have expanded on the learning style or multiple intelligence ideas. Several have developed learning style models and assessment tools. Fleming (1992) proposed a model, often referred to as VARK, which categorizes learners as being primarily oriented toward visual, auditory, reading, or kinesthetic learning. Regardless of the specific learning style model or even the use or non-use of the term learning style, there has been wide spread agreement among educational theorists concerning the importance of addressing varied types of learners among adult students (Benner, et al., 2010; Caffarella & Vella, 2010; Gogus & Gunes, 2010; McClellan & Conti, 2008; Pham, 2012).

Learning style consideration and varied teaching methods are as important in teaching nursing students as they are in the education of any other adult learner. In *Educating nurses: A call for radical transformation*, Benner, Sutphen, Leonard, and Day (2010) urged nurse educators to "…step out from behind the screen full of slides and engage students…" (Benner, et al., 2010, p. 14) and called for a more student-centric approach in nursing education. Nurse educators Young and Patterson (2007) also advocated a more student oriented teaching style and emphasized that student learning styles should be considered in planning teaching. In writing about evidence-based practice in nursing and learning, Johns Hopkins University nursing educators Poe and White (2010) cautioned against the use of a one dimensional teaching strategy in nursing education.

Definitions

Andragogy

Malcolm Knowles was one of the more contemporary learning theorists. His works significantly impact adult learning methods. During his career, Knowles published several books focusing on his theory of andragogy. Andragogy means that educators of adults should focus more on the process of education, especially methods of instruction and course content delivery, than on the content itself (Knowles, 1984). Andragogy includes the precept that adult learning is most effective when it involves performing tasks and activities instead of simply passively reading or listening to lectures. Knowles' andragogy also means that educators should teach students by having them become involved in tasks thus gaining their own insights.

Critical Thinking

Critical thinking is a term that has been used in adult education circles for some time. It has particular significance in nursing and nursing education. Poe and White (2010) refer to critical thinking as a "foundational cognitive skill" consisting of sub-skills including interpretation, analysis, inference, evaluation, explanation and self-regulation.

Learning Styles

Learning styles refers to an individual's tendency to prefer to receive and process information in one or more specific ways (Knowles, 1980; Kolb, 1984). Learning styles most often means one's preferred mode of information reception, such as the styles described in Fleming's (1992) VARK model.

Multiple Intelligences

Howard Gardner (1983) was the originator of the term multiple intelligences. He used it to refer to the multi-faceted nature of a person's intellect. Gardner (1983) advanced the idea that an individual's cognitive ability is made up of strengths in differing areas and that intellectual acumen is a function of those strengths individually and in combination.

NCLEX

The National Council of State Boards of Nursing (NCSBN) is a body charged with ensuring the quality and competence of nursing care in the United States. One of the ways in which they discharge that duty is to administer the National Council Licensure Examination (NCLEX) to new entry-level nurses. The examination is designed to ensure that the candidate meets the minimum standards for nursing skill and knowledge required to ensure the delivery of competent, professional care (National Council of State Boards of Nursing [NCSBN], 2013). Success on the examination is a requirement for licensure as a nurse.

PALS

The Principles of Adult Learning Scale (PALS) is a survey instrument authored by Gary Conti (1984). It is used to measure an educator's instructional style in terms of teacher-centric or learner-centric orientations.

VARK

Neil Fleming (1992) developed the VARK model to describe the different preferences students have in how to receive information. Those preferences, which

constitute the elements of the VARK model, are Visual, Aural, Reading/writing, and Kinesthetic.

Significance of the Problem

It is well recognized in adult education that addressing student learning style differences through varied teaching methods is desirable and can be helpful to academic performance. Not well known however is the degree to which nursing educators understand student learning styles and whether they design their course delivery methods to address those style differences. If they are in fact not doing so, it could be due to a number of factors. Nursing educators may not be sufficiently aware of learning style differences, they may not have the resources in terms of time and materials needed to implement diversified teaching, they might lack administrative support for varied teaching delivery, or some other unanticipated reason could be to blame. It is also possible that nursing faculty members are aware of, and addressing, learning style differences.

It is not possible to answer questions concerning faculty consideration of nursing student learning styles without knowing the current attitudes and practices of nursing instructors. This study is intended to address those attitudes and practices and help make a determination of whether learning styles are being adequately considered by nursing educators. Determination of the degree to which learning styles are considered is required before decisions can be made as to what, if any, remediation programs are necessary to increase learning style consideration in nursing education.

Guiding/Research Question

As detailed in the Review of Literature section, a significant amount of study has been devoted to the subject of learning styles and the importance of addressing them. What has not been as thoroughly explored or reported is the extent to which adult educators, particularly nursing instructors, understand learning style theory and why it is important. Few studies have addressed the degree of nursing instructors' knowledge of the learning styles of their students or even their own styles. There is also a gap in the literature concerning the degree to which learning styles have been considered in developing nursing classroom delivery techniques and other elements of nursing instructors' practices.

An understanding of nursing instructors' familiarity with learning style differences and adaptations in teaching methodologies is foundational to determinations of the extent to which such strategies are, or are not, being used. As discussed above, that understanding is also critical to the effectiveness of any eventual programs designed to encourage the use of diversified teaching strategies in efforts to address the academic shortfalls detailed in the introduction of this proposal. The combination of the research questions which guided this study permit a determination to be made concerning the extent to which nursing instructors understand learning style differences and teaching methods to help address them, and any aids or impediments those instructors have encountered in implementing such methods.

In a descriptive case study, the research paradigm that this project followed, the structure of the research questions is important. They should help guide the study and

maintain focus on the problem. With that in mind, I addressed the following research questions:

1. What do nursing instructors know about learning styles?
2. How do nursing instructors design course delivery with consideration of the needs of students with different learning styles?
3. Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?

Question 1 was answered through teacher interviews and responses on the PALS survey. Question 3 was also answered through the interviews and PALS data. Question 2 was addressed via the interviews and classroom observations.

Review of the Literature

I conducted a literature review in which additional scholarly writings were sought concerning nursing education and the need to adapt teaching methods to more fully engage adult learners with varied styles or preferences. I employed several different means in the search. I used Nursing Education and Learning Styles, Teaching Strategies in Nursing, Student Learning Styles and Academic Success, and Student Nurse Learning Preferences as query terms to search the extensive electronic databases maintained by ProQuest, EBSCOhost, and CINAHL. Additionally, I conducted a thorough review of my own library of texts and scholarly volumes on adult education in general and nursing education in particular. The combination of all literature searches yielded a relatively large number of scholarly writings and research reports concerning differentiated adult student learning styles and preferences and why teaching methods should adjust to meet

them (Benner, et al., 2010; Evans & Waring, 2011; Franzoni & Assar, 2009; Lane, 2010; McClellan & Conti, 2008; Pham, 2012). One common theme which emerged from the majority of the pieces reviewed was that students enjoyed a higher degree of success in environments which were learner-centric and in which teaching methods were adjusted to them as opposed to settings where that was not the case.

Theoretical Framework

I chose Malcolm Knowles' theory of andragogy as a theoretical framework used to inform this study. Knowles was a contemporary learning theorist whose works significantly impact ideas concerning adult learning methods. According to Knowles (1984), adult learning is a separate entity from the traditional pedagogy approach in which children learn. Knowles' andragogy is based on the premise that adult education should focus more on the process of learning than on the content being taught. In other words, emphasis should be placed on how adults learn rather than what they learn. As people mature, they accumulate a wealth of information related to experience. That internal library of information constitutes an ever increasing resource for learning. The goal in adult education is to provide techniques that tap into the experience of the learner.

According to the theory of andragogy, adult learning is most effective when it involves performing tasks and activities instead of simply passively reading or listening to lectures. Knowles (1980) believed that the role of the instructor was to be more of a facilitator than a rote teacher. Knowles urged educators to teach students by having them become involved in tasks and gaining their own insights. Knowles (1980) counseled that teachers use varied approaches in order to provide course content in ways that are

effective for learners with differing preferences for how to integrate information into their knowledge base. That is simply another way of saying that educators should be cognizant of, and adapt their teaching approaches to, the varied learning styles of their students.

Current Research Literature

Numerous volumes have been written and published concerning the recognition of varied learning styles and the need to adapt teaching strategies to accommodate students' diverse learning styles, particularly in higher education and in dealing with adult learners. Learning styles in adult education have given rise to many contemporary educational research projects. Some of that literature and research is cited below to provide a foundation used to inform this study.

Learning styles. Students exhibit differences in learning styles or preferences for learning in different ways (Knowles, 1980). A number of survey instruments have been developed and used to assess individual learning styles. Administration of those instruments to students has established not only the existence of learning style differences among students, but also the importance of learning style differences and the ability of students to identify their own styles when measured using the VARK learning style assessment instrument (Breckler, Teoh & Role, 2011; Fleming, 1992; Gogus & Gunes, 2010; McClellan & Conti, 2008).

The existence of learning styles was demonstrated by McClellan and Conti (2008) who built upon the work done by Howard Gardner (1983) in identifying and cataloging what Gardner called multiple intelligences. McClellan and Conti (2008) developed a

valid and reliable survey instrument, the Multiple Intelligences Survey (MIS), to assess the multiple intelligences and learning styles of college students concluding that learning style preferences do exist in college students. Naylor, Wooldridge, and Lyles (2014) used the Group Embedded Figures Test (GEFT) to measure differences in the cognitive learning styles of graduate students.

In addition, the significance of student learning styles in adult education was also established. Gogus and Gunes (2010) explored the relationships between learning styles, study habits, and academic performance and found that a student's knowledge of their own learning style or styles can be an important factor in academic achievement. Gogus and Gunes (2010) concluded that students' knowledge of their own learning styles enabled students to take "responsibility for their own learning" and that knowledge of learning styles by both students and teachers can "empower their learning experiences." Wichadee (2011) discovered that students of all learning styles significantly improved their academic performance after having their learning styles assessed and explained to them.

Knowledge of their own learning styles appears to have an impact on students' academic performance and their attitude toward education. Breckler, et al. (2011) administered Fleming's (1992) VARK learning style assessment to 288 university students after having them self-predict their own styles. The researchers found that students who are aware of learning style theory and the categories of learning styles can be reasonably accurate in predicting their own learning styles, helping them to study in ways that are most effective for them (Breckler, et al., 2011). Moreover, Tumkaya

(2012) reported that learning styles appear to have an effect on how students view learning in general. Tumkaya (2012) studied the epistemological beliefs of university students and compared them to the subjects' learning styles and a number of demographic factors. Students who expressed a preference for the diverging learning style as determined by the Kolb (1984) learning style inventory were more likely to agree that learning depends on ability than were other students (Breckler, et al., 2011; Tumkaya, 2012).

There has not been universal agreement in the literature concerning whether student learning style differences impact academic achievement. While learning styles and academic achievement have been associated in several studies, at least one study (Suliman, 2010) indicated that academic performance in traditional classrooms is not solely dependent on a student's preferred learning style. Suliman (2010) found that nursing students' academic performance did not vary significantly based on their learning style preferences, as determined by administration of the Kolb (1984) learning styles inventory, or social intelligence scores. Although Suliman (2010) found no correlation between learning styles, social intelligence and academic performance, the study involved no evaluation or consideration of the types of teaching that the students were receiving. Other researchers have differed with Suliman (2010) and found that learning styles do have an impact on classroom achievement. Damavandi, Mahyuddin, Elias, Daud, and Shabani (2011) also used the Kolb (1984) learning styles inventory and found statistically significant performance differences in students possessing different learning styles. Komur (2011) discovered that university education students exhibited differing

learning styles and that the students' performance in one of their core curriculum courses was influenced by personal learning style.

Individual student results on learning style inventories have been shown to be predictive of the student's academic performance in studies that involved different learning style assessment tools. Chen, et al. (2010) found that learners with converger styles as measured using Kolb's (1984) learning style inventory, did best at mathematics and science and that students with assimilator styles scored best in language courses. Rakap (2010) discovered that online students who indicated a preference for the reading/writing learning style on Fleming's (1992) VARK assessment inventory performed significantly better than did other students in the online environment (Chen, Yee, & Tsai, 2010; Rakap, 2010).

Researchers have studied the distribution of student learning styles looking for differences in learning style preferences between genders and between cultural groups. Nuzhat, Salem, Hamdan and Ashour (2013) used Fleming's (1992) VARK assessment to evaluate medical students and found that the distribution of learning styles did not vary significantly by gender. In contrast, Shabani (2012) used the Paragon Learning Style Inventory (PLSI) to evaluate student learning styles and found a statistically significant difference between males and females as to the learning style preferences they demonstrated. Blevins (2014) discussed the effect of age groupings on learning style preferences concluding that educators should consider generational influences on learning style when designing course delivery.

Other demographic and cultural factors have been found to impact learning style preferences. Sywelem, Al-Harbi, Fathema, and Witte (2012) studied the learning styles of education students in Egypt, Saudi Arabia, and the United States and found that identifiable differences existed in student learning style preference within each country and across cultures. A factor that can complicate determinations of learning style distribution by demographic criteria is that many students demonstrate a preference for more than one particular learning style. Razawi, Muslim, Razali, Husin and Samad (2011) found that students exhibited a variety of cognitive and learning styles and that many of those students possessed more than one style which they used in different situations.

Student learning style considerations are as important in nursing education as in other adult education fields. Learning style differences in health profession students, including nursing students, have been demonstrated and those learning style differences have been linked to academic performance. Noble, et al. (2008) sought to "identify the cognitive style of nursing students and other health profession students" (p. 246) as a possible aid to developing nursing school curriculum and to help teachers who instruct both nursing students and students in other health profession programs. Significant differences in cognitive and learning styles were discovered in the students studied in the Noble, et al. (2008) research. Hallin (2014), using the Productive Environmental Preference Survey (PEPS), found measurable learning style differences in nursing students. Lockie, et al. (2013) studied, among other factors, nursing students' learning styles as measured by Kolb's (1976) Learning Styles Inventory (LSI) and NCLEX pass

rates. Lockie, et al. (2013) found a statistically significant correlation between learning styles and NCLEX pass rates (Arthurs, 2007; Hallin, 2014; Lockie, Van Lannen, & McGannon, 2013; Noble, Miller, & Heckman, 2008).

What teachers know about learning styles generally, and about the styles of their students particularly, is fundamental to their ability to adapt instructional methods to address learning styles). Understanding of learning style theory by teachers (Evans & Waring, 2011) has been linked to the cognitive styles of those teachers. Evans and Waring (2011) found that student teachers' cognitive styles played a part in the degree to which they understood learning style differentiation. Even researchers who questioned the reliability of certain learning style assessment tools found evidence that teachers place importance on learning style differences (Evans & Waring, 2011; Martin, 2010; Naylor, Wooldridge, & Lyles, 2014; Solvie & Sungar, 2012).

Learning style adaptations in teaching. Knowledge of student learning styles and adjustments in teaching strategies to suit differentiated learning styles of students have been shown to be beneficial to those students' academic pursuits. Course content delivered in ways designed to suit the identified learning styles of students has resulted in student academic performance that was better than when the delivery was not adapted to learning styles. Moreover, it has been found that learners possessing all types of personal learning styles benefit from teaching methodologies that are varied (Franzoni & Assar, 2009; Ugur, Akkayunhu, & Kurbanoglu, 2011).

Variations in teaching strategies have shown value in nursing education in particular. Neuman, et al. (2009) found that the academic performance of both graduate

and undergraduate nursing students improved when several diversified teaching strategies were employed. Neuman, et al. (2009) also discovered that the students overwhelmingly favored and reacted positively to the teaching changes. Shillam, Ho, and Commodore-Mensah (2014) found that due to learning style diversity in nursing students, it is very important to deliver course content in varied formats.

One of the approaches advocated by Knowles (1984) is a shift toward a more student centric paradigm in adult education. Such a shift has been shown to be beneficial to student outcomes. After studying a class of university students in which learner centric teaching methods, including small group cooperative activities, were employed and pre- and post-class learning style evaluations were conducted, Cheang (2009) concluded that the learner centric approach had been a success. However, not all researchers agree with that assessment. Struyven, Dochy, Janssens, and Gielen (2008) sounded a cautionary note concerning changing the traditional teacher centric classroom. Struyven, et al. (2008) found that students in traditional classrooms exhibited a more positive feeling about their experience than did students in more learner centric classes. The degree to which that satisfaction may have been due to comfort and familiarity with the traditional methods was not reported. Struyven, et al. (2008) did note that the degree of satisfaction or dissatisfaction expressed by students concerning their classes was much higher in learner centric classroom groups.

Nursing education in particular may have a tendency toward traditional, teacher centric methods of instruction. The majority of nurse educators (Patterson, 2009) do not employ teaching strategies based on current educational research. Nursing students have

reported feeling disengaged, academically challenged, and that their classes were teacher centric and not interactive at significantly higher rates than have students in other fields. Brown, Greer, Matthias, and Swanson (2009) found the predominate teaching approach among nursing instructors to be a teacher centric model. Marrocco (2014) wrote that nursing educators often exhibit an over-dependence on lecture for course delivery and should instead assess the needs of their students and tailor their teaching to address those needs (Brown et al., 2009; Marrocco, 2014; Popkess & McDaniel, 2011) .

Despite the problems in nursing education cited above, Brown, et al. (2009) discovered that nursing instructors are overwhelmingly interested in whether their teaching is effective. Interest in nursing education improvements extends beyond the classroom. Phillips and Vinten (2010) found that most nursing clinical instructors are open to implementing innovative teaching strategies meant to create student centric environments.

Study skills. Study skills training has shown its value in improving the academic performance of students. Gokalp (2013) found statistically significant academic performance improvement in students who had been exposed to learning style driven study skills training. More specifically, study skills training focused on the individual learning styles of nursing students has proven to be beneficial. Lockie, Van Lanen, and McGannon (2013) found that academic difficulties suffered by learners in some learning style categories could be alleviated through interventions aimed at assisting them with study skills and other instruction tailored to their specific styles. Additionally, the benefits of learning style driven study skills training for nursing students (Mayfield,

2012) do not appear to diminish with time. Mayfield (2012) found that nursing students previously assessed for learning style and provided with study skill training suited to their styles, retained the information for considerable periods of time. The students involved in the Mayfield (2012) study continued to be mindful of their learning styles and to use the study skills they had learned as long ago as seven semesters prior to being surveyed (Awang & Sinnadurai, 2011, Gokalp, 2013; Lockie, Van Lanen, & McGannon, 2013).

Summary. There is widespread agreement in the literature that student learning styles are an important aspect to be considered in planning and executing teaching methods, particularly in college classrooms. Nearly all the articles reviewed here conclude with some kind of statement advocating teachers becoming aware of student learning styles and planning their pedagogies with learning styles in mind. Even the dissenting opinions reference the existence of differentiated learning styles. For instance, Martin (2010) criticized two learning style assessment tools as being inconsistent and in conflict with one another but reported that teachers at high performing schools credited learning style assessment and teaching methods to meet learning styles as major factors in the success of their schools.

Similar agreement exists in the literature regarding the difference between teacher centric and student centric classrooms. Most researchers have found that a student centered approach is more effective than teacher centered strategies. As is the case with the learning style literature, even the critics of student oriented classes acknowledge some positive aspects of student centric approaches. While Struyven, et al. (2008) reported that students generally preferred teacher centric classrooms, they also related that students in

the non-teacher centric classes reported much stronger feelings, both positive and negative, concerning their classes than did students in more traditional settings. Such strong feelings towards classes would seem to indicate a greater degree of engagement on the part of the students.

Both the idea of considering student learning styles and the concept of student centric classrooms are in line with the teachings of Malcolm Knowles and his construct of andragogy. Knowles (1980) wrote that adult learners should be empowered to take on much of the responsibility for their own learning experiences. He also advanced the opinion that teachers of adult students should provide curriculum in ways that allow learners to assimilate information however it is most effective for them. The majority of the studies cited here agree. In particular Cheng (2009), Franzoni and Assar (2009), and Neuman, et al. (2009) all found teaching post secondary learners in a student centric way to be effective.

Implications

In the context of instructor knowledge of learning styles and application of that knowledge in implementing varied teaching methods, there were essentially three possible broad-scale findings which could arise from analysis of the data collected in this study. First, it may be that teachers are knowledgeable concerning learning styles and are using appropriate teaching methods to appeal to students with different learning styles. Second, it is possible that while teachers do understand learning styles, they are not using that knowledge to deliver course material in varied ways. Third, teachers may not be familiar with learning style theory and its implications for their practice. The study

findings helped determine the direction of remediation efforts that can be crafted to address any deficits identified.

In the first case, teachers being aware of learning styles and using pedagogies designed to address them, improvement efforts should be aimed at students. For instance, learning style assessment and appropriate study skill training could be implemented. At the institution which is the setting for this study, nursing students are given a learning style assessment as part of an orientation course. Specific study skill training tailored to the individual student's preferred learning style or styles could be added to this course to help equip students to adapt to their own styles.

In the second case, teachers knowing about learning styles but not sufficiently incorporating consideration of them in their practice, or the third, faculty members being insufficiently aware of learning styles and their impact, faculty professional development training in learning styles, their import, and ways to address them would be indicated. Learning style training could be delivered in one or more sessions conducted in a live, group setting such as being incorporated into regular faculty meetings. The training could also be conducted as an online training course that faculty members could individually access and complete.

Summary

Nursing students are often not succeeding academically at the rates that would be expected given the rigorous entrance requirements of most nursing schools. One possible contributor to that problem may be that course content is not being delivered in ways designed to appeal to students with varied learning styles. Learning style theory has been

much studied and is widely accepted in education. The importance of learning styles in the adult learning process is well documented. What is not so well known is the degree to which teachers, specifically nurse educators, are designing pedagogies with an eye toward addressing varied student learning styles.

This study was designed to explore and help answer questions concerning how much nursing instructors know about learning styles and the degree to which they use that knowledge in conducting their classes. The project was conducted at one nursing school and followed a descriptive case study design. The following section details the methodologies employed in the conduct of this research.

