2009

Nursing student and faculty perceptions of the characteristics of effective instructors in the simulated clinical experience

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NURSING STUDENT AND FACULTY PERCEPTIONS OF THE
CHARACTERISTICS OF EFFECTIVE INSTRUCTORS IN THE SIMULATED
CLINICAL EXPERIENCE

A Dissertation Presented
to
The Faculty of the School of Education
Learning and Instruction Department

In Partial Fulfillment
of the Requirements of the Degree
Doctor of Education

by
Bridget Parsh
San Francisco
May 2009

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This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

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ACKNOWLEDGEMENTS

Though the journey through the USF doctoral program is an individual one, I could never have achieved my dreams without the guidance, support, and efforts of others. First, I would like to thank the USF School of Education faculty for their high expectations, excellent instruction, and passion for education. At USF, I was fortunate to share this journey with an exceptional team of doctoral students who provided so much teamwork, humor, and friendship. In addition, I received immense support and encouragement from the administration and my colleagues at the California State University, Sacramento.

Of course, this journey would not have been complete without the extraordinary efforts of my dissertation chair, Dr. Susan Evans. Her knowledge, patience, insight, and guidance were the key to the completion of this work. She is a true role model for professional teaching and for living a full life. Additionally, my appreciation is extended to my dissertation committee, Dr. Mathew Mitchell and Dr. Susan Prion, who gave their time and expertise to ensure scholarly work.

I am especially grateful for my parents, Anne and Bernard Kitt, who made this journey possible. Their consistent, unwavering support has allowed me to be as ambitious as I wanted. An additional thank you goes to the rest of my family and friends who supported me during this, at times, overwhelming journey.

Most importantly, my family, Dave, Sophie, and Jack, gave me time, space, and understanding during my doctoral program. They lifted me up when things were a struggle, and did everything else so I could finish this dissertation. Thank you for being the foundation and love of my life.

ABSTRACT OF THE DISSERTATION

Nursing Student and Faculty Perceptions of the Characteristics of

Effective Instructors in the Simulated Clinical Experience

Effective clinical nursing instructors are essential to maximizing the educational experience of nursing students. Due to a shortage of clinical placement sites and advancements in technology, today's nursing students are increasingly learning clinical judgment and decision making in the simulated clinical experience (SCE) with human patient simulators.   In this environment, SCE instructors assist students to acquire knowledge and skill in decision-making in a controlled, risk free, hospital-type clinical environment.

This study is the first study to examine nursing faculty and students perceptions of the characteristics of an effective instructor in the simulated clinical experience. With the cognitive apprentice instructional model as a framework, the researcher utilized the Nursing Clinical Teaching Effectiveness Inventory (NCTEI) by Knox and Mogan to survey nursing students (N=304) and simulation clinical instructors (N=16) from two universities in Northern California. The NCTEI, a 47-item checklist groups instructor characteristics into five categories: Teaching Ability, Interpersonal Relationships, Personality, Nursing Competence and Evaluation. To capture additional information about the characteristics of effective SCE instructors, interviews were conducted with students (n=8) and instructors (n=3). All participants had experience working with human patient simulators in the simulation lab.

Instructors and students closely agreed on the order of importance of each category, with Evaluation as the most highly rated category and Nursing Competence as the lowest rated category.   However, instructors rated most items more highly. Realism and Technology Skills were identified in the qualitative analysis as differences between teaching in the SCE and the traditional clinical setting. According to students, the most effective SCE instructors demonstrate good communication and clinical judgment, are organized, explain clearly, and enjoy teaching. According to instructors, the most effective SCE instructors provide support and encouragement without criticizing students in front of others, encourage a climate of mutual respect, and are good role models

The SCE is similar to, but different from, the traditional clinical setting. This study identified some of the differences in student and instructor perceptions, and identified differences between the current study and earlier studies conducted in traditional environments. Further research on the similarities and differences of this new educational environment is recommended.

CHAPTER I

STATEMENT OF THE PROBLEM

Nursing schools require instructors to prepare students in the classroom and in the professional clinical practicum setting. Nursing theory, which is studied in the classroom, is applied in the practica with real patients under the authorization of hospital administration, the cooperation of clinical staff, and the guidance of clinical instructors. Knowledge and skills, learned in the classroom, are practiced in the direct clinical care of patients (Becker, Rose, Berg, Park, & Shatzer, 2006). In the practicum environment, classroom theory should become a reality for students (Becker & Neuwirth, 2002).