Section 2: The Methodology

Introduction

The primary purpose of this study was to explore the extent to which nursing faculty members are aware of learning style theory, the needs of adult learners with differing preferred learning styles, and the degree to which those teachers incorporate diverse teaching methods in their classroom practice. Many nursing education authorities have written of the need for such knowledge and methods to help ensure positive student outcomes (AACN, 2005; Benner, et al., 2010; NCSBN, 2008; Young & Patterson, 2007). Understanding the current state of teacher knowledge and practices is a necessary first step in designing programs meant to remediate deficiencies in those areas.

This study employed a combination of qualitative and quantitative research methods. I interviewed nurse educators who formed the sample for the study. I also observed those teachers in their classrooms, and surveyed them using an existing survey instrument (PALS). The analysis of the resulting data helped produce an understanding of how those teachers understand the learning styles of their students and how they plan and deliver their teaching to suit those styles.

Research Design and Approach

Design

This descriptive qualitative research project was structured as a case study using the models for a multiple case study described by Yin (2014) and a multiple instrumental or collective case study described by Creswell (2012). Nursing instructors were used as the subjects or cases. The case study design, like phenomenology, permits a researcher to

explore the experiences and perceptions of study subjects to help gain insight into an issue (Holloway & Wheeler, 2010). Unlike phenomenology however, the case study permits an investigator to supplement perceptual and experiential data with observations, review of documents, and other means which can help build a more complete understanding of the issue (Bogdan & Biklen, 2007; Creswell, 2012, Holloway & Wheeler, 2010; Yin, 2014). The use of multiple data types and sources permits a case study researcher to approach a phenomenon from both a realist (researcher's) perspective and a relativist (participant's) perspective while also providing for triangulation which can help the validity of a study (Yin, 2014). The resulting combination of data and data analysis provided a variety of perspectives that contributed to an understanding of the degree to which nursing instructors are using learning style driven diverse teaching methods and any factors that may impede or cause resistance to the use of such methods.

The case study design is particularly well-suited to projects that seek to gain an understanding of complex social phenomena including those in education (Yin, 2014).

Guiding Research Questions

The primary research questions posed in this study were:

1. What do nursing instructors know about learning styles?
2. How do nursing instructors design course delivery with consideration of the needs of students with different learning styles?
3. Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?

These questions presented queries that can be characterized by type as explained by Yin (2014). Question 1 is a what question, Question 2 is a how question, and Question 3 is a why question. Yin (2014) wrote that the use of a case study design is appropriate when a researcher is attempting to answer how or why questions, when there is no requirement for control of behavioral events (as there is in experimental research), and when the study focuses on contemporary events (Yin, 2014). When posing a what question under the same conditions, Yin (2014) suggested using survey research. The use of a case study design incorporating a survey (PALS) as a descriptive element satisfies Yin's (2014) requirements for addressing all three questions where there is no requirement for control of events and the focus is on contemporary events. None of the other research methods discussed by Yin (2014) - experiment, survey, archival analysis, or history - fit all these criteria, unlike the case study method.

Setting, Population, and Sample

Setting

The setting for this study was a university in Colorado that offers several different graduate and undergraduate nursing degree programs. The Associate Degree in Nursing (ADN) and Bachelor of Science in Nursing (BSN) tracks prepare a student to take the state administered National Council Licensure Examination (NCLEX), the successful completion of which leads to the issuance of the Registered Nurse (RN) license and credential. The school's residential campus provides nursing classes in traditional brick and mortar classroom settings and in an online environment.

Approximately 500 students are currently enrolled in the nursing programs at the study site university. About 22 nursing faculty members teach undergraduate nursing program courses. The school offers both classroom and online courses, and is therefore representative of most nursing schools in Colorado and elsewhere be they traditional or e-learning facilities. The results of this study may be applicable to any nursing school, regardless of the venue in which classes are offered.

Population

The population which was the focus of this study was nursing faculty members at the subject school who taught in the undergraduate nursing education programs; some strictly in the classroom, some just in the online environment, and some who taught classes in both regimes. There were approximately 22 instructors in the subject school undergraduate nursing programs. The limited number of potential subjects meeting the described criteria meets Creswell's (2012) requirement of boundedness for the case(s) in case study research.

Sample

There were two primary criteria for including educators in the sample for this study. The first was that all participants must be nursing faculty members at the subject institution. The second was that participants must teach in nursing programs that lead students to taking the NCLEX examination for initial licensure as registered nurses. Of the total of approximately 44 nursing educators who teach in all of the nursing programs at the subject school, 50% met those requisites. Because of the inclusion requirements, the members of the sample are a homogenous group. According to Holloway and

Wheeler (2010), six to eight sample members are sufficient in qualitative research when those members are drawn from a homogenous group.

Nine nursing faculty members agreed to participate in this study. The sample size of nine nursing instructors provided a broad range of opinion and experience while not resulting in unmanageable amounts of data or unworkable time requirements for the conduct of interviews and observations. The sample size was sufficient to gain insight from teachers with divergent experiences and opinions and to identify the impediments teachers encounter in implementing diversified teaching strategies. A smaller sample would not have provided enough depth or breadth of viewpoints to adequately address the research questions while a significantly larger sample would have resulted in time and administrative requirements beyond the scope of this study (Creswell, 2012; Holloway & Wheeler, 2010).

I sought the widest possible range of teaching experience, measured in terms of the number of years spent in nursing education, when selecting participants. Holloway and Wheeler (2010) described this strategy as maximum variation purposeful sampling. Creswell (2012) advocated the use of maximum variation purposeful sampling to help develop a detailed understanding of a phenomenon. The nursing education experience of the participants in this study ranged from a low of 2 years to a high of 30 years. The combination of the sample size and the sampling strategy provided for a wide range of opinions and thoughts but was not too unwieldy to manage in terms of time requirements and data volume (Creswell, 2012).

Selection of Participants

All participants in the study were members of the nursing faculty at the study site who taught undergraduate nursing students. I enlisted the aid of the Dean of Nursing at the institution in contacting potential study participants. The dean provided me with a list of potential study participants including contact information for those persons. I communicated with the prospective participants by emailing them an invitation letter detailing that research was being conducted concerning their experiences with teaching styles in nursing education and that their participation would be very helpful but completely voluntary (see Appendix C). The prospective participants responded to me via email.

Once potential study subjects volunteered, I contacted them individually to further explain the research. As part of that initial contact, I scheduled a preliminary meeting with the prospective subject. The contact was made via email. I spent a significant amount of time with each participant. That time included the initial contact, the interview, and the classroom observation. At the time of the study, six of the participants taught exclusively in the classroom. Two instructors taught both in the classroom and online. One subject taught only in the online environment.

Protection of Participants

All teachers who acted as study participants were members of the nursing faculty at the subject institution. Participation in the study was completely voluntary and was not required by the institution or its administration. I informed participant candidates that taking a survey questionnaire, personal interviews, and observations of their classrooms

was included as part of the research, that the survey responses, observation data, and recordings and transcriptions of the interviews conducted would be secured and maintained by me, and that all data would be reported in such a way that no identification of individual participants would be possible. I obtained informed consent (see Appendix D) from each interviewee and a copy of their executed consent form along with the invitation letter referred to above was given to each participant.

I conducted interviews in each participant's private office with only myself and the interviewee present. Subjects were told to let me know if at any time they felt anxious or uncomfortable. None of the subjects indicated any level of discomfort during any of the interviews.

The confidentiality of the identities of study participants was a primary concern. I have and will continue to securely maintain physical custody of the survey responses, the interview recordings, the transcripts of the interviews, the checklist used in performing classroom observations, and all other materials related to the project. No actual teacher's names or any other data that could tend to identify participants has been or will be used in research reports meant for distribution. I assigned alphanumeric code identifiers to each study participant and used those codes for all reporting purposes. At the completion of the project, I will archive and securely maintain all study materials in a locked, fireproof strongbox to be kept at my residence.

Additional elements to be considered as part of participant protection are maintenance of appropriate researcher-participant working relationships and guarding against potential researcher bias. The first, maintenance of working relationships, was

addressed by the fact that the potential study subjects and I, while colleagues in the sense that we are all nursing educators, were engaged at campuses of separate schools in different parts of the state. I had no supervisory authority over, or day-to-day contact with, any of the potential subjects. I also used a member checking process in which study participants reviewed the transcripts of their interviews for accuracy and completeness and I solicited participant input on preliminary study findings. The second element, potential researcher bias, was guarded against through a combination of my own acknowledgement of the potential for bias and the use of a nursing educator colleague who acted as a peer reviewer to critically assess all aspects of the research and analysis.

Data Collection

Data Collection Methods

PALS. As the first step in data collection, a pre-existing and validated survey instrument, the Principles of Adult Learning Scale (PALS) by Gary Conti (1984) was used to help evaluate the teaching styles of faculty members. As explained in Appendix G, the PALS instrument was placed in the public domain by Dr. Conti in 2004. PALS (see Appendix F) is a 44 item self rating questionnaire developed to assess the teaching styles of adult educators. The survey takes about 15 minutes to complete. The survey was administered to all study participants. Having each participant's PALS survey response allowed me to use that information to triangulate with the interview and observation data.

The items on PALS call for respondents to indicate the frequency with which they practice actions described in the item on an "Always" to "Never" Liekert scale. Each

possible response is assigned a numeric value. Those values are summed and result in an overall score. The score, which can range from 0 to 220, indicates the respondent's teaching style preference in terms of teacher or learner centricity. The mean score on PALS is 146 with a standard deviation of 20 (Spoon & Schell, 1998). A lower PALS score indicates a preference for a teacher-centered approach while a higher score indicates a more learner-centric style. Scores at the high and low ends of the scale indicate strong style preferences while those closer to the mean demonstrate a mixed approach (Conti, 1984; Spoon & Schell, 1998). In addition to the overall score, PALS measures seven factors that contribute to teaching style. Those factors are learner centered activities, personalizing instruction, relating to experience, assessing student needs, climate building, participation in the learning process, and flexibility for personal development.

PALS has been found to be a valid and reliable instrument for measuring an adult educator's teaching style preferences. In establishing validity, Spoon and Schell (1998) reported that PALS scores were compared to scores on the Flanders Interaction Analysis Categories (FIAC) which measures the same constructs as PALS. Correlations ranging from $r = .79$ to $r = .85$ demonstrate positive congruence between PALS and FIAC. PALS reliability was established through the test-retest method which yielded a reliability coefficient of .92 (Spoon & Schell, 1998).

The PALS survey was emailed to each of the nine study participants. The instructions which are part of the PALS form explain to the participant how to self-score

the survey. Each participant completed and scored the survey and returned the completed form to me via email.

Participant Interviews. Next, I conducted interviews with the study subjects. Holloway and Wheeler (2010) raised concerns about a researcher interviewing colleagues. They cautioned that in such a situation "there is a danger of over-involvement and identification with colleagues" (Holloway & Wheeler 2010, p. 98). In this case however, I was a nursing educator at a different school in another part of the state and was therefore not closely associated either professionally or socially with the faculty at the subject school. The separation of campuses also helps avoid the potential for "reactivity" which was cautioned against by Maxwell (2013, p. 124).

I conducted all of the interviews, one per subject, in each participant's private office at the subject institution. That setting was comfortable as well as familiar and non-threatening to the subjects. I structured and paced the interviews to not exceed 30 minutes in length. I scheduled interviews for each participant on one of their regular work days during a time that they were not in class. The 30 minute schedule allowed participants to complete their interview within the time frame that they were at the school during the normal course of business and therefore did not require any additional time commitment from participants.

The audio from the interviews was digitally recorded using a Sony ICD 5X1000 digital audio recorder for later transcription. I used a prompting sheet or script (see Appendix H) to ensure that the same questions were asked of each participant and that they were asked in the same order. I took brief written notes of each session. As with all

written materials involved in this study, those notes were marked with date, time, and coded subject information and have been securely maintained.

I stored the digital recordings using a file naming convention that indicates the date of the interview and the code used to reference the interviewee. I also kept a written log which cross references the notes from the interview with the audio file name. Those procedures along with the document indexing and preservation described above provide for the chain of evidence called for by Yin (2014) as an element in establishing the reliability of a case study project.

I transcribed the digital audio recordings of the interviews with the aid of Dragon NaturallySpeaking® software, a speech recognition and transcription package. I reviewed the transcripts for accuracy. I also provided interview transcripts to the participants so that they could review them for completeness and accuracy. Supplying transcripts and soliciting feedback from interviewees provided a method of member checking the data (Holloway & Wheeler, 2010; Maxwell, 2013).

Classroom Observations. The final method of evaluation was through the use of researcher observation of subject faculty member led class sessions. I conducted observations of classroom sessions taught by six of the nine study participants. During the study period, two participants taught solely in the online environment which afforded no opportunity for classroom observation. One classroom teacher participant conducted classes in association with another teacher who was not a study participant. The non-participant teacher was not comfortable having the class observed. Therefore, no observation was conducted of that class. Observation is a commonly used method of

training and evaluation at the subject institution and, as such, did not cause disruption or change to any class. I conducted the observations during one class period for each of the six observed study subjects.

I performed the observations using the classroom observation tool which is an element of the Community College Survey of Student Engagement (CCSSE), a project of the University of Texas at Austin. The CCSSE is designed to assess the degree to which college students are engaged in good educational practices (Marti, n.d.). As part of that assessment, classroom observations are performed using the CCSSE observation tool to organize and focus those observations.

The CCSSE classroom observation tool is a component of the CCSSE evaluation process, the validity and reliability of which has been established through extensive testing. A study conducted by Mandarino and Mattern (2010) for the Higher Education Quality Council of Ontario, Canada tested five constructs enumerated in the Model of Effective Educational Practices (MEEP) against the results obtained by administration of the CCSSE at a large technical college in Ontario (Mandarino & Mattern, 2010). The study found that the CCSSE results mapped well into the five MEEP constructs; active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners. Mandarino and Mattern (2010) reported consistency between the MEEP constructs and the underlying constructs measured by CCSSE in their sample at statistically significant levels ranging from Chronbach's alphas of .38 for student effort to .75 for academic challenge. They also found correlation between those constructs and positive student outcomes.

Reliability of the CCSSE has been established through the length of time that it has been in use, the number of assessments that have been performed, and a method of benchmarking that involves intra-year comparison by always using a three year sliding window of data. In other words, as described in a paper produced by the Barstow Community College (2011), CCSSE data analysis is based on a three-year cohort at participating colleges. For instance, the 2011 CCSSE cohort refers to data from 2009 through 2011. The paper reported that the current method of CCSSE benchmarking and analysis had been in use since 2006 and that in 2011 the CCSSE was administered at 699 educational institutions to a cohort totaling 443,818 students.

The CCSSE observation tool (see Appendix I) calls for an observer to record a number of classroom observations using a Liekert-type scale supplemented by a comment section for each observation. Two of the constructs that the CCSSE tool is designed to measure are teaching style and instructional techniques. The instrument also calls for an observer to report the level of engagement of students in the observed class. Specific permission for the use of the CCSSE observation tool was obtained from the University of Texas at Austin (see Appendix J).

Data analysis

PALS

PALS is a quantitative tool. As such, the PALS survey data, including the total score and the seven sub-factors, was summarized statistically. It was not, however, subjected to rigorous statistical analysis as it is intended simply as a descriptive additive to qualitative analysis and not as a quantitative analytical tool. Individual PALS data for

each participant was compared to their interview data and CCSSE observation tool data for purposes of triangulation.

Participant Interviews

I reviewed the interview data using a constant comparison coding process to identify themes and concepts (Holloway & Wheeler, 2010; Yin, 2014). Constant comparison coding involves repeated re-readings of the transcripts to first identify and then refine and consolidate those themes and concepts. The resultant codes provided a basis on which to compare the interviews with one another.

I read each transcript in turn and used a large chart paper on which to note ideas and key words that the interviewees had used. As concepts arose which had been previously mentioned I made note of the commonality. I then reviewed the notes to identify similar themes that could be consolidated. Following that, I re-read each transcript in the context of the identified concepts and looked for the expression of ideas that were either consistent with, or contradictory to, the noted themes. I repeated this process until I was satisfied that all significant ideas and constructs had been identified. I then performed a final analytical comparison of the identified themes to further refine and consolidate them and to determine which research question or questions they addressed.

Classroom Observations

The primary purpose of the classroom observations was to determine the types of teaching styles and approaches being employed by study participants. The use of the CCSSE observation tool resulted in both quantitative (Liekert scale) and qualitative (comments) data. However, unlike PALS which is a quantitative instrument, CCSSE

Liekert scale responses result in numeric scores that are indicative of whether an instructor is teaching in a teacher or student centric manner and the level of student engagement observed in the class. CCSSE scores are reported along with an explanation of what they imply in terms of teaching style. Data resulting from the observations and recorded in the comments sections of the CCSSE observation tool was treated in much the same way as the interview transcripts in that they were reviewed and analyzed using coding techniques similar to those described above. Significant themes that emerged from that process are noted.

Results

The data gathering for this study resulted in nine valid PALS survey responses, nine interviews, and six classroom observations. There was one PALS response and one interview for each study participant. There were fewer classroom observations due to the fact that two study subjects taught solely in the online environment and one subject team taught in the classroom with another educator who was not a study participant.

PALS

Administration of the PALS survey resulted in nine valid responses. Descriptive statistical analysis was performed on the PALS data using IBM SPSS software. The overall PALS mean and standard deviation data reported by Spoon and Schell (1998) and Conti (2004) are expressed in whole integers. The PALS sub-factor standard deviations reported by Conti (2004) are rounded to one decimal place. The data resulting from the analysis described here is reported at levels of precision matching the data reported by Spoon and Schell (1998) and Conti (2004) to help facilitate comparison.

The PALS survey consists of 44 elements which describe actions that an educator may take in the course of planning or conducting a class or attitudes toward teaching strategies that teachers may display. Subjects respond to each element by choosing the degree to which they take each action or display each attitude. The responses are chosen on a six point Liekert scale ranging from always to never. For scoring, each of the 44 items is designated as either positive or negative. Positive items are assigned values ranging from five for an always response to zero for a never response. Negative items are scored inversely. That is, negative items are assigned values of zero for an always response to five for a never response. Non-applicable or unanswered items are assigned an arbitrary neutral 2.5 value. The item response values are summed and result in the PALS total score for each survey taker. PALS totals can range from 0 to 220. The mean PALS total score reported by Spoon and Schell (1998) was 146. PALS total scores higher than 146 indicate more learner centric approaches to teaching while lower scores indicate a more teacher centric approach.

Sub-factors. The PALS items are grouped into seven sub-factors. Each of the 44 items, in addition to contributing to the total score, is part of one of the sub-factors. Those sub-factors are; Factor 1 - Learner Centered Activities, Factor 2 – Personalizing Instruction, Factor 3 – Relating to Experience, Factor 4 – Assessing Student Needs, Factor 5 – Climate Building, Factor 6 – Participation in the Learning Process, and Factor 7 – Flexibility for Personal Development.

Factor 1, Learner Centered Activities, scores indicate the degree to which a teacher supports collaborative modes of teaching. Low Factor 1 scores indicate a reliance

on formal testing versus informal evaluation and a more teacher centered approach. Higher Factor 1 scores show a more learner centered bearing. Factor 2, Personalizing Instruction, scores are indicative of the degree to which an educator tailors presentation of course material to address the needs of individual students. Again, low scores indicate a teacher centric approach while high scores show a learner centered approach in which teaching is personalized to individual learners. Factor 3, Relating to Experience, indicates the degree to which a teacher considers students' prior experiences in planning course delivery. Higher scores show more consideration of student experiences. Factor 4, Assessing Student Needs, scores indicate the importance that educators attach to determining individual student wants and needs. Higher scores indicate a greater degree of importance as viewed by the teacher. Factor 5, Climate Building, relates to the classroom atmosphere favored by an instructor. High Factor 5 scores show a tendency to set a relaxed, informal climate. High Factor 6, Participation in the Learning Process, scores are indicative of teachers who encourage students to participate in planning the direction of courses and the selection of material to be covered. Finally, Factor 7, Flexibility for Personal Development, is a broad measure of how an educator views their own role. Low Factor 7 scores indicate a teacher who sees their function as a provider of knowledge while high scores suggest that subjects consider themselves more of a facilitator and are more sensitive to student needs. The PALS scoring process includes calculating totals for each sub-factor. Sub-factor scores equal to or higher than the Conti (2004) mean show factors that are more indicative of a respondent's teaching style.

Table 1 (below) includes the PALS total and sub-factor scores of the study sample expressed as a mean with standard deviation. The mean and standard deviation of the PALS scores reported by Conti (2004) and Spoon and Schell (1998) are also displayed in Table 1 for comparison purposes.

Table 1
PALS Scores

	Study Sample – NF 1-9		Conti / Spoon & Schell	
	M	*SD*	*M*	*SD*
Factor 1: Learner Centered Activities	38	7.7	38	8.3
Factor 2: Personalizing Instruction	22	3.9	31	6.8
Factor 3: Relating to Experience	22	2.7	21	4.9
Factor 4: Assessing Student Needs	13	3.8	14	3.6
Factor 5: Climate Building	15	2.8	16	3.0
Factor 6: Participation in the Learning Process	12	2.0	13	3.5
Factor 7: Flexibility for Personal Development	14	3.0	13	3.9
PALS Total Scores	136	16	146	20

Note. Study data are reported at the same levels of precision as the published Conti (2004) / Spoon & Schell (1998) data.

The analysis revealed that the nine participants' PALS total scores, the measure most relevant to this study, ranged from a minimum of 113 to a maximum of 162 with a mean of 136 and a standard deviation of 16 as compared to the Spoon and Schell (1998) mean of 146 and standard deviation of 20. Two study participant's scores were in the second standard deviation below the mean and one score was in the second standard

deviation above the mean. The remaining six scores were all within one standard deviation of the mean. Complete PALS score data for individual participants appears in Appendix K.

The seven sub-factor scores were subjected to the same descriptive statistic analysis process. As shown in Table 1 above, the PALS sub-factor scores of the sample were closely aligned with the Conti (2004) scores with the exception of the Factor 2, Personalizing Instruction, scores. The study sample scored significantly lower on Factor 2 than the larger sample scores reported by Conti. PALS Factor 2 is comprised of six positive items and three negative items. According to Conti (2004), PALS Factor 2 is meant to gauge the degree to which an educator is using methods that "personalize learning to meet the unique needs of each student".

Participant Interviews

Each participant interview was digitally recorded and transcribed. Once the transcripts were completed, I emailed each study participant a copy of the transcript of their interview and asked to review it for accuracy. Each participant indicated that they had reviewed the transcript of their interview and found it be complete and accurate. I then began the process of analyzing the interview data by reading each transcript in turn while noting concepts and themes that had emerged. I compared the notes from each transcript to identify commonality in the ideas that had been expressed. I repeated this process several times while refining and consolidating the concepts that had been identified. At the completion of the coding process, I had isolated nine themes which

were common to most or all of the participants' interviews and which related directly to the research questions posed in this study.

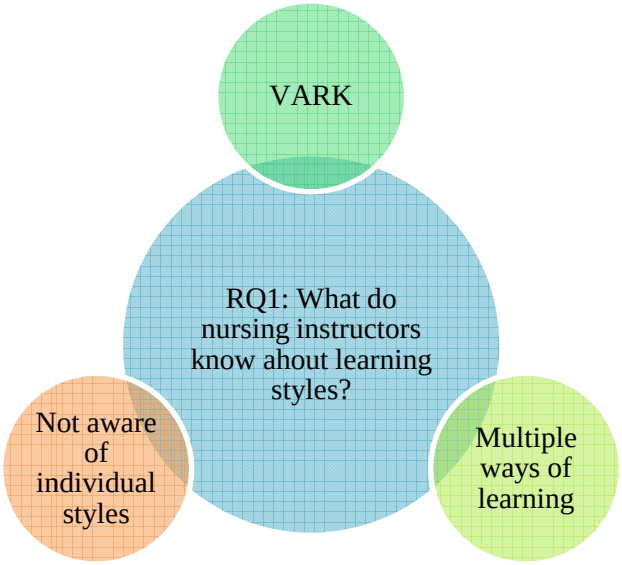

Figure 1. A diagram of interview themes addressing research question 1.

Research Question 1 is "What do nursing instructors know about learning styles?" Question 1 was addressed by three distinct concepts which were identified in the interview analysis. As shown in Figure 1 above, the three concepts are that participants are familiar with the VARK model of learning styles, that subjects are aware that students can have more than one learning style, and that participants are generally not aware of the learning styles of individual students.

VARK. Each of the nine interviewees referred to elements of the VARK, or visual, aural, reading, and kinesthetic, model of learning style differentiation. NF5 said "So learning styles is read, write, or visual learners, or hands-on kinetic learners". NF6 explained learning styles as being "auditory, kinesthetic, verbal, and visual …" NF1 said

that learning style means "… what thing works best for the student" and that a student could be a "hands-on learner", a "visual learner", or an "auditory learner".

Multiple styles. Many of the study participants indicated that they were aware that there are several different ways in which people prefer to receive and assimilate information. NF1 in discussing learning styles said of students that "… they're a little bit of some of each, not just one …" NF5 said that while students each "… have a way that fits them best … ", they also "… can learn in all manners …"

Knowledge of student styles. Nearly all the subjects indicated that although they understood that learning style differences exist in their students, they were not aware of the styles of their individual students. When discussing teacher awareness of individual student learning styles, NF 1 said "… I'm not aware at all …" NF 8 responded "I'm not" when asked about awareness of student styles.

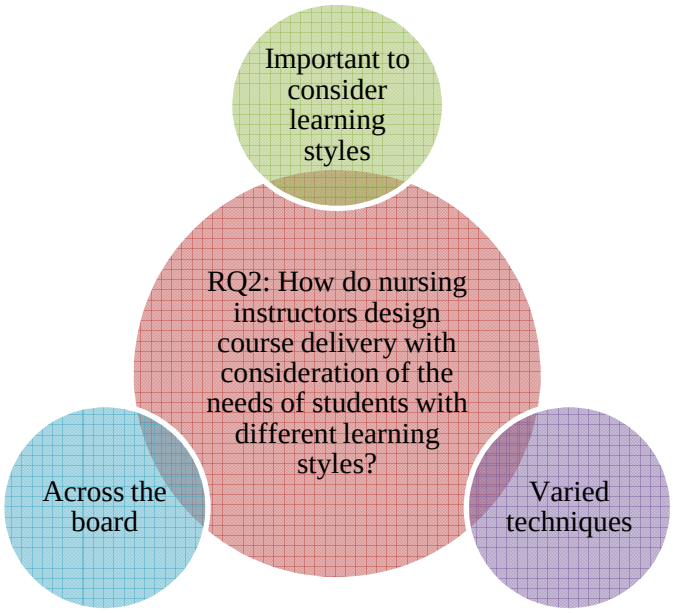

Figure 2. A diagram of interview themes addressing research question 2.

As shown in Figure 2 above, Research Question 2 is “How do nursing instructors design course delivery with consideration of the needs of students with differing styles?” As with Question 1, Question 2 was also addressed by three themes which emerged from analysis of the interviews. Those three themes were that the interviewees all felt it important to consider the existence of differing learning styles in their students, that they addressed learning style differences by using varied teaching techniques in their classrooms, and that they applied those teaching technique variations across the board, or to their entire classes as opposed to addressing the learning styles of individual students.

Consideration of styles. Most interviewees felt that consideration of different student learning styles was important in planning course delivery. NF4 stated “I never rely on just one learning style”. NF1 also felt that it is important to consider student learning styles saying “… if they (students) don’t get it then what’s the point”.

Varied teaching techniques. There was wide agreement among the subjects that the use of varied teaching techniques is desirable. NF2 said that “… students can only take about 20 minutes worth of information at a time and then you switch it up”. NF6 stated that “I think it’s (varied delivery) important and I try to be cognizant of it”. NF9 felt that nursing educators generally are making an effort to vary their delivery to engage students, more now than in the past. NF9 said “I think teachers work much harder at interacting and engaging with students”.

Across the board variation. The interviewees were nearly unanimous in saying that they varied teaching techniques in their classrooms in an across the board manner as opposed to tailoring teaching to individual student styles. NF3 stated “I try to kind of

change my teaching style based on what the bulk of the learners are". NF5 agreed with the across the board approach saying "Because their styles are so varied, I just try to vary it".

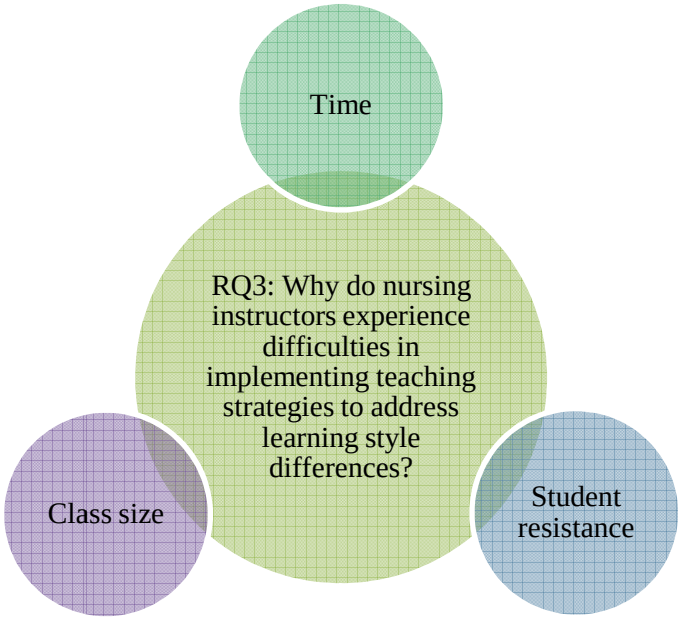

Figure 3. A diagram of interview themes addressing research question 3.

Research Question 3, "Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?", was again addressed by three major themes that emerged during the coding and analysis of the interview data. Those themes were time constraints, class size, and student resistance. The relationship of those themes to Question 3 is depicted in Figure 3 above.

Time constraints. The time required for preparation and delivery was a commonly cited impediment to implementing varied teaching approaches. NF3 said "I think the hard part about implementing varied teaching methods is that it really increases the amount of time that you have to grade assignments on". NF9 also talked about the

extra time requirements to prepare course delivery using varied teaching methods saying "… it makes me work a lot harder, which I don't mind but I get tired".

Class size. Class sizes emerged as another factor that impedes varied teaching. Many of the participants spoke of having classes consisting of 30 to 40 students. NF1 said "… it's hard to have 30 students and you have 15 different learning styles …"

Student resistance. A third factor identified as a difficulty in implementing varied teaching strategies was that of student resistance. NF2 spoke of having some students who are in their 40s and 50s and how it can be difficult to integrate and get them collaborating with groups of students in their 20s. NF2 said of the older students that "They're used to PowerPoints".

Classroom Observations

I conducted observations of classroom sessions taught by six of the nine study participants. Each observation was of one complete class session. I performed the class observations with the aid of the CCSSE Classroom Observation Tool discussed previously. The CCSSE Observation Tool is divided into six sections; Section 1 - Learning Organization and Management, Section 2 – Knowledge of Subject Matter, Section 3 – Teaching Style, Section 4 – Instructional Techniques, Section 5 – Encouragement to Engage in Critical Thinking, and Section 6 which is a single element overall score. Sections 1 through 5 are sub-divided into several specific sub-factors relating to that section. See Appendix I for a complete listing of the specific observations called for by each sub-factor. It is those sub-factor items which require an observer to provide a response on a Liekert-like scale. The response scales vary in construction

between some sections of the CCSSE as shown in Appendix I and further discussed below.

The minimum and maximum figures presented in Table 2 below represent the minimum and maximum of the participant scores in each CCSSE section. I derived those values by summing each participant's sub-factor scores in each section. I subjected the participant section sums to descriptive statistic analysis using SPSS software.

The scoring of Sections 2 and 5 resulted in identical scores for all the observed subjects. The Sections 1 and 6 scores were nearly identical. The most relevant sections to this study are Section 3, Teaching Style, and Section 4, Instructional Techniques. The analysis of those two sections revealed the widest range of scores.

The grading scale for Sections 1, 2, and 3 calls for responses of *Completely* (1), *Adequately* (2), *Minimally* (3), *Not at all* (4), or *Not applicable* (5) in rating how often certain teaching behaviors were demonstrated during the observation. Not Applicable responses, had there been any, would be deleted from the analysis making the possible ratings range one through four. Section 5 is graded similarly with a scale of *Very much* (1), *Somewhat* (2), *Minimally* (3), *Not at all* (4) and *Not applicable* (5). Again, *Not Applicable* selections would be deleted making for a one to four range. Section 6 uses a four point scale of *Completely* (1), *Adequately* (2), *Minimally* (3), and *Not at all* (4).

There was much consistency and generally good performance indicated in the CCSSE scores of the observed educators. All participants scored the best possible marks in Section 2, Knowledge of Subject Matter, and Section 5, Encouragement to Engage in Critical Thinking. The widest variation seen was in Section 3, Teaching Style, where a

standard deviation of 2.43 occurred. As discussed below and as illustrated in Table 2, three participants scored more than one standard deviation from the mean for Section 3. Two of those teachers ranked in the second standard deviation above the mean and one was in the second standard deviation below. Lower CCSSE scores are considered indicative of more desirable teaching behaviors.

Table 2
CCSSE Score Analysis

Section	Range	Minimum	Maximum	*M*	*SD*
1	5-20	6	8	7.0	0.89
2	3-12	3	3	3.0	0.00
3	12-48	12	18	14.5	2.43
5	5-20	5	5	5.0	0.00
6	1-4	1	2	1.3	0.52

Note. Range denotes the smallest and largest scores possible in each section. Smaller scores are considered better. Due to different construction and scoring, Section 4 is omitted here and reported separately in Table 4 below. Section 6 is the single element overall rating of whether an instructor created an engaging learning experience in the classroom.

CCSSE Section 3. There are 12 elements that constitute Section 3. Therefore, the minimum possible score is 12 and the maximum possible is 48. Because the elements that make up each section are all positive in terms of desired teaching behaviors, lower scores in each section indicate better performance. As shown in Table 3 below, Section 3 scores of the study sample ranged from 12 to 18 with a mean of 14.5 and a standard deviation of 2.43. One subject scored in the second standard deviation below the mean and two scored in the second standard deviation above the mean. The two highest scores (indicating the least diversification in teaching methods) were impacted by ratings of 4, Not at all, on Factor 3H, Interacted with students working in small groups during the

class session. The other three participants were all within one standard deviation of the mean. The elements that make up CCSSE Section 3 are:

A. Spoke clearly and audibly

B. Showed enthusiasm for the subject matter and teaching

C. Treated all students in an equitable manner

D. Encouraged questions and student participation

E. Gave students an adequate amount of time to respond to questions

F. Provided feedback that gave students direction for improvement

G. Interacted with individual students during the class session

H. Interacted with students working in small groups during the class session

I. Elicited feedback validation of student understanding of the material

J. Used techniques that reflect an awareness of different learning styles

K. Appropriately used web-based resources, PowerPoint, or other technological tools

L. Encouraged or required students' engagement in out-of-class activities related to the course

Table 3

CCSSE Section 3 Scores

Item	NF1	NF3	NF5	NF6	NF7	NF8
3A	1	1	1	1	1	1
3B	1	1	1	1	1	1
3C	1	1	1	1	1	1
3D	1	1	1	1	1	1
3E	1	1	1	1	1	1
3F	1	1	1	1	1	1
3G	1	1	1	1	1	1
3H	4	1	4	1	1	1
3I	1	1	1	1	1	1
3J	2	1	2	2	1	1
3K	1	1	2	1	2	2
3L	2	1	2	2	1	1

Note. Displayed teaching behaviors: 1 = Completely, 2 = Adequately, 3 = Minimally, 4 = Not at all

CCSSE Section 4. The 11 elements constituting Section 4 of the CCSSE use a scale that requires responses of 0% (1), 1-19% (2), 20-39% (3), 40-74% (4), or 75-100% (5) to quantify the amount of class time that was devoted to particular teaching techniques. The observation of more than one teaching technique being used simultaneously may result in time totals in excess of 100%. Therefore, higher total scores could be indicative of the use of more teaching methods but it is important to recognize that heavy emphasis on 2 or 3 methods to the exclusion of all others could also result in a high total score. Of particular note was the fact that all six participants scored a five (75-100%) on item 4A, the percentage of classroom time devoted to lecture. Because of the scale construction, the CCSSE Section 4 minimum, maximum, mean, and standard deviations would not provide useful information. The CCSSE Section 4 Observed Teaching Techniques elements are:

A. Lecture

B. Teacher led discussion

C. Teacher-student shared responsibility (seminar, discussion)

D. Student computer use

E. Small group activities

F. Student presentations

G. Hands-on practice

H. In-class writing

I. Performance (in applied and fine arts, etc.)

J. Experiential learning (labs, fieldwork, internships, etc.)

K. Assessment activities

Table 4

CCSSE Section 4 Scores

Item	NF1	NF3	NF5	NF6	NF7	NF8
4A	5	5	5	5	5	5
4B	2	2	2	2	2	2
4C	2	2	2	2	2	2
4D	1	1	2	1	1	1
4E	1	3	1	2	2	2
4F	1	1	1	1	1	1
4G	1	3	1	1	1	1
4H	1	2	1	1	2	2
4I	1	1	1	1	1	1
4J	1	1	1	1	1	1
4K	1	3	1	1	2	2

Note. Class time devoted to teaching techniques: 1 = 0%, 2 = 1-19%, 3 = 20-39%, 4 = 40-74%, 5 = 75-100%

Discussion

The scripted questions used to conduct the interviews (see Appendix H) were specifically intended to guide the interviews in such a way as to focus on the research

questions posed in this study. The responses elicited from the participants provided much insight into how these educators perceive learning styles and how they address them in their classrooms. The PALS survey data and the classroom observations provided additive information that, when combined with and compared to the interviews, helped develop an even clearer picture of how these nursing educators perceive and address student learning styles.

RQ1 – What do nursing instructors know about learning styles?

There was remarkable consistency in the knowledge of learning style theory expressed by all study participants. All nine interviewees acknowledged knowing something about learning styles and that learning styles vary from student to student. All subjects explained their understanding of learning styles by referring to the VARK model or variations of it. NF3 said:

> "I know that every student comes to the learning environment with a style of learning that works better for them whether they are auditory learners, visual learners, kinesthetic learners. There's some mode of delivery or some mode of taking in information that is more effective for them than other modes."

In addition to the VARK model, one subject, NF4, also indicated some knowledge of constructs contained in Kolb's (1976) Learning Styles Inventory (LSI). NF4 said "I know there's more sophisticated language to describe different approaches to

learning. I think some people are real sequential learners and some are kind of whole picture learners".

Only three of the nine study participants indicated that they had any knowledge of the specific learning styles of the students in their classes. Two of those teachers administer a learning style assessment to students, one at the beginning of the semester and one at mid-term. The third gauges students' learning styles by observations of student performance and reactions to material over the course of the class. The remainder of the sample all said that they weren't aware of individual student styles. NF3 said that "It would be nice to have students … take a learning style inventory …" but that "… there's not really time in nursing school to have them do that with all the content that we have to teach them".

Despite the majority of the sample's lack of knowledge of students' specific learning styles, the PALS scores indicate that most of the subjects are concerned with determining what their students need. PALS Factor 4, Assessing Student Needs, mean scores for the sample were very near the Conti scores (see Table 1) although there was a significantly wide range. Two subjects scored more than one standard deviation below the mean and two were more than one standard deviation above the mean.

Several subjects said that they were aware that students may have more than one preferred learning style. In discussing learning style types, NF2 said of students that "…some use some of each but everyone has their own style that promotes their own learning". NF7 stated that "One (learning style) may be more predominant but there is usually a combination of styles that a person holds". NF9 offered that "One of the other

things I've learned about learning styles is that there's a lot of mixed. People aren't just one usually".

It is clear that the educators constituting this sample all have some knowledge and appreciation of the existence of varied learning styles in students. Of note is the fact that all subjects spoke of learning styles in the context of the VARK model with only one making mention of other learning style differentiations. Despite being aware of learning styles and the potential for differences in styles between students, only three of the nine teachers in the sample reported having any knowledge of the learning styles of specific students.

RQ2 – How do nursing instructors design course delivery with consideration of the needs of students with different learning styles?

The educators interviewed were nearly unanimous in saying that they felt that it is important to consider learning style differences in delivering course content in varied ways. NF3 conducts a "… pretty interactive classroom …" and said "I think the students like it." NF5 explained some of the techniques used to vary teaching methods such as physical items students can examine and manipulate to appeal to kinesthetic learners, oral presentations for audible learners, and the use of videos for visual learners. NF7 said "I love it (teaching variations), the more the better".

I asked the interviewees whether they varied their course delivery to suit the styles of specific students. Nearly all the sample members stated that rather than individualizing instruction, they varied their presentations across the board in an effort to reach as many students with differing learning styles as possible. NF1 said "I try to

incorporate all styles so I hit somebody". NF2 agreed saying "You know, I would say it's (teaching variations) across the board". NF6 spoke of varying teaching styles "Not individually but as a group or a class". NF7 varies teaching styles "… because I don't always know exactly how somebody might be". NF8 said that "I vary it (teaching approach) across the board".

There were two subjects who expressed a contrasting view. NF4 said that "… students give me feedback about different things that I've included and I take that into account". NF9 spoke of varying teaching approaches in response to individual student learning styles saying that "… addressing all their individual needs I had to be much more creative". However, neither of those educators was among those who said that they had knowledge of their students' specific learning styles.

The predominance of the responses indicating that teaching approach variations are being made in a wholesale, as opposed to individualized, manner is consistent with the PALS Factor 2 (Individualizing Instruction) mean score in Table 1 above. That mean is decidedly lower than the PALS Factor 2 mean cited by Conti. Only one subject scored more than one standard deviation above the mean.

The CCSSE classroom observational data concerning variation of teaching techniques indicated that all observed subjects used more than one method of delivering courses. All observed participants were rated as 1-Completely or 2-Adaquately on item 3J, Used Techniques that Reflect an Awareness of Different Learning Styles. However, the observational ratings of 5 (74-100%) for all subjects on item 4A (Percentage of Time

Spent on Lecture) of the CCSSE (see Appendix L) indicated a strong reliance on lecture technique in the classroom.

RQ3 – Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?

Review and coding of the interviews revealed clear consensus among the subjects concerning factors that complicate implementation of varied teaching strategies to address learning style differences. As with the other two research questions, three main themes emerged on this topic. Time constraints, class size, and student resistance were the most often cited reasons that make varied teaching difficult or impractical.

In speaking of time constraint problems NF6 said that one difficulty is "Time; not enough time to improvise, to work it in. Some of those strategies take a lot more time than just going through a PowerPoint". NF5 cited "The time that it takes to teach …" as a difficulty in implementing varied teaching methods.

Class size was frequently mentioned as a problem in instituting varied teaching methods. Most study participants indicated that they had more than 30 students in a typical class. In speaking of difficulty delivering varied teaching, NF3 said "It's really hard to do with 40 students …" NF6 also cited class size as a problem in teaching variations saying "36 to 40 students is normal. It's a lot". In talking about the same problem NF7 said "38, that's what I'm teaching, which is huge".

Student resistance to varied teaching strategies was spoken of by many teachers. NF4, in speaking of varied teaching methods, said "Sometimes the students don't like them". NF8 talked about problems in trying to implement student-directed classes saying

"… I got a lot more frustration from the students …" NF9 said that getting some students to participate in interactive lessons is "… like pulling teeth sometimes".

PALS survey data revealed that the study participants display a largely teacher-centric orientation. The classroom observations and resulting CCSSE data indicated that those participants are not varying their classroom delivery to a significant degree. The interfering factors cited by the participants in their interviews could contribute to both of those results.

Individual Case Analyses

NF3

In the interview, NF3 reported conducting a "… pretty interactive classroom …" and said "I think that students enjoy it". NF3 also acknowledged knowing that students could have differing learning styles but said that time and curriculum requirements prevented assessment of individual styles. However, NF3 reported varying classroom techniques in an attempt to engage students with differing learning styles saying "I try to kind of change my teaching style based on what the bulk of the learners are." The CCSSE data and classroom observation for NF3 generally confirm the "… interactive classroom …" and "… change my teaching style …" comments. As indicated in Table 4 above, NF3's CCSSE score in Section 4, the section measuring the diversity of teaching methods used, was the highest of the sample. NF3 was one of the three participants who scored the highest possible rating on CCSSE Section 3, Item 3J, which gauges the use of teaching techniques that indicate an awareness of learning styles. Complete CCSSE Section 3 scores appear in Table 3 above. During the classroom observation, I found that

NF3 used several teaching techniques simultaneously with different students. However, like the rest of the sample and as indicated by NF3's CCSSE Item 4A score, overall, NF3 was largely reliant on lecture in the classroom.

NF3's PALS survey scores contrasted somewhat with the other two data sources. NF3 had a PALS overall score that was 2.5 points below the mean of 136 for the sample and 12.5 below the Conti (2004) mean of 146. NF3's overall PALS score, while indicative of a teacher-centric bearing, was within the first standard deviation below either mean. NF3's PALS Factor 1 score, relating to creating learner centered activities, was equal to the study sample mean as well as the mean for Factor 1 reported by Spoon and Schell (1998). Despite the interview comment concerning the inability to assess student learning styles, NF3's PALS Factor 4, assessing student needs, score was 2.5 points above the sample mean and 1.5 points above the Spoon and Schell (1998) mean.

However, NF3's PALS Factor 5 score was in the second standard deviation below both the study sample mean and the Spoon and Schell (1998) mean. That score indicates a tendency to conduct classes with a more formal approach (Conti, 2004) than the mean. Although NF3's PALS Factor 5 score is somewhat disconfirmed by the classroom observation and complete CCSSE data, CCSSE Item 4A did indicate a high degree of reliance on lecture, a formal teaching technique. PALS mean and standard deviation data appears in Table 1 above. Complete PALS score data is contained in Appendix K.

NF7

NF7 recorded an overall PALS survey score significantly higher than any of the other study participants. NF7's PALS total was 162 which is in the first standard

deviation above both the study mean and the Conti (2004) mean. That score indicates a relatively strong student-centric approach to teaching (Conti, 2004). Six of the seven PALS factor scores of NF7 were also above both the Spoon and Schell (1998) and study sample means. As is the case with the entire sample, NF7 scored below the Spoon and Schell (1998) mean on PALS Factor 2, related to personalizing instruction.

NF7's interview results were consistent with the PALS scores. NF7 indicated knowledge of the existence of student learning style differences but not of the styles of individual students. NF7 spoke enthusiastically of teaching in varied ways saying "I love it, the more the better" but also indicated that class sizes impeded the ability to provide course material using different techniques.

The classroom observation and resulting CCSSE data were also consistent with both the PALS survey and interview for NF7. As shown in Tables 3 and 4 above, NF7 scored well in teaching style and relatively well in teaching methods used. However, as is the case with the rest of the sample, NF7 displayed considerable reliance on lecture as a classroom delivery method. Both the PALS survey data and the classroom data for NF7 are consistent with the ideas expressed in the interview. NF7 appears to have an appreciation of the importance of student learning styles and of the use of varied teaching strategies but does not know the styles of individual students and has some difficulty fully implementing varied teaching.

Evidence of Quality

The primary data that forms the foundation of this analysis is the study participant interviews. That data was gathered in a consistent way from each subject and was

subjected to quality control review by each participant. The interviews resulted in identifiable themes that were expressed by most or all of the participating educators. Those themes addressed the three research questions posed in this study.

The use of an existing and validated instrument, the PALS, and classroom observations, again using a valid tool, the CCSSE, supplemented the interview data. PALS and CCSSE data were highly consistent both internally and with the data emerging from the interviews. The triangulation of all the data sources for each study subject provided for cross corroboration of the constructs that emerged. The analysis of the data for each study participant showed general agreement in terms of the themes identified by each of the three methodologies. The inconsistencies that exist are few and minor and are addressed in the analytical discussion.

For further validity, another nursing educator scrutinized the study data from the interviews, survey, observations, and my analysis and interpretation of the gathered data. The peer reviewer performed a critical analysis of the data and conclusions as an additional quality control measure. The peer reviewer was a highly qualified and experienced instructor and researcher who was not involved in this study beyond performing review functions.

The nature of the sample used in this study imposes some limitations on its conclusions. Nursing education is a specialized field populated by teachers who are also nurses themselves. Nursing is a technical vocation with students and practitioners who may not necessarily be representative of general populations. The same is true of nurse educators. While findings of this study are valid within the nursing education

community, they may not be easily generalized to educators in other fields. Additionally, study findings are specific to the faculty at the subject institution. While there is no reason to believe that the study sample is not representative of nursing faculty at large, no specific means were employed to ensure that it is a valid representation of all nursing educators.

Conclusions

The subjects in this study clearly demonstrated some knowledge of learning style theory. They recognized the existence of differing learning styles in students although few participants knew the individual styles of their students. Most subjects acknowledged the importance of student learning styles and that they can impact the ability of students to absorb course material. They also nearly unanimously agreed that it is important to vary classroom presentation methods in order to appeal to different learning styles. Despite that, the majority of the sample tended to demonstrate a clear bias toward conducting classes in a teacher-centric and mostly non-diversified manner as shown by the PALS survey and CCSSE classroom observation results. These findings are similar to those reported previously by Popkess and McDaniel (2011), Brown et al. (2009), Marrocco (2014), and Patterson (2009).

This teacher-centricity and limited classroom approach appears to be the result of several factors. Participants cited time requirements, including the volume and density of required curricular material, large class sizes, and student resistance as factors that hindered the implementation of diversified teaching. Time constraints and large class sizes also interfered with the ability of teachers to determine individual student's learning

styles. Time limitations, curriculum requirements and class sizes are factors over which neither teachers nor students have any control.

The analysis of the data in this study has established that the nursing educators who made up the sample study, while somewhat familiar with learning style theory, are not generally aware of the specific learning styles of their students. The teachers are also highly dependent on lecture to deliver classroom course content and are not delivering course material in varied ways to any significant extent. Therefore, the focus of this project will be on enhancing nursing educators' knowledge of learning styles and teaching strategies to engage students with differing styles.

The project will familiarize teachers with their own learning styles, how to assess the styles of their students, how to design classroom delivery to appeal to the differing learning styles of students, how to overcome barriers to the use of innovative teaching strategies, and how to equip students with study skills to suit their individual styles. All of those factors will contribute to greater student academic success. Details of the anticipated remediation project are more fully presented in the following section.

Section 3: The Project

Introduction

This section describes a proposed project component of this study that is designed to address deficiencies in how nursing student learning styles are being addressed in the classroom. Those deficiencies were identified following analysis of the faculty interview, PALS survey, and classroom observation data gathered in the course of this doctoral study. A significant finding was that nursing educators were generally familiar with learning style theory but study participants were not adequately varying their course delivery methods to appeal to the varied learning styles of their students. The nursing instructors in the study were also largely unaware of the individual learning styles of the students in their classrooms. To address these shortcomings, I developed a 3 day professional development seminar for nursing educators.

Description and Goals

This project was developed to fulfill three primary goals related to nursing education. The first of those goals is heightening nursing educators' awareness of the importance of the learning styles of their students (Gogus & Gunes, 2010; Hallin, 2014; Lockie, et al., 2013; McClellan & Conti, 2008; Noble, et al., 2008). Secondly, this project will help teachers in assessing the individual learning styles of their students (Breckler, et al, 2011; Tumkaya, 2012; Wichadee, 2010). Finally, this project will familiarize nursing educators with practical methods for adapting their teaching styles to more fully engage all types of learners (Franzoni & Assar, 2009; Neuman, et al., 2009).

This project will be structured as a 3-day professional development seminar for nursing faculty members as suggested by Lloyd, Pfeiffer, Dominish, Heading, Schmidt, and McCluskey (2014). The seminar will offer attendees the opportunity to learn more about learning style theory and its application in nursing education as well as ways to vary classroom presentation to address differing student styles. Seminar participants will attend lectures and multimedia presentations, work both independently and in groups, participate in class exercises, teach a simulated class session, and present findings of group caucuses. These teaching and learning techniques are consistent with the suggestions of Morris (2010), Tate (2009), and Weadick and Motune (2010). Completion of the course will enhance nursing instructors' ability to assess the needs of their students and to plan and deliver their teaching in ways that appeal to the varied learners in their classes.

Project Structure

The seminar will be delivered in three 1-day sessions which are intended to be conducted on consecutive, or nearly consecutive, days. The seminar is appropriate for all nursing education faculty at the study site. The focus of the sessions is different on each day.

The first day of the program is designed to familiarize attendees with learning style theory including its background, various models of learning style differentiation, and the importance of recognizing and addressing student learning styles. The participants will attend presentations on learning style assessment and discover how to determine the styles of their students using both formal tools and informal assessments.

All seminar participants will take an assessment based on the VARK learning style model in order to discover their own learning style preferences. The attendees will also discuss and formulate ideas, from a student's perspective, for teaching methods that appeal to specific types of learners.

On the second day of the seminar, participants will practice learning style-based teaching methods and identify student study skills to suit individual learning styles. Participant group presentations will center on diversified teaching techniques that can be used as alternatives to lecture and more fully engage students with varied learning styles. Each group will concentrate on a different learning style – visual, audible, reading, or kinesthetic – in designing their teaching strategies. Additional presentations, and group activities and discussions, will focus on student study skills appropriate to specific learning styles.

The final day of the seminar is designed to assist instructors in identifying and overcoming factors that interfere with or prevent the use of learning style driven teaching techniques. Participants will attend presentations on, and engage in discussions of, the three primary inhibiting factors identified in the study; time constraints, class size, and student resistance. These discussions will focus on ways to minimize or eliminate the impact of those factors. Attendees will engage in role playing activities illustrating some of the mitigating strategies identified.

Rationale

This professional development seminar is based on the findings of this doctoral study. It is specifically designed to address the deficiencies identified in the study and is

structured to match the three research questions guiding this project. Question 1, "What do nursing instructors know about learning styles?", is addressed in the presentations and activities of the first day of the seminar. The second day employs participant presentations, videos, discussions, and activities to focus on Question 2, "How do nursing instructors design course delivery with consideration of the needs of students with differing styles?" The last day of the seminar is dedicated to Question 3, "Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?" Presentations, discussions, and participant role playing activities will be used to address Question 3 and the difficulty factors identified in the study.

Many adult education authorities have advocated for improvements in nursing education (Patterson, 2009; Popkess & McDaniel, 2011). Changes in nursing faculty development and additional student learning style training for teachers are two areas in which improvement is needed (Benner et al., 2010; Blevins, 2014). In addition to directly focusing the deficiencies identified in this study, this program will address those more general concerns.

The seminar or workshop method of delivering professional development courses has been extensively studied and has been endorsed by many authorities in the education and professional development field (Gribskov, 2014; Lloyd et al., 2014; Tate, 2009). The 3-day structure of this program will allow sufficient time for thorough and in-depth exploration of the issues. The time frame will also facilitate the delivery of the program material in varied, engaging ways (Poe & White, 2010; Weadick & Motune, 2010). The

delivery modalities of the seminar itself were specifically chosen to help highlight and amplify one of the primary messages of the program, the use of diversified teaching strategies.

Enhancing the knowledge of nursing educators concerning student learning styles, encouraging the use of diverse teaching strategies, and overcoming factors that hinder innovative teaching are all actions that require change on the part of both educators and school administrations. Management theorist Lewin (1964) developed a model for understanding and implementing change. Lewin's model involves identifying the forces that drive and resist change and understanding that when change is not occurring, those forces are in a state of equilibrium. Lewin's model can be applied to change in nursing education as explained below.

Lewin (1964) proposed a 3-step process for unbalancing that equilibrium and implementing change. First, existing organizational and individual resistance to change must be overcome or, as Lewin puts it, "unfrozen" (Lewin, 1964). That unfreezing is accomplished in this program through familiarizing administrators and faculty with the results of the research informing the project and through the seminar introduction.

The next step in Lewin's (1964) model is to increase the forces driving change and reduce the change resisting forces. When that increase and decrease are accomplished, the equilibrium point will move in the direction of the desired change (Lewin, 1964). This movement is accomplished in the program through participant engagement in presentation of the course material and the interactive activities.

Lewin's final step is to refreeze once the desired change has been accomplished and a new equilibrium point has been reached (Lewin, 1964). Refreezing in this case occurs both formatively and summatively through the discussions following the presentations and activities and the final summation and feedback session. Lewin's model is helpful to this project as a reminder of the macro scale steps to take in accomplishing the program's goals. The initial presentations in the program will include discussions of why understanding and addressing student learning styles is important to student academic achievement. Those presentations will provide for Lewin's (1964) "unfreezing". The program's presentations, discussions, and group activities focused on varied teaching strategies and methods to overcome resistance factors interfering with the delivery of those strategies will accomplish the needed movement (Lewin, 1964). The program-ending discussions and evaluation activities will constitute "refreezing" called for by Lewin (1964).

This program will be directed specifically at nursing faculty members but could be applicable to adult educators in many fields. The learning style driven teaching methods on which the program is founded have been advocated by many education authorities (Franzoni & Assar, 2009). The program will arm participants with enhanced knowledge of learning styles and their importance in their teaching, methods for developing and employing diversified teaching techniques, and overcoming obstacles that prevent or complicate the delivery of learning style driven teaching. Research has established that improving teachers' ability to deliver diversified teaching leads to improved student academic outcomes (Ugur et al., 2011).

Review of the Literature

A literature review was conducted in order to compile scholarly writings that address the concept of professional development and issues inherent in designing a project such as the one proposed in this study. I reviewed my own literature resources as well as conducting searches of Internet sources including ProQuest, ERIC, EBSCOhost and CINAHL. I executed electronic queries using the search terms *faculty development*, *professional development workshops*, *professional development and learning styles*, and *seminar development*. The Internet search was focused on articles and writings with publication dates on or after 2009. Those searches and my review of my own literature collection yielded a substantial number of scholarly journal articles and book chapters focused on staff development in education, developing and presenting workshops and seminars, educating teachers about learning styles, and similar topics. A selection of those writings is presented below.

Professional Development. The need for professional development and continuing education has generally, and in education specifically, been well established (Baert & Govaerts, 2012; De Rijdt, Stes, van der Vleuten, & Dochy, 2013; Johnson, 2014; Lauria, 2010; Patti, Holzer, Stern, & Brackett, 2012; Wood, et al., 2011). Baert and Govaerts (2012) wrote of the need for ongoing professional development for teachers. Johnson (2014) urged professional development in education as students cannot achieve beyond the quality of the teaching they receive. Wood, et al. (2011) found a need for professional development for educators due to continual evolution of teaching and learning at the university level. De Rijdt (2013) offered that staff development is

necessary to help educators in translating their experience and knowledge of education into teaching. While all these authorities urged professional development for teachers in a general sense, other writers have been more specific concerning the content of educator professional development.

Professional development for educators can be geared to both providing teachers with information and techniques for teaching as well as giving those teachers insights into both teaching and assessing students (Katz, Carter, Bishop, & Kravits, 2009; Suskie, 2009; Ulrich, 2012; White & O'Sullivan, 2012). Educators must not only keep abreast of the latest thinking in the area of learning styles but should also know their own styles (Knowles, Holton, & Swanson, 2011; Lauria, 2010; Pritchard, 2014). Lauria (2010) wrote that in order for teachers to help students learn, it is necessary for those teachers to understand and consider their own teaching and learning styles. Knowles, et al. (2011) urged teachers to perform assessments to determine their personal learning and teaching styles. In all pursuits, the provision of professional development can bolster motivation and productivity (Dearstyne, 2010, van Rijn, Yang, & Sanders, 2013). The need for professional development and continuing education for teachers has been established not only generally, but also specifically for nursing educators.

Professional Development in Nursing Education. Professional development is no less a need in nursing education than in any other area of education (Benner, Sutphen, Leonard, & Day, 2010, Dearholt & Dang, 2012, Finkelman & Kenner, 2012; Poe & White, 2010; Yoder, 2011). Benner, et al. (2010) urged nursing organizations, graduate schools, and schools of nursing to offer continuing education sessions for teacher

development. In addressing the need for professional development in nursing and nursing education, Dearholt and Dang (2012) opined that nurse educators should participate in professional development as such ongoing training is necessary for those educators to stay abreast of new developments in the education field. Yoder (2011) offered that nearly every aspect of nursing requires continuing professional development and Finkelman and Kenner (2012) wrote that nursing faculty must continue their education. All of these authorities urged some type of professional development for nursing educators. Other authors have focused on the specifics of how professional development is delivered.

Seminars and Workshops for Professional Development. There are many forums and formats in which professional development material can be delivered. Regardless of format, professional development and learning in the workplace should be conducted in ways that provide dedicated, protected learning time (Lloyd, et al., 2014). Gribskov (2013) wrote that professional development in education needs to be delivered in a way that is a collaborative effort between participants and a facilitator. One way in which to provide for both the protected time called for by Lloyd (2014) and the facilitated format required by Gribskov (2013) is by use of the seminar or workshop design (Tate, 2009). While the seminar format is consistent with the requirements of Lloyd, et al. (2014), Gribskov (2013), and Tate (2009), the seminar's design and presentation can impact the effectiveness of the program.

Depending on their design, seminars and workshops can be an engaging learning experience or a tedious exercise in boredom (Morris, 2010; Tate, 2009; Weadick &

Motune, 2010). Presenters should incorporate a variety of methods for presentation including video, student participation in role playing, and storytelling in designing a seminar (Weadick & Motune, 2010). Students are generally not resistant (Walters, 2014) to the delivery of course material in interactive ways. Poe and White (2010) urged nursing educators to provide content in multimodal ways. Tate (2009) agreed with the mixing of delivery methods and offered specific strategies including making learning a fun experience, arranging content in chunks and integrating activity, and providing attendees time to reflect on the content presented. Morris (2010) believed that workplace learning is most effective when learners have an opportunity to engage in real workplace activity. Weadick and Motune (2010), Tate (2009), Morris (2010), and Poe and White (2010) all agreed that seminar material should be presented in varied, engaging ways. The project detailed in the following section is designed and structured to provide that diversified presentation.

Project Details

The project proposed will consist of a 3 day live seminar attended by nursing faculty members. The seminar will be led and facilitated by myself or another educator who is trained in and familiar with the concepts being discussed and the materials used to conduct the sessions. The purpose of the seminar is three-fold. First, the seminar will familiarize attending faculty members with the concept of learning styles and with learning style theory. That familiarization will include attendees learning how to recognize their students' learning styles and gaining an appreciation of the importance of student learning styles in adult education generally and in nursing education specifically.

Next, seminar participants will gain an understanding of specific teaching techniques they can use to appeal to the varied learning styles of their students and how to arm students with study skills to suit their individual styles. Finally, educators attending the seminar will discuss, help develop, and learn techniques for overcoming impediments to instituting diversified teaching in their classes. The presentations and activities which make up the seminar are designed to not only address teaching in learning style driven ways, but also to be engaging for participants with different learning styles.

Implementation

This project is designed as a seminar or workshop for nursing educators and is structured to address the weaknesses found in answering the three guiding research questions of the study. The first step in implementing the project's program is to contact the administration of the college or nursing school at which the seminar will be presented. The findings of the study must be provided to administrators to define the problem which the project addresses. Once the school administration commits to presentation of the seminar, logistical concerns such as scheduling and facility provision can be pursued.

The seminar is structured for delivery over three consecutive, or nearly consecutive, 8 hour days. That time requirement is significant but is not unusual for faculty professional development workshops. Nursing faculty members, like most higher education faculty, are often scheduled for multi-day blocks of non-teaching time during each school term. Those time blocks are frequently dedicated to professional

development, curriculum development, planning, and other similar pursuits. This seminar could be delivered during one of those blocks.

The seminar is based on a facilitator or facilitators leading the sessions which consist of a mixture of lecture, video and audio presentations, facilitator led discussions, participant presentations, and participant activities and learning games. It is centered on a PowerPoint presentation and schedule which structures the topics and the delivery of course content and activities. The seminar can be facilitated by any adult educator who is sufficiently well versed in learning style theory and the other topics of the workshop. The PowerPoint presentation, schedule, directions for conducting the activities, lists of needed resources, and links to web-based resources including videos are all included in Appendix A of this project thus providing a turn-key package for the delivery of the seminar.

Roles and Responsibilities

There are three classes of stakeholders who have roles in, and responsibilities relating to, the delivery of this workshop. First are the participants. The attendees at the seminar are anticipated to be nursing faculty members. No distinction is made between educators who teach in different parts of the nursing education program. The seminar content is equally applicable to all nursing education divisions. The participants will be expected to attend all of the seminar sessions and to participate in the discussions, attendee presentations, learning activities, and role playing scenarios.

Next is the role of the administration of the school for which the workshop is being presented. The administration must supply the nursing faculty members with the

required 3 days of unencumbered time in which to attend the seminar. The administration will also need to provide appropriate physical space for the conduct of the workshop, whether that space is on or off campus. The equipment and supply requirements for the seminar do not exceed what is normally found in any well equipped classroom. However, an off campus space would need to be provided with audio/visual equipment, flip chart easels, and other basic instructional supplies.

The third stakeholder is the facilitator or facilitators. The facilitator is responsible for presenting material, guiding discussions, explaining and leading activities, and ensuring that course content is delivered, participants are engaged, and questions are answered. The facilitator is expected to be very knowledgeable in learning style theory, diverse teaching strategies, study skill techniques, and ways to overcome barriers to learning style driven teaching. The facilitator should use the seminar schedule, master PowerPoint presentation, and additional resource links to both ensure that all intended workshop material is adequately covered and that the timetable is respected. The facilitator is also responsible for soliciting and gathering participant feedback via the evaluation strategy explained below and the end-of-seminar open forum discussion.

Resource Requirements, Supports, and Barriers

The resources required to present this seminar are minimal. The primary need is for the dedication of three 8 hour days on the part of participants. The allocation of time for faculty professional development is common at most schools that offer nursing education programs (Benner et al., 2010). The next requirement is a suitable classroom or other space that will comfortably accommodate the participants. The room must be

equipped with computer and projection devices to display the PowerPoint presentation and videos and sufficiently powerful speakers to play the accompanying audio. The room should also be equipped with easels and paper flip charts. Individual computer stations for each participant would be advantageous but are not required. In a large room, a public address system would also be helpful but is, again, not required. The other required materials consist of colored markers, a beach ball and whistle, colored Post-It notes, colored construction paper, and printed handouts of the PowerPoint presentation, the seminar schedule, and the VARK learning style assessment tool. All of those articles will be brought to the venue by the facilitator or facilitators. Finally, it is anticipated that a light breakfast consisting of coffee, juice, bottled water, bagels, muffins, and fruit and yogurt will be made available to the attendees each morning of the seminar.

Support for the seminar is expected to come from the sponsoring nursing school. That support will consist of provision of the physical facility and required audio/visual equipment, and funds for purchase of the needed materials. Administrative support is also needed in scheduling faculty to provide for three day's attendance at the workshop.

Potential barriers to successful presentation of the seminar exist in a number of areas. First, it is necessary for attendees to be able to attend all three full day sessions. The workshop is designed to be delivered on consecutive days but could be split across a four or five day period without seriously impacting the integrity of the presentation. As mentioned above, administrative support is required to facilitate the availability of the attending faculty members.

Next, the facilitator or facilitators who present the seminar must be thoroughly familiar with learning style theory and the major theorists in the field. They should also be conversant with diverse teaching strategies and learning style adapted study skills for students. The facilitators should be completely familiar with the content of the seminar presentations and activities. Gaining that familiarity will require some pre-seminar time commitment for facilitators unfamiliar with the program.

Finally, successful and effective presentation of the seminar will require a commitment from attendees in terms of staying engaged and participating in discussions and activities. Many parts of the seminar call for attendee participation and feedback. All workshop elements are designed and intended to be engaging and entertaining for all participants but those participants have a responsibility to take an active part in all of the sessions.

Project Evaluation Plan

The goals of this program are to enhance nursing educator awareness of learning styles generally and of the styles of their students specifically, to provide instructors with tips and techniques for teaching using learning style driven methods, and to give nursing educators the means to overcome barriers to implementing diverse teaching. Key stakeholders in the program include the seminar participants, the facilitator or facilitators, and the school administration. Each of the stakeholders will be either involved in the evaluation of the program or will receive the results of the evaluation. Evaluation of this project rests primarily on feedback from seminar attendees. That feedback will be

gathered in two ways; formatively and summatively (Suskie, 2009). Both the formative and summative methods will constitute goal-based evaluations.

The formative evaluation will come from an ongoing class exercise in which attendees express their hopes and fears for the workshop. This is done by each participant writing goals and doubts concerning the workshop on individual Post-It notes on the first morning of the seminar. The Post-It notes are placed on one side wall of the classroom. At the end of each day, participants are asked to move any goal or doubt notes containing issues that have been adequately addressed to the opposite wall. The facilitator will photographically document the notes on the outstanding and addressed walls every day. The facilitator will review the outstanding notes each day to identify any unresolved issues. At the completion of the seminar, the facilitator will collect the remaining notes on each wall, keeping them separated according to which wall they came from. Analysis of those notes will provide an indication of the goals, both individual and program goals, that were met or unmet by the workshop and the doubts that were allayed or remained.

The summative evaluation will be provided for in a seminar closing session. The final class block is dedicated to a seminar summary and an open discussion in which the participants are solicited to provide feedback on the presentations and activities. The facilitator will keep notes of the feedback received from the seminar attendees. Those feedback notes will later be analyzed to extract themes and concepts that contribute to a determination of the degree to which the program goals were met.

No quantitative methods will be used to gauge the degree to which program goals were met. However, the combination of formative and summative evaluations facilitated through program participant feedback will provide adequate means with which to gauge the effectiveness of the program. The results of these evaluations will be reported to the administration of the sponsoring institution.

Implications for Social Change

It has long been recognized that students possess individual learning styles or preferences. Even before the development of formal learning style models, educators were aware that some students functioned better in one learning modality than another. In nursing this is frequently evidenced by students who excel in the classroom environment, which is centered on auditory and read/write teaching, but have difficulties in clinical practice where visual and kinesthetic modes predominate. Other students display the opposite phenomenon, doing well in clinicals but struggling with didactics.

Given the diversity of student learning styles, no one teaching method will ever engage them all. However, it is unrealistic to expect that teaching can always be tailored to each student individually. Doing so would require a one to one ratio of teachers to students. One solution to this dilemma is to make educators aware of their students' learning styles and the teaching strategies that they can use to engage students of differing styles. In addition to that diversified teaching, instructors can also help students by providing them with study skill tips suited to their individual styles.

Nursing education is an especially difficult field. It involves delivering much course content which is very technical and extremely dense. It also requires teaching

physical skills, didactic knowledge, and judgment. The effectiveness of nursing education is most often gauged by graduation and licensure examination pass rates. Both of those rates have frequently underperformed in comparison to many other adult education pursuits. Research directed at nursing education has established that increased teacher awareness of student learning styles and provision of teaching in diverse ways can contribute to better student academic outcomes.

The study which formed the basis for this project identified deficiencies in the knowledge of nursing educators concerning their students' learning styles and the degree to which nursing instructors were employing diverse, learning style driven teaching strategies. This program is specifically designed to address those shortcomings and to assist nursing instructors in delivering more effective education. Doing so could lead to enhanced student experiences and outcomes which are beneficial for not only the student, but for faculty, the educational institution, and the nursing profession.

Conclusion

Nursing is a profession in which practitioners often have a profound effect on the people in their care. It is demanding in terms of knowledge and skill requirements and also requires the use of critical thinking and the exercise of sound judgment. Nursing educators are tasked with teaching their students all of these things, often against the background of a compressed, condensed curricular schedule. There is wide agreement among nursing education authorities that the recognition and consideration of differing student learning styles is vital to delivering teaching in the most effective, engaging way possible. Unfortunately the demands of everyday nursing education often prevent faculty

members from knowing their students' styles or taking those styles into consideration in planning and delivering course content.

However, the problems posed by such demands are not insurmountable. The study at the heart of this project identified specific deficiencies in nursing educators' understanding of student learning styles. The study also revealed barriers that instructors perceive as preventing them from addressing their students' individual styles in their teaching. The program proposed here was designed to both correct the deficiencies in faculty knowledge of student learning styles, and to overcome the barriers. Correcting those problems will lead to more effective nursing education resulting in students who are better able to succeed academically and better prepared to function professionally. As more fully discussed in the following section, the process of designing, conducting and analyzing this project's research, and designing the remediation program informed by the results of that research, both increased my depth of knowledge of research projects and altered many of my perceptions of research, program design, and scholarship.

Section 4: Reflections and Recommendations

This doctoral study, *How Nursing Educators Address the Differing Learning Styles of Students,* was designed to focus on nursing educators and student learning styles. I used this study to seek answers to three primary questions. The first question investigated what nursing instructors understand about learning styles, particularly the individual learning styles of their students. The next was what nursing faculty do to adjust their classroom teaching to appeal to diverse learning styles. The third question investigated what factors interfere with nurse educators' delivery of course content in varied ways.

The results of the study show significant deficiencies in nursing educators' awareness of the learning styles of their students. They also revealed a lack of sufficient use of diverse teaching strategies to engage the differing learning styles of students. Finally, the study also helped identify several factors that impede nursing educators in attempting to provide learning style driven diversified teaching. I developed a proposal for a 3-day seminar to be delivered to nurse educators. The seminar is designed to address and help remediate the deficiencies described above.

The program proposed in Section 3 is, I believe, the most focused and effective way to remedy the deficits identified by the study. I have pondered the strengths and weaknesses of the seminar proposal as well as other possible approaches to remediation. Those thoughts as well as my reflections on this overall project process and scholarship in general are presented in this section.

Project Strengths

This project's remediation plan is based on and informed by a research study that I conducted using university nursing educators. The research resulted in answers to the three guiding questions posed; "What do nursing instructors know about learning styles?", "How do nursing instructors design course delivery with consideration of the needs of students with differing styles?", and "Why do nursing instructors experience difficulties in implementing teaching strategies to address learning style differences?" The answers to the research questions revealed several deficiencies in the way nursing educators address learning style differences in their students. The remediation program was designed to address those deficiencies related to each research question and was structured to be delivered in a 3-day seminar format as suggested by Tate (2009). The 3 days of the seminar follow the pattern of the research questions. That is, the first day is focused on Question 1, its answers, and solutions to the problems identified; the second day on Question 2 and its answers and solutions and so on. Thus the program is not only informed by, but also designed around, the research. That design helps ensure that the findings of the research are fully addressed by the program while preventing any tendency toward program overreach. The program is therefore thorough yet focused and compact.

Although the program is based on research conducted at one university using a study sample of nine nursing educators, it is appropriate for wider application outside the research setting. As described earlier, the study site university offers a variety of both undergraduate and graduate nursing education programs in both traditional classroom and

online environments. It is therefore representative of many educational institutions offering nursing education programs. Triangulation of three data sources, member checking, and peer review techniques were all used to help establish the validity of the research (Creswell, 2012; Yin, 2014). The findings of the study, and therefore the remediation program, may be generalizable to nursing faculties beyond the research setting.

The program that I developed can be delivered by any facilitator or facilitators with sufficient background in learning style theory and nursing education. Comprehensive, detailed instructions to facilitators, schedules, audio/visual presentations, links to additional resources, and lists of needed materials are all part of the program package. The inclusion of all those resources makes for a complete turn-key solution for delivering the seminar. Such a pre-packaged, turn-key presentation results in minimizing the planning time requirement for delivering the course and helps ensure the consistency of program content and delivery.

Project Limitations

Effective delivery of this program requires buy-in on the part of several stakeholders. Endorsement and active participation are required from the seminar facilitator or facilitators, the host school administration, and the program attendees (Tate, 2009). Disengagement on the part of any of those elements would make the program presentation, and the educational improvements sought, difficult or impossible to achieve. To help guard against the possibility of such disengagement, it is important to

lay adaquate groundwork for presentation of the seminar. Recommendations for accomplishing such groundwork are laid out below.

School administrators should be informed of the results of this study and other research that establishes the significance of student learning styles and teaching methods to address them as well as the deficiencies identified in the delivery of learning style-driven teaching. Administrators and seminar attendees should understand that this program is intended to remediate those deficiencies by helping teachers design and deliver varied teaching, ultimately helping improve student academic outcomes.

Engagement on the part of the seminar attendees is the most important required element for successful application of the program. Nursing educators have been found to be significantly invested in whether their teaching is effective (Brown, et al., 2009). Teachers are also, despite the hindrances discovered in this project's research, open to varied teaching strategies (Phillips & Vinten, 2010). While those facts are helpful in a general sense, it is critically important to the success of the project that attendees approach this program as an opportunity for improvement of their practice rather than merely a requirement of their institution.

It is very important that the administration of the school offering this program and the dean and administrative staff of its department of nursing education be completely on board with the presentation of the program and its goals. An advantage of this program is that its demands on the hosting school in terms of space provision and funding are minimal. However, the demand for dedicated faculty time is significant. The three full days required for this program is a considerable amount of time over which to lose the

availability of teachers for regular duties. In many employment arenas such a commitment would not be possible. Fortunately, in education generally, and in nursing education specifically, the allocation of blocks of time for faculty development, continuing education, planning, curriculum development, and similar pursuits is common (Benner et al., 2010).

Finally, the facilitator or facilitators overseeing this program must be well-versed in learning style theory and its application in nursing education. The facilitator should be an experienced nurse educator or, at least, very familiar with nursing education. As is the case with any seminar or workshop, the facilitator should be completely familiar with the program structure, resources, and contents. In order to make the seminar as engaging and entertaining as possible, as suggested by Weadick and Motune (2010), the facilitator should be personable and enthusiastic about the course and its content.

Alternative Approaches

The seminar or workshop format proposed in this project is one of several ways to deliver the remediation course content. Seminar content can, for example, be condensed for presentation in faculty meetings or similar gatherings. With adaptation, the program content could be presented as a computer based e-learning module or in printed form. Any of these methods would permit the basic content of the course to be delivered albeit not as thoroughly. Elimination of the interactive exercises would likely reduce the level of engagement of participants. This engagement is an important element in achieving the full efficacy of the program because it serves to give the nurse educators hands-on practice and exposure to different teaching strategies.

Another alternative is to look at the remediation approach from a different perspective. The proposed program is aimed at nursing educators but is ultimately meant to improve outcomes for nursing students. From a student's viewpoint, some of the benefits of the proposed program could be gained through a learning styles assessment and study skills course. Students could be assessed to determine their individual learning styles and then provided with study skills and tips specific to their style. While significantly less demanding of time, a student learning style assessment and study skills session would not be as comprehensive as the proposed program and would not address the deficiencies in teaching identified by the research.

Lessons Learned

Scholarship

One of the primary things I discovered about composing a scholarly work is the degree to which all propositions must be supported. It is not enough to think that a proposal is a clearly self-evident good idea; it must be proven. Unsupported concepts and constructs, no matter how valid an author may think them to be, are of little value in scholarly work. It is not sufficient for a researcher to make statements expecting them to be accepted simply because the researcher made the assertions.

Fortunately now, in the age of a maturing and widely deployed internet, a vast amount of potentially supportive previous research material is readily available and searchable. The sheer volume of the material on the web can sometimes be frustrating when trying to perform a focused search. However, I can't help but wonder at the

staggering task facing previous scholars who had to pour over countless journals and bound volumes in pursuit of relevant material.

I also discovered the value and necessity of thorough organization and meticulous record keeping in conducting research. This study sample consisted of only nine members. Even so, the surveys, classroom observations, interview transcripts, and other related documents created paperwork management issues that could easily have gotten out of hand in the absence of an organizational plan and filing system. Research conducted with large scale samples has an enormous burden in terms of organization and management.

I found that regardless of the research design adopted for a project, it is necessary to have knowledge of the other commonly accepted research traditions and methodologies. This project was constructed as a descriptive multiple case study (Creswell, 2012; Yin 2014). It is primarily a qualitative work but uses some quantitative means descriptively to help explore the research questions. In formulating, conducting, and analyzing this research, I drew upon references concerning phenomenology, ethnography, case studies, survey-based research, data coding, statistical analysis, and many other research and analytic methods. A researcher with even exhaustive knowledge of only one research method would be ill-equipped to conduct thorough research.

Finally, I discovered that research is only partially complete when the data has been collected and analyzed, the research questions answered, and conclusions drawn. What remains to be done is, at a minimum, a discussion of the strengths and weaknesses

of the work and recommendations for further study. In the case of a complete project such as this, the research findings only provide a foundation for a program to address and remediate deficiencies that were discovered.

Project Development and Evaluation

The use of the research and its findings to inform the project greatly facilitated the development of the project's structure and content. The research questions suggested the organization for the seminar and the conclusions provided a clear focus for the topics to be presented. Once that organizational and content shell was in place, the remainder of the project development process progressed well.

Several evaluation methods are available for a seminar or workshop like the one proposed in this project. Evaluation designs can be either formative or summative and can be goal or outcome based (Suskie, 2009). One traditional method of evaluation for a seminar or workshop is the use of a printed or online summative survey of the participants. While that method is relatively easy to administer, I elected not to use a survey due to the fact that the time demands on faculty members attending the seminar are already significant. I instead chose to use a combination of written notes concerning participants' goals and doubts about the seminar - the assessment of those goals and doubts being ongoing during the sessions - and verbal feedback following many of the presentations and at the conclusion of the workshop. The combination of those two techniques provides for both formative and summative evaluation of the seminar and its content.

Leadership and Change

Through this project I have discovered that leadership and change go hand-in-hand. In nursing education, as with many pursuits, one cannot be an effective leader without being open to change. The most able nurse educator leaders and administrators I have encountered in this process were those who were most receptive to discussions of deficiencies in nursing education and ways to address those deficiencies. The most knowledgeable and well-versed educators, if resistant to all change, are less effective than they could otherwise be. I have been fortunate during this project to deal with many nursing educator leaders who are experienced, knowledgeable, and receptive to implementing change when it is indicated.

Self Reflections

This project has afforded me an opportunity to discover several things about myself as a student, researcher, and nurse educator. Prior to engaging in this project I would not have considered conducting scholarly research had it not been required. I have found that despite that resistance to the idea of conducting research at the outset of the project, once I chose a topic of interest to me and developed the research plan, I became far more engaged in the process. As the project developed, I began to see tangible possibilities for exploring and improving problems that I had long perceived in nursing education. I would not consider a career path change to being a full-time researcher, but I now have a better appreciation of the value of scholarly research and view it with less trepidation.

As a practitioner of nursing education, I have gained much. I have been able to validate concerns I had about insufficient efforts to address student learning styles. I have learned how to seek out and apply existing research in developing my own praxis. I have also gained significant and valuable insights into nursing education provided during the process of interviewing and observing the study participants who were my peers.

In the course of project development, I found that my penchant for diverse teaching methods helped in designing the seminar. Over the course of my career, I have attended many seminars and workshops. Some of those sessions I have found to be tedious and boring. Most involved simply lecture and PowerPoint slides. Conversely, I have been engaged, entertained, and educated by some programs. Those were mainly seminars that incorporated varied teaching methods including many interactive activities. It was those engaging programs that I sought to emulate in designing this project.

In the course of this project I have seen what I had long perceived as a problem in nursing education be verified by research as a real phenomenon. I was by no means the first researcher to recognize a deficiency in learning style adapted teaching in nursing education. However, I had not previously been aware of any thorough examination of the reasons for that deficiency. Some of the findings of this research, or similar findings, may well have been reported in other studies but I have been afforded the opportunity to consolidate them. I believe that this study can contribute to the advancement of nursing education and improvement of nursing student outcomes.

I have also had an opportunity to address the problems identified by the research with the design of a remedial program. While the program is based on a research sample

of only nine nursing instructors at one university, it could easily be applied in nursing education beyond that venue. The program itself is intended to be engaging, entertaining, and enlightening. My hope is that application of the program results in nursing classes that also display those attributes.

Implications, Applications, and Directions for Future Research

The problem discussed in the introductory section of this project is that nursing students are frequently underachieving academically. One possible reason for that lack of achievement was identified as insufficiency of teaching methods that are adapted to suit the diverse learning styles of students. Nursing education authorities have widely agreed that such a lack can negatively impact the engagement of students and their academic performance. Addressing deficiencies in learning style driven teaching could help alleviate those negative impacts, improve nursing education, and result in better academic outcomes for nursing students.

This research, and the program informed by it, are designed to address the lack of use of learning style driven teaching methods in nursing education. The research is in agreement with several previous projects that established the often unmet need for diversified teaching in nursing. The finding of that deficiency is not new ground but little previous research has focused on the reasons for such a lack. The hindrances identified in this research are addressed in the accompanying program proposal. They are all common problems in nursing education but are not insurmountable barriers to the use of varied teaching strategies. Subsequent studies could examine the same research questions using a much larger sample, using a mixed sample of both educators and

students, or venturing outside the realm of nursing education and into other educational fields. Another possible approach could be a comparative study of student attitudes and performance preceding and following application of the remediation program proposed in this project.

Conclusion

Nursing education is similar to other higher education fields but it has some important differences. As in many other pursuits, nursing curricula are technical and dense and are often delivered in compact, accelerated courses. Unlike most other fields though, nursing schools must teach the technical and knowledge portions of the profession along with hands-on physical techniques and cognitive skills including critical thinking and judgment. Government regulation and the demands of this critically important profession dictate that all these essentials are taught in nursing school.

Previous research has shown that adult education is most effective when students are engaged and their individual learning styles are addressed by varied teaching methods. The research which is part of this project has indicated deficiencies in those areas due to a lack of teacher recognition of student learning styles, educator over-reliance on lecture, time constraints, and student resistance. The project resulting from this research was designed to help remedy those deficiencies.

Nursing education is fundamental to the delivery of quality health care. It is clear that nurse educators must recognize individual student learning styles and deliver teaching in ways that address diverse styles. That recognition and delivery is critical to improving nursing education, student outcomes, and ultimately the nursing profession.

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Appendix A: Professional Development Project

Professional Development Workshop Plan and Training

How Nursing Educators Address the Differing Learning Styles of Students

Kimmie Sue Gore

December, 2014

Appendix A Table of Contents

Professional Development Plan

Project

This project will consist of a three day professional development seminar to enhance nursing educators' awareness of the individual learning styles of their students, enhance teachers' skills in providing learning style driven teaching, and provide nursing educators with techniques for overcoming student resistance to innovative teaching strategies.

Background

This project is based on a study that identified deficiencies in nursing educators' knowledge of student learning styles.

The study also indicated that teachers were not adequately varying their teaching strategies in order to address the different learning styles of their students. Three primary reasons, time, class size, and student resistance, were identified that inhibited the use of varied teaching.

The study revealed that the knowledge and technique deficiencies identified were displayed, although in varying degrees, by all of the faculty members who formed the study sample. The seminar(s) will therefore be directed at all nursing faculty members.

Purpose

The professional development seminar is designed to help remediate the deficiencies noted above by increasing nursing educators' knowledge of learning styles and why addressing those styles is important in adult education. It will also provide

teachers with tips and techniques for both providing course content in varied ways and for overcoming the factors which impede teaching in those ways.

Target Audience

The seminar is designed to be delivered to faculty members in any nursing education program.

Goal

The goal of this professional development seminar is to improve nursing education through enhancing both nurse educators' appreciation of student learning styles and those teachers' ability to address different learning styles by employing varied teaching strategies.

Proposal for Implementation and Timetable

This seminar is designed to be delivered to groups of teachers in three eight hour sessions on consecutive days. It is therefore best suited for implementation during non-teaching periods at the beginning of a semester or school year or during mid-term student breaks. Both of those time periods are frequently used for teacher planning, professional development, and other related activities.

The design of the seminar makes it suitable for delivery to groups of nursing educators varying in size from 10 to 40 teachers. Smaller or larger groups could also be accommodated but would require adjustments to some of the techniques and activities used in delivering course content. The seminar is designed to be conducted in Room 160, a well equipped classroom, at the study site institution but could be delivered in any

suitably sized class or meeting room provided that audio/visual projection equipment was available.

Schedule, Methods, Learning Objectives, and Needed Materials

Schedule for Seminar Day One

Learning Objectives – Participants will:

- Identify the concepts of learning styles and their importance
- Discuss how learning style knowledge can contribute to academic success
- Discover their own learning style

08:30 – 09:00

Coffee, juice, bottled water and bagels

09:00 – 09:45

Introduction of facilitator; outline of course objectives; description of schedule; goals and fears exercise[1]; beach ball ice breaker activity[2]

09:45 - 10:00

Break

10:00 – 10:45

Overview: Learning Style Theory - Kolb; Knowles; Gardner; Fleming

10:45 - 11:00

Break

11:00 – 11:45

Student Learning Styles and Academic Success: How learning style knowledge can help you and your students

11:45 – 13:00

Lunch on your own

13:00 - 13:45

Knowing Your Students Learning Styles - formal inventories; informal assessments and student feedback

VARK assessment: understanding the tool; learning your learning style (Have participants complete and score the VARK assessment tool to identify their dominant learning style)

13:45 – 14:00

Break

14:00 – 14:45

Group Activity: Separate class into groups depending on their identified learning styles from the VARK assessment (visual learners; auditory learners; Read/write learners; kinesthetic learners). Have each group brain storm teaching method ideas, from the student's perspective, appropriate to the learning style of their group.

14:45 – 15:00

Break

15:00 – 15:45

Group Reports: Have each learning style group share their ideas for learning style appropriate teaching methods in the classroom.

15:45 – 16:00

Break

16:00 – 16:30

Summary and Review

Assignment: Varied teaching methods to address various learning styles[3]

Move goals and fears notes[1]

Materials for Day One

- Room 160 fully equipped with instructional materials including audio/visual devices
- The online VARK Questionnaire (www.vark-learn.com)
- Flip charts with easels
- Colored markers
- Beach ball and whistle for ice breaker activity
- Colored Post-It® notes
- Handouts: schedule, PowerPoint presentations, printed VARK instrument

Schedule for Seminar Day Two

Learning Objectives – Participants will:

- Demonstrate learning style based teaching methods
- Identify student study skills to suit individual learning styles

08:30 – 09:00

Coffee, juice, bottled water and fruit and yogurt

09:00 – 09:45

Group Caucus[3] – Groups meet and formulate their learning style specific class presentations

09:45 - 10:00

Break

10:00 – 10:45

Group Reports[3] – Delivery of the learning style specific presentations; 25 minutes per group (split across this block and the 11:00 – 11:45 block as necessary)

10:45 - 11:00

Break

11:00 – 11:45

Group Reports[3] Continued

11:45 – 13:00

Lunch on your own

13:00 -13:45

Teaching and Study Skills

V: visual learners – video; "thinking cap" exercise[4]; discussion

13:45 – 14:00

Break

14:00 – 14:45

Teaching and Study Skills

A: aural learners – video; "thinking cap" exercise[4]; discussion

R: read/write learners – video; "thinking cap" exercise[4]; discussion

14:45 – 15:00

Break

15:00 – 15:45

Teaching and Study Skills

K: kinesthetic learners – video; “thinking cap” exercise[4]; discussion

15:45 – 16:00

Break

16:00 – 16:30

Summary and Review

Move goals and fears notes[1]

Materials for Day Two

- Room 160 fully equipped with instructional materials including audio/visual devices
- Flip charts with easels
- Color markers
- Colored construction paper for making “thinking caps”[4]
- Handouts: PowerPoint presentations
- Participant supplied materials as necessary for presentations

Schedule for Seminar Day Three

Learning Objectives – Participants will:

Explore the factors that hinder learning style driven teaching

Develop solutions to impediments to diverse teaching

Practice techniques to overcome student resistance to innovative teaching strategies

08:30 – 09:00

Coffee, juice, bottled water and muffins

09:00 – 09:45

Time Constraints – Presentation, "idea storm"[5] exercise, Discussion

09:45 - 10:00

Break

10:00 – 10:45

Class Size Problems – Presentation, "idea storm"[5] exercise, Discussion

10:45 - 11:00

Break

11:00 – 11:45

Student Resistance – Presentation,"idea storm"[5] exercise, Discussion

11:45 – 13:00

Lunch on your own

13:00 - 13:45

Can You Be Bullied? – Presentation and Discussion

13:45 – 14:00

Break

14:00 – 14:45

Role Play Scenarios – Select concepts from the "Student Resistance" and "Can You Be Bullied?" discussions and have pairs or small groups of participants role play student and teacher scenarios centering on those concepts and incorporating coping techniques that were presented or discussed. Allow for brief discussion after each scenario.

14:45 – 15:00

Break

15:00 – 15:45

Open discussion of factors complicating or interfering with learning style driven teaching

15:45 – 16:00

Break

16:00 – 16:30

Seminar Summary and Feedback

Move goals and fears notes[1]

Materials for Day Three

Room 160 fully equipped with instructional materials including audio/visual devices

Handouts: PowerPoint presentations

Instructions for conducting in-seminar exercises and activities

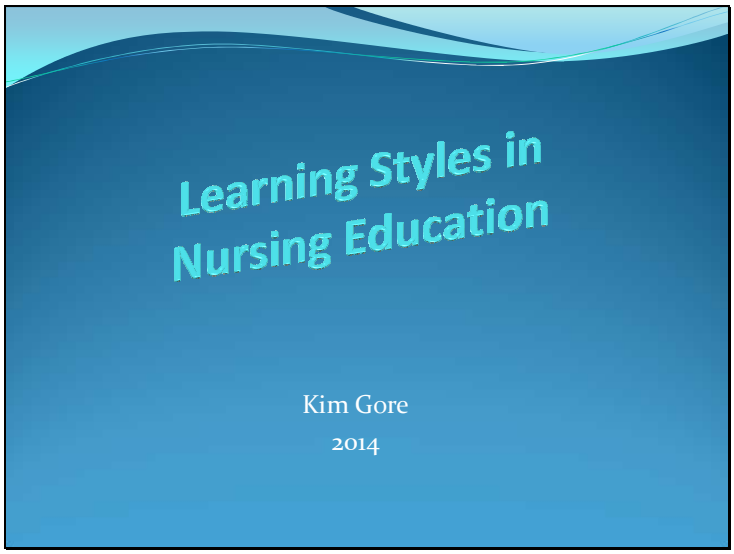
1. **Goals and fears evaluation exercise.** Have participants think of several brief goals for what they hope to get out of the seminar as well as some negative issues they have encountered in previous seminars and training sessions. Have the participants write their goals and fears on Post-It® notes, one goal or fear per note. Have the participants stick all their notes to one of the side walls in the room. At the end of each day, have participants move whatever goals or fears they feel have been addressed to the opposite wall. Take a picture of each wall at the end of each day to record the day's progress in addressing the posted goals and fears. At the conclusion of the seminar, collect the notes from the fulfilled and unfulfilled walls and place them in separate plastic bags.
2. **Beach ball ice breaker activity.** Write 8-10 relevant questions (e.g. "As a nursing student, how did you receive most course material?", "What do you know about your own learning style?", "Why do students' learning styles matter to an educator?", etc.) on the beach ball using a black marker. Toss the ball around the room and blow the whistle to signal a stop. The participant who ends up holding the ball at the whistle should read aloud the question most nearly facing him or her and briefly answer the question. Blow the whistle to signal the participants to resume passing the ball around and then blow it again to again signal a stop and repeat the question and answer process. Continue the activity for 10-15 minutes.
3. **Teaching Methods Assignment.** At the end of Day 1 assign each learning style group to formulate a 20 minute classroom presentation on Cardiovascular

Function which will be presented on Day 2. Each presentation should make extensive use of techniques to engage the learning style (visual, auditory, read/write, kinesthetic) of the presenting group. A 45 minute block is provided at the beginning of Day 2 for the groups to prepare their presentations. Instruct the groups to bring any materials they need for their presentation with them on Day 2. Each group can decide for themselves whether to meet or conference call during off time for their preparation and can decide their own delegation of tasks.

4. **Thinking cap exercise.** Use the colored construction paper to make five or six hats of each color (white, black, yellow, red). Distribute the hats randomly to participants. Each hat color corresponds to a perspective that the wearer will take in discussion of learning style teaching techniques and student study skills. White hats indicate a neutral, fact-based approach. Red hats are for an emotional, impressionist approach with visceral reactions. Black hats mean a negative, pessimistic approach. Yellow hats are for a positive, optimistic approach. Following each teaching technique and study skills video, provide a few minutes for participants to reflect on the material from the perspective indicated by their "thinking cap". Then initiate a group discussion of the techniques presented and encourage participants to express their thoughts from their "hat perspective". Redistribute the hats at the beginning of each section so that participants get the opportunity to adopt different approaches.
5. **Idea storm exercise –** Have one or two participants stand in front of the group with markers and flip chart paper on easels. Ask attendees to call out short phrase

ideas (focused on the topic at hand) quickly and have the scribes write them on the flip charts. Do not filter the ideas or allow discussion of individual ideas to develop during the brain storming process. Once a sufficient number of ideas have been collected, use those ideas to prompt discussion.

PowerPoint Presentation - Day 1



Sub-notes

09:00 – 09:45

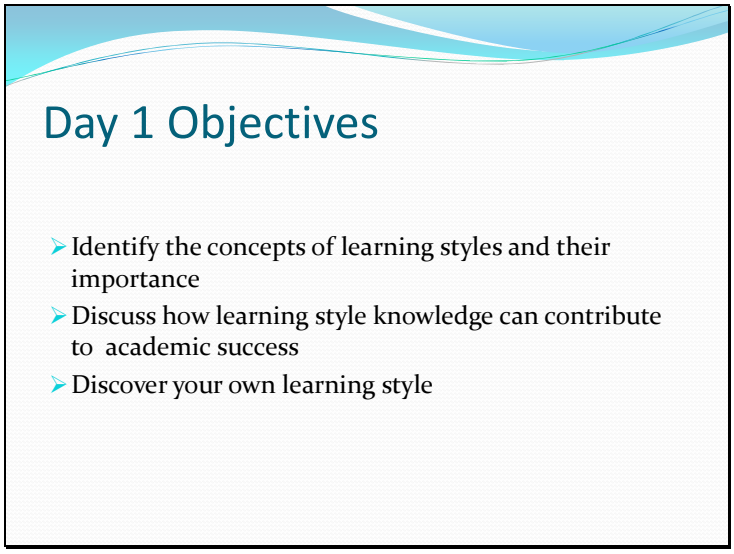
Welcome; Introduction of facilitator; brief purpose of course (enhance teacher awareness of student learning styles, provide teachers with ways to vary teaching strategies, arm teachers with methods to overcome road blocks to varied teaching)

Facilitators back ground (academic qualifications, years of nursing & nursing education experience)

Seminar structure; schedule; breakfast and lunch arrangements; phone use policy

Review day 1 objectives on slide 2

Slide 2



Sub-notes

Review day 1 objectives

Distribute Post-It® note pads. Ask participants to complete and post their goal/fear notes (see footnote 1 attached to schedule)

Move forward to slide 3 - ice breaker

Slide 3

Sub- notes

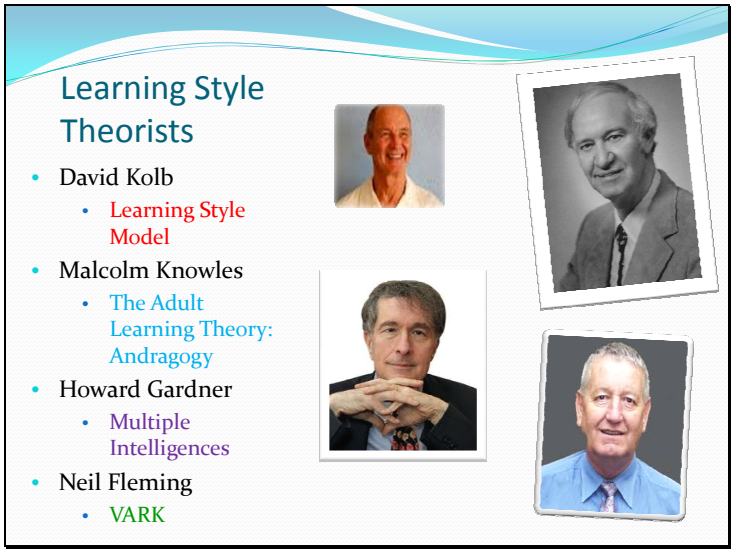
Ice breaker activity: 10-15 minutes (see footnote 2 attached to schedule)

Materials needed: beach ball with questions written on it, and a whistle

Facilitator will explain the exercise. Beach ball will be tossed around the room when the whistle is blown, the participant with the beach ball will read and answer out loud a question on the ball. The ball is then tossed around the room until the whistle is blown again.

09:45 – 10:00 Break

Slide 4



Sub-notes

10:00 – 10:45

Review the following learning style theorists and their contributions.

- David Kolb – learning style model, learning style inventory (LSI) Kolb: www.infed.org
- Malcolm Knowles – self directed learning, andragogy Knowles: www.infed.org
- Howard Gardner – multiple intelligence theory Gardner: www.howardgardner.com
- Neil Fleming – VARK model Fleming: www.vark-learn.com

Discuss the existence of multiple learning styles in students

10:45 – 11:00 Break

Slide 5

Sub-notes

11:00 – 11:45

The facilitator will discuss how diversified teaching methods can more fully engage all learners in a classroom leading to greater academic performance.

Academic success in nursing education can be measured by NCLEX pass rates as well as other criteria. NCLEX rates are often viewed as the measure of a nursing education's level of quality. Therefore, teaching that is adapted to appeal to learners of different styles should result in both higher GPAs and higher NCLEX pass rates.

11:45 – 1300 Lunch

Slide 6

Sub-notes

13:00 – 13:45

Discuss ways to determine student learning styles.

Formal inventories
(Gardner's MI, Kolb's LSI, Fleming's VARK, etc.)

Informal assessments
(classroom verbal vs. written tests performance, classroom vs. clinical performance, student expressions of preferences)

Administer VARK assessment tool to participants. Score results to categorize participants by dominant style

13:45 – 14:00 Break

Slide 7

Sub-notes

14:00 – 14:45

Separate participants into groups according to their dominant learning styles as determined by the VARK assessment. Instruct the groups to discuss, in light of their preferred learning style and from a student's point of view, the types of teaching that would be most effective and engaging for them. The groups should use the provided flip charts and markers to make a list of these teaching types and select a representative to report their findings to the class at large.

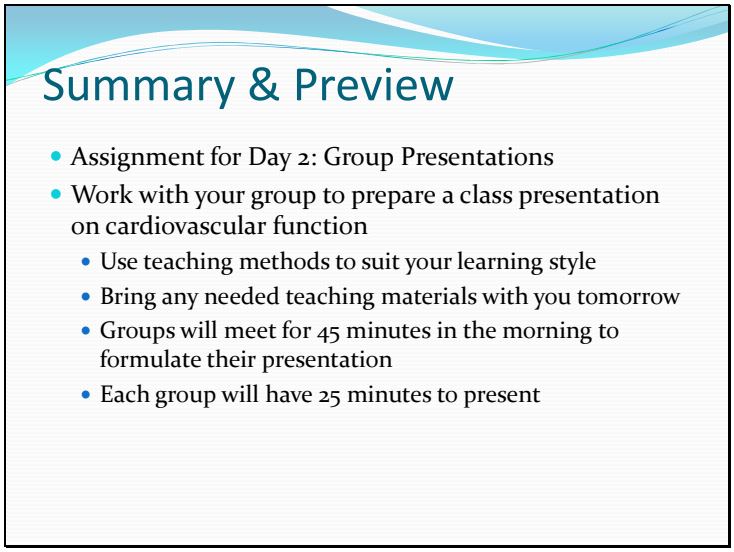
14:45 – 15:00 Break

15:00 – 15:45

Reconvene the entire session and have each group report their findings to the class.

15:45 – 16:00 Break

Slide 8



Sub-notes

16:00 – 16:30

Summarize the day's presentations and findings using the objectives for day 1

"We have identified the concepts of learning styles and their importance.
We have discussed how learning style knowledge can contribute to academic success.
You have discovered your own learning style."

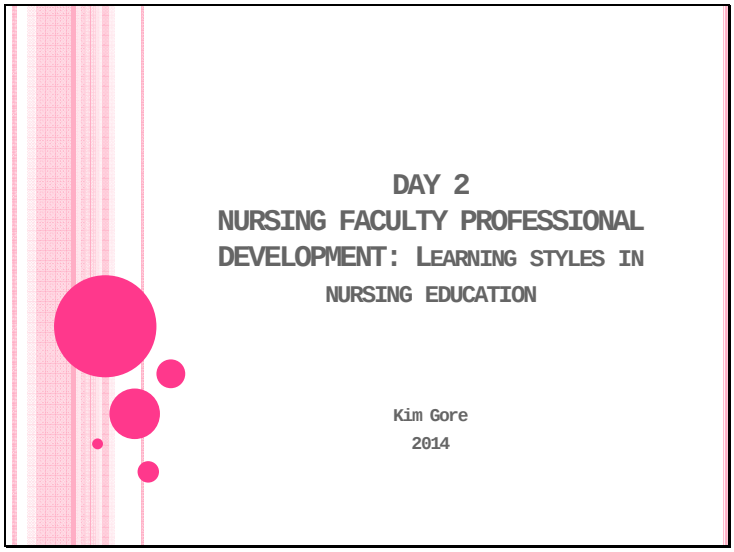
Explain the exercise and topics for day 2

Provide participants time at the end of the session to meet with their groups and decide on distribution of tasks to prepare for the assignment

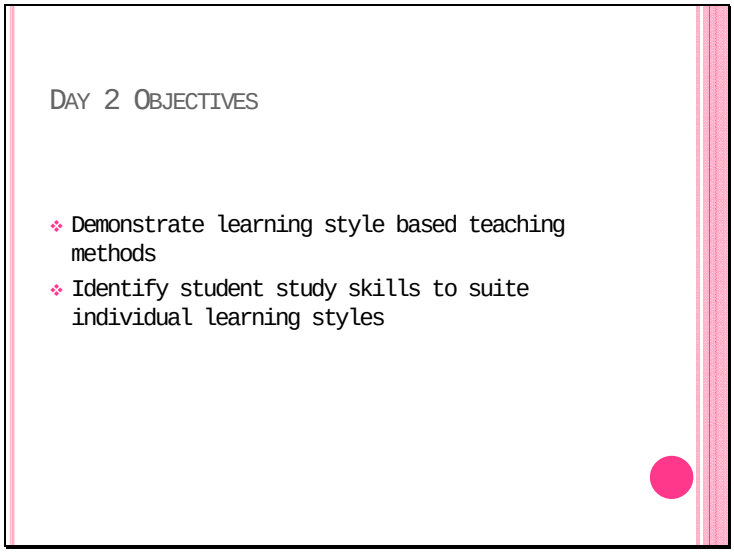
Ask participants to move goals/fears notes (see footnote 1 attached to schedule)

PowerPoint Presentation – Day 2

Slide 1



Slide 2



Sub-notes

09:00 – 09:45

Review Day 2 objectives

Advance to next slide

Slide 3

Sub-notes

09:00 – 09:45

Learning style groups will meet to formulate their cardiovascular function presentation

09:45-10:00 Break

Slide 4

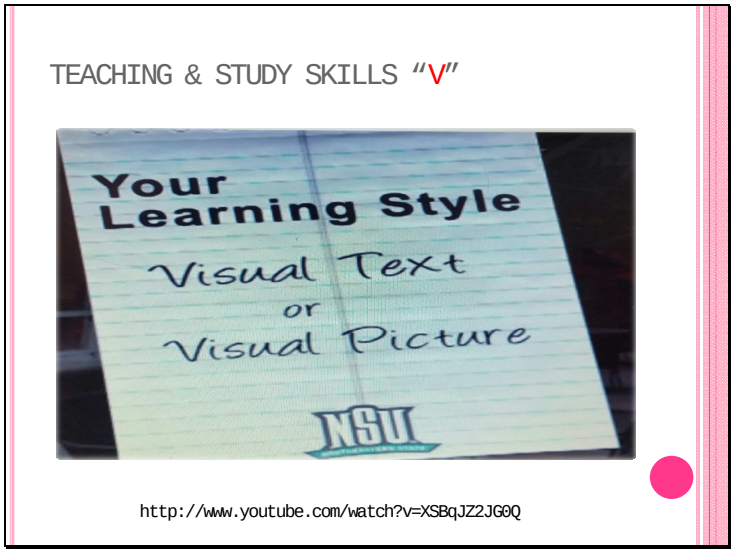
Sub-notes

10:00 – 10:45

Delivery of the sub group presentations: 25 minutes per group (split across this block and the 11:00 – 11:45 block as necessary)

11:45 – 13:00 Lunch

Slide 5



Sub-notes

13:00 – 13:45

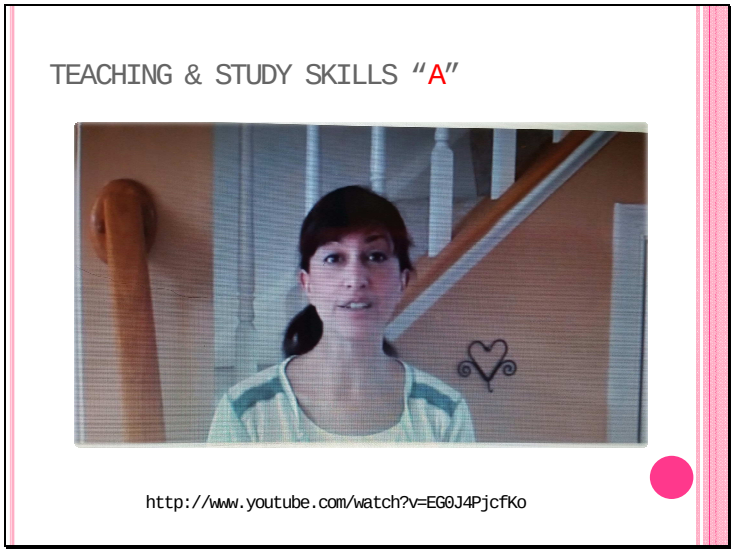
Play visual learner video (embedded on PowerPoint slide)

Activity: "Thinking caps" for visual learners (see footnote 4 attached to schedule)

Discuss study tips for visual learners

13:45 – 14:00 Break

Slide 6



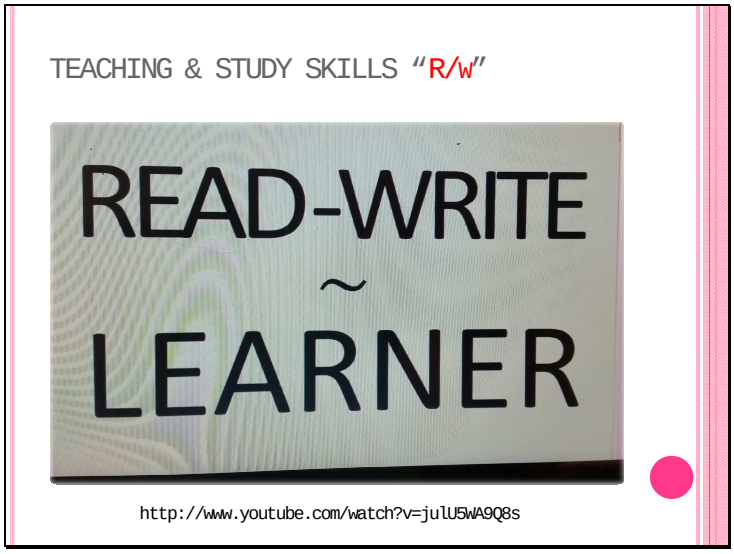
Sub-notes

14:00 – 14:45

Play auditory learner video (embedded on PowerPoint slide)

Advance to next slide

Slide 7



Sub-notes

Play read/write learner video (embedded on PowerPoint slide)

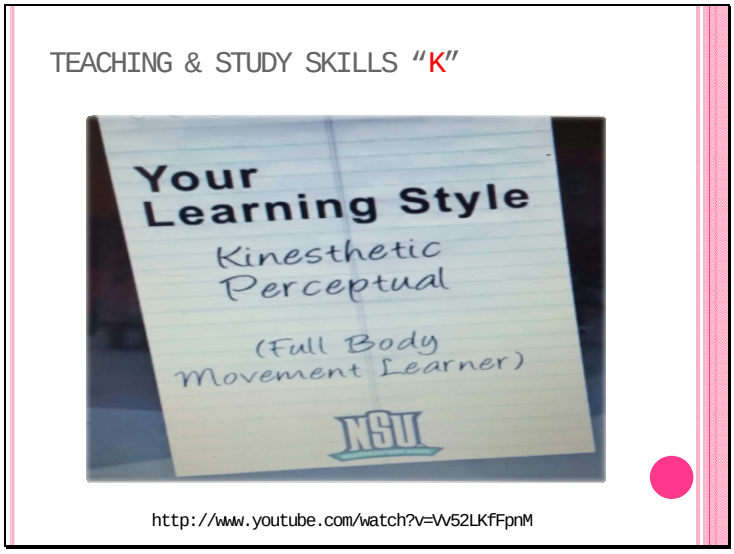
Activity: "Thinking caps" for auditory learners and read/write learners (see footnote 4 attached to schedule)

Discuss study tips for auditory learners

Discuss study tips for read/write learners

14:45 - 15:00 Break

Slide 8



Sub-notes

15:00 – 15:45

Play kinesthetic learner video (embedded on PowerPoint slide)

Activity: "Thinking caps" for kinesthetic learners (see footnote 4 attached to schedule)

Discuss study tips for kinesthetic learners

15:45 – 16:00 Break

Slide 9

Sub-notes

16:00 – 16:30

Summarize the day's presentations and findings referencing the objectives for day 2

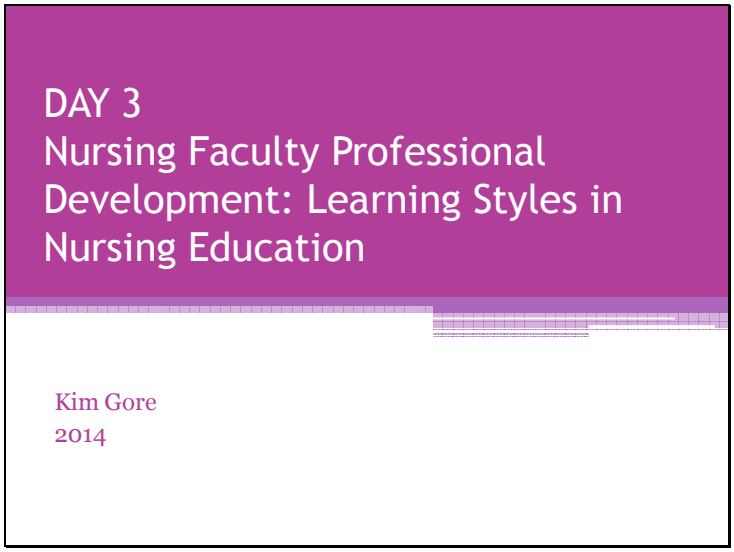
"Today you demonstrated learning style based teaching methods and we identified student study skills to suit individual learning styles."

Explain day 3 theme "Overcoming Obstacles"

Ask participants to move goals/fears notes (see footnote 1 attached to schedule)

PowerPoint Presentation – Day 3

Slide 1



External resources for Day 3

Altmiller, G. (2012). Student perceptions of incivility in nursing education: Implications for educators. *Nursing Education Perspectives*, *33*, 15 -20. Retrieved from www.ncbi.nlm.nih.gov/pubmed/22416538

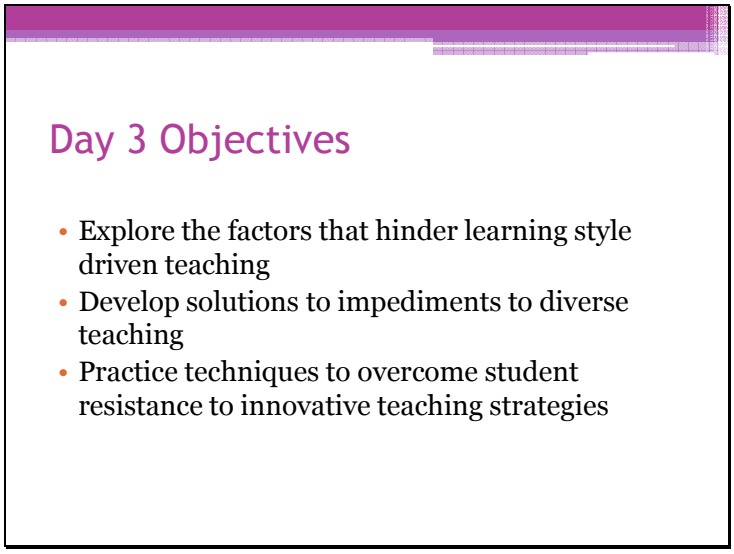
DalPezzo, N. K., & Jett, K. T. (2010). Nursing faculty: A vulnerable population. *Journal of Nursing Education*, *49*, 132 -136. Retrieved from http://search.proquest.com.ezproxy.apollolibrary.com

Shanta, L. L., & Eliason, A. R. (20*14*). Application of an empowerment model to improve civility in nursing education. *Nurse Education in Practice*, 14, 82 - 86. http://dx.doi.org/http://dx.doi.org/10.1016/j.nepr.2013.06.009

Sprunk, E. A., LaSala, K. B., & Wilson, V. L. (2014). Student incivility: Nursing faculty lived experience. *Journal of Nursing Education and Practice*, 4, 1 - 12. http://dx.doi.org/http://dx.doi.org/10.5430/jnep.v4n9p1

Stork, E., & Hartley, N. T. (2009). Classroom incivilities: Students' perceptions about professors' behaviors. *Contemporary Issues In Education Research*, *2*, 13 - 24. Retrieved from http://search.proquest.com.ezproxy.apollolibrary.com

Slide 2



Sub-notes

Review Day 3 objectives

Advance to the next slide

Slide 3

Sub-notes

09:00 – 09:45

Introduce topic of overcoming time constraint problems in delivering learning style driven teaching

Conduct “idea storm” activity (see footnote 5 attached to schedule)

Facilitate discussion using the ideas generated by the exercise

09:45 – 10:00 Break

Slide 4

Sub-notes

10:00 – 10:45

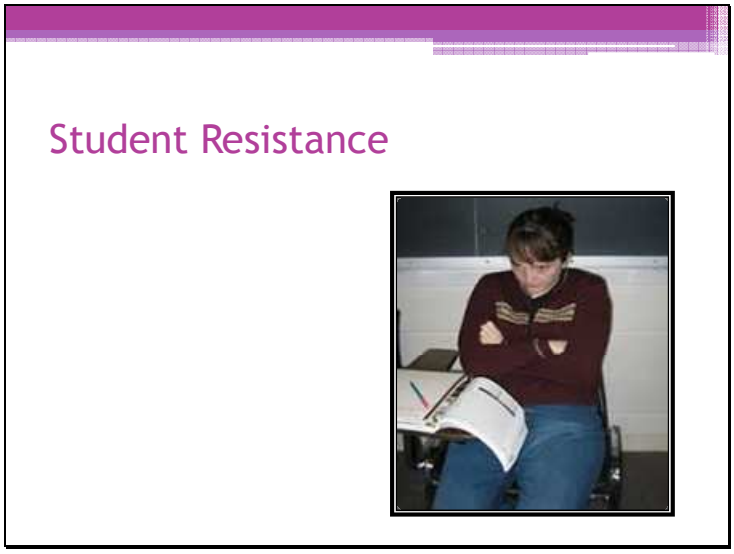
Introduce topic of overcoming class size problems in delivering learning style driven teaching

Conduct “idea storm” activity (see footnote 5 attached to schedule)

Facilitate discussion using the ideas generated by the exercise

10:45 – 11:00 Break

Slide 5



Sub-notes

11:00 – 11:45

Introduce topic of overcoming student resistance problems in delivering learning style driven teaching

Conduct “idea storm” activity (see footnote 5 attached to schedule)

Facilitate discussion using the ideas generated by the exercise

11:45 – 13:00 Lunch

Slide 6

Sub-notes

13:00 – 13:45

Discuss how student behaviors can hinder learning style driven teaching

•Student incivility in and out of class

•Threat of poor student evaluations of teachers

Facilitate discussion of ideas to address and curb bullying behaviors

13:45 – 14:00 Break

Slide 7

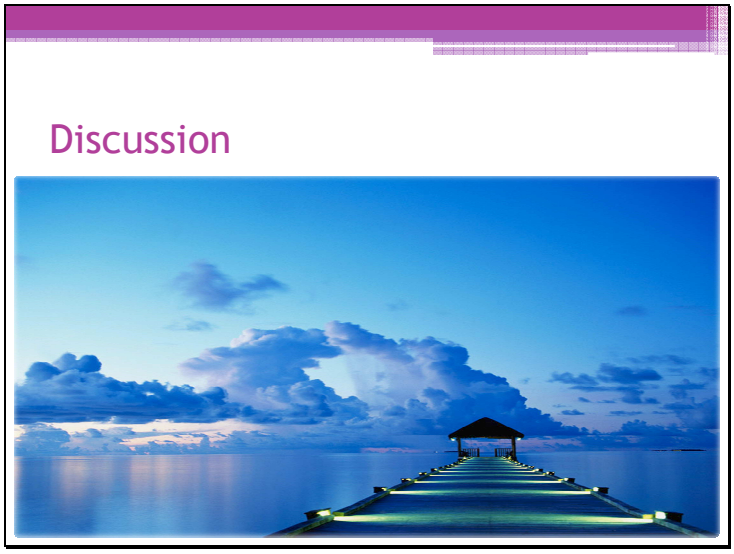
Sub-notes

14:00 – 14:45

Role Play Scenarios – Select concepts from the “Student Resistance” and “Can You Be Bullied?” discussions and have pairs or small groups of participants role play student and teacher scenarios centering on those concepts and incorporating coping techniques that were presented or discussed. Allow for brief discussion after each scenario.

14:45 – 15:00 Break

Slide 8



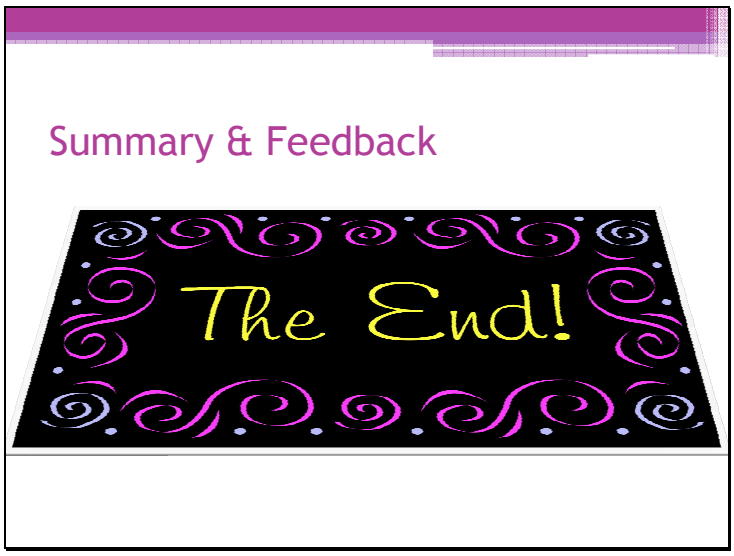
Sub-notes

15:00 – 15:45

Facilitate an open discussion of factors complicating or interfering with learning style driven teaching and ways to counteract those factors

15:45 – 16:00 Break

Slide 9



Sub- notes

16:00 – 16:30

Summarize the seminar and solicit feedback

Ask participants to move goals/fears notes (see footnote 1 attached to schedule)

Approximate Costs for Expendable Materials

(All pricing is based on 40 attendees)

Breakfast Foods

- Bagels…….……$ 52.00
- Muffins…….. $ 16.00
- Yogurt…… $ 20.00
- Fruit…….....$ 20.00
- Juice…….…….. $ 21.00
- Bottled Water…….…… $ 20.00

Post-It notes…….……..$ 15.00

Markers…….…… $ 18.00

Flip Charts……..……$ 22.00

Construction Paper…….……$ 4.00

Inflatable Beach Ball…….…….$ 2.00

Whistle……... ……$ 5.00

Appendix B: Letter of Cooperation

[redacted] University
Dr. [redacted], Program Director
[redacted]
[redacted], CO [redacted]

February 14, 2014

Dear Kim Ruetz,

Based on my review of your research proposal, I give permission for you to conduct the study entitled *Nursing Educators and Learning Styles: How Teachers Address the Differing Styles of Students* within the [redacted] University. As part of this study, I authorize you to administer a written survey instrument (the Principles of Adult Learning Scale, "PALS") to nursing instructors, conduct interviews of nursing instructors, and observe nursing education classes. All of those activities will take place either wholly or in part at the [redacted] University campus. The participation of individual instructors will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: identification of nursing education faculty members who are potential study participants, facilitation of the distribution of both study description and participant invitation letters to nursing instructors, temporary and occasional provision of a private space in which to conduct interviews, and authorization for you as the researcher to observe nursing education class sessions.

I confirm that I am authorized to approve research in this setting.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,
[redacted]
Dr. [redacted], Program Director
[redacted] University
[redacted]
[redacted], CO

Appendix C: Letter of Invitation

Date _____

Dear Fellow Nursing Educator,

As nursing instructors, we bear a unique set of responsibilities. We teach our students not just technical knowledge and skills but also how to critically think, assess, make judgments, and interact with patients, families, and other health care professionals. In order to do all that effectively, it is necessary that our students be as fully engaged as possible in the learning process. Some of the responsibility for ensuring that engagement rests with us and how we conduct our teaching. We know that not all learners are alike. Extensive educational research has established the existence of differing learning styles in students. It is incumbent on us to do what we can to teach in ways that resonate with the varied and diverse learners we have in our classrooms.

As part of my doctoral studies at Walden University, I am conducting a research project titled "Nursing Educators and Learning Styles: How teachers address the differing styles of students." The study will focus on nursing educator's knowledge of learning style theory and the degree to which teachers are able to incorporate that knowledge into their practice. I would like you to consider participating in this study. Data will be collected from teacher interviews, a survey questionnaire, and classroom observations. That data will be held in the strictest confidence and no study participant will be identified in any study results, reports, or other documentation.

We are all concerned with the quality of nursing education. As nurses and nursing educators, we understand the critical importance of nursing education to patient safety, to the effectiveness of health care, and to the future of the nursing profession. I hope that this study will facilitate a more thorough understanding of what nursing educators do. I also hope that you will take part in this study and help contribute to that understanding. If you would like to know more about how the study will be conducted or have any other questions, please contact me at [redacted]. Thank you for your support of my project and for your contributions to nursing education. I look forward to speaking with you soon.

Sincerely,
Kim Ruetz

Appendix D: Consent

CONSENT FORM

You are invited to take part in a research study of nursing educators and student learning styles. The researcher is inviting undergraduate nursing faculty to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Kimmie Ruetz, who is a doctoral student at Walden University. You may already know the researcher as a nursing faculty member at another campus, but this study is separate from that role.

Background Information:
The purpose of this study is to discover the perceptions and attitudes of nursing faculty concerning student learning styles and to determine the degree to which consideration of student learning styles affects those teachers' praxis.

Procedures:
If you agree to be in this study, you will be asked to:

- Complete the Principles of Adult Learning Scale (PALS) survey which should take no more than 20 minutes.
- Be interviewed by the researcher. The interviews will be recorded, are private, confidential, and should take no longer than 30 minutes. The researcher may provide you with a transcript of your interview and ask you to review it for accuracy. If necessary for clarification, a follow up interview may be conducted. In such a case the follow up interview will not exceed 30 minutes.
- Have one of your class sessions observed by the researcher.

Here are some sample questions:

- To what extent are you aware of leaning style differences in your students?
- What are your thoughts concerning varied teaching strategies to address student learning style differences?
- What types of teaching strategies do you employ?

Voluntary Nature of the Study:
This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at the university will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as interview or observation anxiety. Being in this study would not pose risk to your safety or wellbeing.

Payment:
In appreciation of your time in helping with this study, participants will receive a $5 Starbucks gift card.

Privacy:
Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by the researcher who will maintain physical custody of all project materials. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via [redacted] or [redacted]. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is 05-05-14-0289453 and it expires on May 4, 2015.

The researcher will give you a copy of this form to keep.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below, I understand that I am agreeing to the terms described above.

Printed Name of Participant _____

Date of Consent _____

Participant's Signature _____

Researcher's Signature _____

Appendix E: Peer Reviewer Confidentiality Agreement

Peer Reviewer

CONFIDENTIALITY AGREEMENT

Name of Signer: Annette Cannon, PhD, MA, RN, MSN

During the course of my activity in reviewing data for this research: "Nursing education and learning styles: How teachers address the differing styles of students", I will have access to information which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals. Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature: Annette Cannon PhD MA RN MSN **Date:** 1/06/14

Appendix F: PALS Instrument

Principles of Adult Learning Scale (PALS)
Developed by Gary J. Conti

Directions

The following survey contains several things that a teacher of adults might do in a classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you **most frequently practice** the action described in the item. Your choices are *Always, Almost Always*, *Often*, *Seldom*, *Almost Never*, and *Never*. If the item **does not apply** to you, circle number 5 for never.

Always **A**	***Almost Always*** **AA**	***Often*** **O**	***Seldom*** **S**	***Almost Never*** **AN**	***Never*** **N**

Question/Item	**Response Category**	**Value**
1. I allow students to participate in developing the criteria for evaluating their performance in class.	A AA O S AN N	
2. I use disciplinary action when it is needed.	A AA O S AN N	
3. I allow older students more time to complete assignments when they need it.	A AA O S AN N	
4. I encourage students to adopt middle class values.	A AA O S AN N	
5. I help students diagnose the gaps between their goals and their present level of performance.	A AA O S AN N	
6. I provide knowledge rather than serve as a resource person.	A AA O S AN N	
7. I stick to the instructional objectives that I write at the beginning of a program.	A AA O S AN N	
8. I participate in the informal counseling of students.	A AA O S AN N	
9. I use lecturing as the best method for presenting my subject material to adult students.	A AA O S AN N	
10. I arrange the classroom so that it is easy for students to interact.	A AA O S AN N	
11. I determine the educational objectives for each of my students.	A AA O S AN N	
12. I plan units which differ widely as possible from my students' socio-economic backgrounds.	A AA O S AN N	
13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.	A AA O S AN N	
14. I plan learning episodes to take into account my students' prior experiences.	A AA O S AN N	
15. I allow students to participate in making decisions about the topics that will be covered in class.	A AA O S AN N	

Question/Item	Response Category	Value
16. I use one basic teaching method because I have found that most adults have a similar style of learning.	A AA O S AN N	
17. I use different techniques depending on the students being taught.	A AA O S AN N	
18. I encourage dialogue among my students.	A AA O S AN N	
19. I use written tests to assess the degree of academic growth rather than to indicate new directions for learning.	A AA O S AN N	
20. I utilize the many competencies that most adults already possess to achieve educational objectives.	A AA O S AN N	
21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes.	A AA O S AN N	
22. I accept errors as a natural part of the learning process.	A AA O S AN N	
23. I have individual conferences to help students identify their educational needs.	A AA O S AN N	
24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.	A AA O S AN N	
25. I help my students develop short-range as well as long-range objectives.	A AA O S AN N	
26. I maintain a well disciplined classroom to reduce interference to learning.	A AA O S AN N	
27. I avoid discussion of controversial subjects that involve value judgments.	A AA O S AN N	
28. I allow my students to take periodic breaks during class.	A AA O S AN N	
29. I use methods that foster quiet, productive desk work.	A AA O S AN N	
30. I use tests as my chief method of evaluating students.	A AA O S AN N	
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.	A AA O S AN N	
32. I gear my instructional objectives to match the individual abilities and needs of the students.	A AA O S AN N	
33. I avoid issues that relate to the student's concept of himself/herself.	A AA O S AN N	
34. I encourage my students to ask questions about the nature of their society.	A AA O S AN N	
35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.	A AA O S AN N	
36. I have my students identify their own problems that need to be solved.	A AA O S AN N	

Question/Item	Response Category	Value
37. I give all my students in my class the same assignment on a given topic.	A AA O S AN N	
38. I use materials that were originally designed for students in elementary and secondary schools.	A AA O S AN N	
39. I organize adult learning episodes according to the problems that my students encounter in everyday life.	A AA O S AN N	
40. I measure a student's long term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.	A AA O S AN N	
41. I encourage competition among my students.	A AA O S AN N	
42. I use different materials with different students.	A AA O S AN N	
43. I help students relate new learning to their prior experiences.	A AA O S AN N	
44. I teach units about problems of everyday living.	A AA O S AN N	

Always	*Almost Always*	*Often*	*Seldom*	*Almost Never*	*Never*
A	**AA**	**O**	**S**	**AN**	**N**

Scoring the Principles of Adult Learning Scale

Positive Questions
Question numbers 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44 are positive items. For positive questions, assign the following values: Always=5, Almost Always=4, Often=3, Seldom=2, Almost Never=1, and Never=0.

Negative Questions
Question numbers 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41 are negative items. For negative questions, assign the following values: Always=0, Almost Always=1, Often=2, Seldom=3, Almost Never=4, and Never=5.

Missing Questions
Omitted questions are assigned a neutral value of 2.5.

Factor 1: Learner-Centered Activities

Question #	2	4	11	12	13	16	19	21	29	30	38	40	Total Score
Score													

Factor 2: Personalizing Instruction

Question #	3	9	17	24	32	35	37	41	42	Total Score
Score										

Factor 3: Relating to Experience

Question #	14	31	34	39	43	44	Total Score
Score							

Factor 4: Assessing Student Needs

Question #	5	8	23	25	Total Score
Score					

Factor 5: Climate Building

Question #	18	20	22	28	Total Score
Score					

Factor 6: Participation in the Learning Process

Question #	1	10	15	36	Total Score
Score					

Factor 7: Flexibility for Personal Development

Question #	6	7	26	27	33	Total Score
Score						

Computing and Interpreting Your Scores
Factor scores are calculated by summing the value of the responses for each item/question in the factor. Compare your factor score values to their respective means (see table below). If your score is equal to or greater than each respective mean, then this suggests that such factors are indicative of your teaching style. From such factors, you will then begin to identify what strategies you use to be consistent with your philosophy (from the Philosophy of Adult Education Inventory, PAEI). Those scores that are less than the mean indicate possible areas for improving a more learner-centered approach to teaching.

An individual's total score on the instrument is calculated by summing the value of each of the seven factors (see table below). Scores between 0-145 indicate your style is "teacher-centered." Scores between 146-220 indicate your style as being "learner-centered."

For a complete description of PALS and each of the seven factors, see Conti, G.J. (1998). Identifying Your Teaching Style (Ch. 4). In M.W. Galbraith (Ed.), *Adult Learning Methods* (2nd ed., pp. 73-84). Malabar, FL: Krieger Publishing Company.

Factor	Mean	Standard Deviation	Your Score
1	38	8.3	
2	31	6.8	
3	21	4.9	
4	14	3.6	
5	16	3.0	
6	13	3.5	
7	13	3.9	
TOTAL	146	20	

Appendix G: PALS Permission Statement

Factor 3 Relating to Experience

Factor 3 contains items 14, 31, 34, 39, 43, and 44.

Factor 4 Assessing Student Needs

Factor 4 contains items 5, 8, 23, and 25.

Factor 5 Climate Building

Factor 5 contains items 18, 20, 22, and 28.

Factor 6 Participation in the Learning Process

Factor 6 contains items 1, 10, 15, and 36.

Factor 7 Flexibility for Personal Development

Factor 7 contains items 6, 7, 26, 27, and 33.

Computing Scores

An individual's total score on the instrument is calculated by summing the value of the responses to all items. Factor scores are calculated by summing the value of the responses for each item in the factor.

Factor Score Values

Factor	Mean	Standard Deviation
1	38	8.3
2	31	6.8
3	21	4.9
4	14	3.6
5	16	3.0
6	13	3.5
7	13	3.9

Note: Dr. Gary J. Conti hereby grants permission for practioners and researchers to reproduce and use the Principles of Adult Learning Scale in their work.

In an effort to secure specific consent to use the PALS survey I have attempted to communicate with Dr. Gary Conti via email but have been unsuccessful in establishing contact. I have also made multiple, unsuccessful, attempts to contact Krieger Publishing,

the publisher of Adult *learning methods: A guide for effective instruction* (3rd ed.) edited by M. W. Galbraith (2004). The above release statement was extracted from page 91 of that volume. The chapter containing this page was authored by Dr. Conti and contains the complete PALS survey along with the statement at the bottom of the page granting permission for practitioners and researchers to use the PALS. This statement written by Dr. Conti, and published by Krieger in Galbraith's (2004) book, clearly places the PALS instrument in the public domain and obviates any necessity for obtaining further specific permission to use PALS in any research project. I have included here copies of the email communications that I have sent to both Dr. Conti and Krieger Publishing.

From: Kim Ruetz, Ed.D(c), MSN/Ed, RN <cokimrn@aol.com>
To: GJConti <GJConti@conti-creations.com>
Subject: Permission to use PALS
Date: Wed, Dec 11, 2013 1:12 pm

Dr. Gary J. Conti
13 Wheatland Meadows Drive
Three Forks, MT 59752

December 11, 2013

Dear Dr. Conti,

I am a nursing educator and an EdD candidate at the Walden University Richard W. Riley College of Education. I am in the final stages of completion of my research proposal. My research project uses your Principles of Adult Learning Scale (PALS) survey instrument, with attribution, as a means of gathering some of the data that I will collect from nursing education faculty members. I am using the PALS version included in your article titled *Identifying Your Teaching Style* which appeared in *Adult Learning Methods: A Guide for Effective Instruction* (3rd ed., pp. 75-91) edited by M. W. Galbraith.

Although the article contains a statement permitting the use of PALS, the Chair of my review committee has requested that I contact you to confirm your authorization to do so. I would very much appreciate an e-mail reply verifying your consent for my use of PALS in my research. Thank you for your time and help in this matter. Thank you also for PALS and your other contributions to the science of adult education.

Sincerely,

Kim Ruetz, RN, MSN/Ed, EdD(c)

From: Kim Ruetz, Ed.D(c), MSN/Ed, RN <cokimrn@aol.com>
To: info <info@krieger-publishing.com>
Subject: Permission to use PALS survey
Date: Thu, Jan 2, 2014 8:10 am

Krieger Publishing Company
1725 Krieger Drive
Malabar, FL 32950
info@krieger-publishing.com

January 2, 2014

Dear Sirs,

I am an education doctoral candidate at the Walden University Richard W. Riley College of Education. My doctoral research proposal includes the use of the Principles of Adult Learning Scale (PALS) survey instrument which was developed by Dr. Gary Conti. The survey was included as part of a chapter authored by Dr. Conti in *Adult Learning Methods: A Guide for Effective Instruction (3rd ed.)*, edited by Michael W. Galbraith and published by your firm in 2004. The chapter concludes with a statement authorizing the unrestricted use of the PALS instrument by practitioners and researchers. Despite that statement, I have attempted to contact Dr. Conti via e-mail to obtain specific permission to use the PALS in my research.

I have been unsuccessful in establishing contact with Dr. Conti. The chair of my faculty review committee at Walden has suggested that I pursue obtaining a statement from you, the publisher, authorizing my use of the PALS survey as contained in your book. In accordance with that, I am requesting that you respond to this communication with a brief statement confirming your assent for my use of the PALS in my research. Thank you very much for your help in this matter.

Sincerely,

Kim Ruetz, EdD(c)
cokimrn@aol.com
303-680-3721

Appendix H: Interview Questions

Interview Questions

1. What graduate degrees do you hold?

2. For how long have you been engaged in nursing education?

3. What educational certifications do you hold?

4. Can you briefly explain your understanding of the term learning styles?

5. To what extent are you aware of leaning style differences in your students?

6. What are your thoughts concerning varied teaching strategies to address student learning style differences?

7. What types of teaching strategies do you employ?

8. Have you varied your teaching approaches across the board or in response to your knowledge of your students' specific learning styles?

9. What difficulties have you encountered in implementing varied teaching methods in your practice?

10. Do you have any additional thoughts concerning learning styles and teaching that we have not covered?

Appendix I: CCSSE Observation Form

Classroom Observation Form

CourseTitle/Section: _____ Instructor _____

Length of Course: _____ Length of Observation: _____

Observer: _____ Date: _____

Subject Matter Treated in Lesson: _____

Learning Organization and Management

1. During the observed class session(s), to what extent did the instructor demonstrate the following behaviors?

	Completely	Adequately	Minimally	Not at all	Not applicable
a. Started and ended class on time Comments:					
b. Was prepared to conduct class Comments:					
c. Ensured that students were engaged in the learning activities planned for the class session Comments:					
d. Noticed when a student or students were not engaged and took action to involve the student(s) in the class activity Comments:					
e. Clearly explained the learning objectives for the class session Comments:					
f. Summarized the major points at the end of the lesson Comments:					

Knowledge of Subject Matter

2. During the observed class session(s), to what extent did the instructor demonstrate the following behaviors?

	Completely	Adequately	Minimally	Not at all	Not applicable
a. Explained concepts clearly Comments:					
b. Gave "real-world" examples to illustrate concepts Comments:					
c. Responded adequately to student questions Comments:					

Teaching Style

3. During the observed class session(s), to what extent did the instructor demonstrate the following behaviors?

	Completely	Adequately	Minimally	Not at all	Not applicable
a. Spoke clearly and audibly					
Comments:					
b. Showed enthusiasm for the subject matter and teaching					
Comments:					
c. Treated all students in an equitable manner					
Comments:					
d. Encouraged questions and student participation					
Comments:					
e. Gave students an adequate amount of time to respond to questions					
Comments:					
f. Provided feedback that gave students direction for improvement					
Comments:					
g. Interacted with individual students during the class session					
Comments:					
h. Interacted with students working in small groups during the class session					
Comments:					
i. Elicited feedback validation of student understanding of the material					
Comments:					
j. Used techniques that reflect an awareness of different learning styles					
Comments:					
k. Appropriately used Web-based resources, PowerPoint, or other technological tools					
Comments:					
l. Encouraged or required students' engagement in out-of-class activities related to the course (e.g., work with other students, participation in campus events, service learning, email communication with instructor/other students, etc.)					
Comments:					

Instructional Techniques

4. During the observed class session(s), what percentage of time was spent on each of the following instructional techniques?

	0%	1-19%	20-39%	40-74%	75-100%
a. Lecture					
Comments:					
b. Teacher-led discussion					
Comments:					
c. Teacher-student shared responsibility (seminar, discussion)					
Comments:					
d. Student computer use					
Comments:					
e. Small group activities					
Comments:					
f. Student presentations					
Comments:					
g. Hands-on practice					
Comments:					
h. In-class writing					
Comments:					
i. Performance [in applied and fine arts, etc.]					
Comments:					
j. Experiential learning (labs, fieldwork, internships, etc.)					
Comments:					
k. Assessment activities					
Comments:					

Encouragement to Engage in Critical Thinking

5. During the observed class session(s), to what extent did the learning process designed by the instructor encourage students to engage in the following cognitive processes?

	Very much	Somewhat	Minimally	Not at all	Not applicable
a. Memorizing facts, ideas, methods so that they can be repeated in pretty much the same form					
Comments:					
b. Analyzing the basic elements of an idea, experience, or theory					
Comments:					
c. Synthesizing and organizing of ideas, information, and experiences in new ways					
Comments:					
d. Judging value or soundness of information, arguments, or methods					
Comments:					
e. Applying theories or concepts to practical problems in new situations					
Comments:					

6. Overall, did the instructor create an engaging learning experience during the observed class session?

	Completely	Adequately	Minimally	Not at all
Comments:				

Additional Observer Comments:

Observer Signature: _____ Date: _____

Appendix J: CCSSE Observation Form Permission Statement

Classroom Observation Form
© 2006 Community College Survey of Student Engagement
Permission granted for unlimited copying with appropriate citation

In addition to citing the above release, I have contacted the Center for Community College Student Engagement at the University of Texas at Austin. The Center is the copyright holder of the Classroom Observation Tool as well as all other elements of the Community College Survey of Student Engagement (CCSSE). The Center has granted specific permission for my use of the tool as demonstrated in the correspondence included on the following pages.

From: Kim Ruetz, Ed.D(c), MSN/Ed, RN <cokimrn@aol.com>
To: kmcclenney <kmcclenney@cccse.org>
Subject: Permission to use CCSSE
Date: Sun, Dec 8, 2013 8:43 am

Kay M. McClenney, Director
Center for Community College Student Engagement
3316 Grandview Street
Austin, TX 78705

December 8, 2013

Dear Ms. McClenney,

I am a nursing educator and an EdD candidate at the Walden University Richard W. Riley College of Education. I am in the final stages of completion of my research proposal. One facet of my data gathering process involves my performing classroom observations. I have proposed using the classroom observation tool element of the Community College Survey of Student Engagement (CCSSE), with appropriate attribution, as an aid in organizing and directing my observations. I intend to use the version of the classroom observation form which carries a 2006 copyright date.

Although the form includes a statement at the bottom of each page authorizing unlimited copying with appropriate citation, the Chair of my review committee has requested that I contact you to confirm your authorization to use the form. Again, the form would only be used by me in performing the classroom observations which are part of my study and appropriate attributions and citations will be included in the research proposal and reports. I would very much appreciate an e-mail reply verifying your consent for my use of the classroom observation form in this manner. Thank you for your time and assistance in this matter.

Sincerely,

Kim Ruetz, RN, MSN/Ed, EdD(c)

From: Mike Bohlig <bohlig@cccse.org>
To: Kim Ruetz, EdD(ABD), MSN/Ed, RN (cokimrn@aol.com) <cokimrn@aol.com>
Subject: RE: Permission to use CCSSE
Date: Tue, Dec 10, 2013 8:24 am

Hi Kim,

Dr. McClenney forwarded your request to me to respond to. Based on this request, we give you permission to use the Classroom Observation form. In granting this request, we ask that you send an electronic copy of your final dissertation.

Good luck with your research. We look forward to seeing your results.

Mike.

E. Michael Bohlig, Ph.D. | Senior Research Associate

Center for Community College Student Engagement

Community College Leadership Program | College of Education

The University of Texas at Austin

3316 Grandview Street

Austin, Texas 78705

(512) 232-6456

(512) 471-4209 (fax)

bohlig@cccse.org

www.cccse.org

From: McClenney, Kay M
Sent: Sunday, December 08, 2013 11:47 AM
To: Mike Bohlig
Subject: Fwd: Permission to use CCSSE

Please respond.

Kay McClenney

Appendix K: PALS Scores

PALS Scores

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Total
NF 1	21	20	23	15	14	12	8	113
NF 2	47	24	25	6	14	11	17	144
NF 3	38	20	23	16	12	13	12	134
NF 4	38	15	18	9	17	10	15	122
NF 5	37	22	23	17	16	10	13	138
NF 6	35	20	18	12	11	9	13	118
NF 7	42	29	25	15	19	15	17	162
NF 8	47	23	20	12	13	14	17	146
NF 9	36	24	23	17	18	14	13	145

Appendix L: CCSSE Scores

Classroom Observation Results

	NF1	NF3	NF5	NF6	NF7	NF8
Section 1 - Learning Organization and Management						
1A	1	1	1	1	1	1
1B	1	1	1	1	1	1
1C	1	1	1	1	1	1
1D						
1E	3	2	3	2	1	2
1F	2	2	2	2	2	1
Section 2 – Knowledge of Subject Matter						
2A	1	1	1	1	1	1
2B	1	1	1	1	1	1
2C	1	1	1	1	1	1
Section 3 - Teaching Style						
3A	1	1	1	1	1	1
3B	1	1	1	1	1	1
3C	1	1	1	1	1	1
3D	1	1	1	1	1	1
3E	1	1	1	1	1	1
3F	1	1	1	1	1	1
3G	1	1	1	1	1	1
3H	4	1	4	1	1	1
3I	1	1	1	1	1	1
3J	2	1	2	2	1	1
3K	1	1	2	1	2	2
3L	2	1	2	2	1	1

(table continued on next page)

Classroom Observation Results (continued)

	NF1	NF3	NF5	NF6	NF7	NF8
Section 4 – Instructional Techniques						
4A	5	5	5	5	5	5
4B	2	2	2	2	2	2
4C	2	2	2	2	2	2
4D	1	1	2	1	1	1
4E	1	3	1	2	2	2
4F	1	1	1	1	1	1
4G	1	3	1	1	1	1
4H	1	2	1	1	2	2
4I	1	1	1	1	1	1
4J	1	1	1	1	1	1
4K	1	3	1	1	2	2
Section 5 - Encouragement to Engage in Critical Thinking						
5A	1	1	1	1	1	1
5B	1	1	1	1	1	1
5C	1	1	1	1	1	1
5D	1	1	1	1	1	1
5E	1	1	1	1	1	1
Overall						
6A	2	1	2	1	1	1

Note. Blank values indicate observations which were not applicable or not made.

Curriculum Vitae

KIM S. GORE, RN, MSN/ED

Education

Walden University, Minneapolis, MN, Anticipated 2015
Ed.D in Education
Concentration: Higher Education and the Adult Learner

University of Phoenix, Lone Tree, CO 2010
Master of Science in Nursing Specialization in Nursing/Health Care Education
Concentration: Nursing and Nursing/Healthcare Education

University of Phoenix, Lone Tree, CO 2010
Professional Certificate
Concentration: Health Care Informatics

University of Phoenix, Lone Tree, CO 2008
Bachelor of Science in Nursing
Concentration: Nursing

Antelope Valley College, Lancaster, CA 1993
Associate Degree in Nursing
Concentration: Nursing

Honors and Awards

Golden Key International Honour Society
Sigma Theta Tau International Honour Society of Nursing
Completed Ed.D program with 4.0 GPA
Graduated Summa Cum Laude from MSN program
Graduated Magna Cum Laude from BSN program

Thesis/Dissertation

Doctoral Dissertation: *How Nursing Educators Address the Differing Learning Styles of Students*

Masters Thesis: *Teaching Strategies*

Research Experience

Designed and conducted a qualitative descriptive multiple case study of nursing educators' learning style understanding and use of diversified teaching strategies.

Teaching Experience

Cannon Health Care Consulting and Education- 2010 – present
University of Phoenix Instructor – 2013 -2014
Denver School of Nursing Clinical Instructor - 2012
College America Instructor – 2011 - 2012
Arapahoe Community College - 2008
Community College of Denver – 2008
Platt College School of Nursing – 2007 – 2010

Work Experience

RN: Saint Joseph Hospital 2008 -2009
RN: Private Home Nurse 2004 -2008
RN: Swedish Medical Center 2003-2004
RN: First Choice Staffing 2002-2003
RN: Boulder Medical Center 1997-2002
RN: Yuma District Hospital 1996 -1997
RN: Dr. John Grossman 1995-1996
RN: Centre for Neuro Skills 1993-1995

Skills

Microsoft Office including Word, PowerPoint, Excel
IBM Statistical Package for the Social Sciences (SPSS)

Professional Memberships

National League of Nurses Association
Golden Key International Honour Society
Sigma Theta Tau International Honour Society of Nursing

Professional Development

National League of Nursing Educational Summit 2014
Golden Key International Leadership Summit 2014
ATI National Nurse Educator Summit 2013, 2012
Medical Surgical Nurse Association Conference 2012
Clinical Scholar, Colorado Center for Nursing Excellence 2008
Staff Development Coordination 2006
Director of Nursing and Leadership 2006
Train the Trainer 2006
Wound Care Management 2004

Community Service

Vista Ridge Academy Health Fair (5 times), Erie, CO
Brighton School District Health Fair (2 times) Brighton, CO
9 Health Fair (15 + times), California and Colorado
Community Based Missionary Trip, Germany
Community Based Missionary Trip, Newfoundland
Denver Rescue Mission, Denver, CO

References

Available upon request