Currently, nursing education faces a serious shortage of clinical placement sites (American Academy of Colleges of Nursing [AACN], 1998; Buerhaus, Staiger, & Auerbach, 2008) which is one factor that has caused thousands of qualified applicants to be turned away from nursing education programs in recent years (Buerhaus et al., 2008). Moreover, nursing schools now vie not only with other nursing schools but also with medical programs for clinical training placements in health centers traditionally used for nurse training (AACN, 1998). According to the AACN (2007), nursing education institutions reported that the availability of clinical placements for their students was the primary reason for turning away qualified nursing school applicants.

With improvements in technology, and the shortages of clinical placements, many universities have begun using the simulated clinical experience (SCE) as an adjunct or substitute to the clinical practicum (Alinier, Hunt, Gordon, & Harwood, 2006; Lusk, Winne, & DeLeskey, 2007). Currently 63% of California nursing programs use an SCE and 75% plan to expand their use (Raneka & Spetz, 2007). The majority of these

programs use the SCE to check clinical competencies and provide clinical experiences not available in a traditional clinical setting. Within the next few years, it is expected that increasing numbers of nursing programs will utilize this technology (Jeffries, 2006; NCSBN, 2005; Nehring, Ellis, & Lashley, 2001).

The SCE mimics the reality of a clinical environment to demonstrate procedures, facilitate decision-making, and encourage critical thinking (Jeffries, 2005). Utilizing a high-fidelity patient simulator, or Human Patient Simulator (HPS), the SCE allows students to practice real-life nursing care in a simulated clinical environment. Working with their peers, the SCE allows students to validate their knowledge and decision-making skills as a nurse through an interactive role-playing experience (Johnson, Zerwic, & Theis, 1999). Nursing students can make on-the-spot decisions and receive responses from the real physical inputs and real environmental interactivity of the HPS. An HPS enables students to apply their knowledge, to practice rapid decision-making, and to test their nursing skills in a risk-free environment. Scenarios developed by faculty allow student exposure to critical events in the SCE (Bantz, Dancer, Hodson-Carlton, & Van Hove, 2007). Recent research reports that the SCE helps students learn and builds their self-confidence (Bremner, Aduddell, & Amason, 2008; Feingold, Calaluce, & Kallen, 2004; Rhodes & Curran, 2005). Utilizing the SCE, students can get hands-on learning in a risk-free environment, without requiring a clinical placement site. Maximizing the effectiveness of the SCE is essential for nursing education.

Although nursing clinical faculty play a pivotal role in supporting students during clinical practicum (Gillespie, 2002; Poorman, Webb, & Mastorovich, 2002; Tsai & Tsai, 2004), the characteristics of effective instructors in the SCE have not been investigated.

Research suggests the clinical nursing instructor has great influence on the nursing students under her charge (Knox & Mogan, 1985; Medley & Horne, 2005; Poorman, Webb, & Mastorovich, 2002). The student nurses' confidence and skills in the clinical areas can be affected by the instructor's clinical teaching behaviors, such as communicating a positive attitude and promptly offering feedback to students about their work (Dunn & Hansford, 1998; Tsai & Tsai, 2004). Without their instructors' assistance in the clinical practicum, nursing students' growth in knowledge and skills can be impeded (Hanson & Stenvig, 2008; Nehring, 1990; Tang, Chou, & Chiang, 2005). In the SCE, students are actively involved in using previous knowledge to provide the best care possible to the patient in the simulation. Instructors play an essential role in facilitating these simulations, supporting the learning activities, and assisting students to process their learning in debrief sessions (Johnson, Zerwic, & Theis, 1999). Poorly planned and badly executed simulations without proper equipment or instructions are not effective (Prion, 2008). For these reasons, it is essential to identify the characteristics of effective clinical instructors in the SCE in advancing nursing education (Knox & Mogan, 1987; Stafford & Graves, 1978).

Unlike other disciplines, nursing schools are expected to graduate competent, safe, ready-to-work nurses (O'Connor, 2001). The powerful effect of nursing instructors in the clinical setting is well documented, (Campbell, Larrivee, Field, Day, & Reuter, 1994; Knox & Mogan, 1987; Landmark, Hansen, Bjones, & Bohler, 2003), yet no research had been conducted on nursing students and faculty perceptions of the characteristics of effective clinical instructors in the in the SCE. This study addressed this gap in the literature.

Purpose of the Study

There were four purposes to this study. First, this study investigated nursing student perceptions of effective clinical instructors in the SCE. Second, this study investigated instructors' perceptions of effective clinical instructors in the SCE. Third, the study investigated the similarities and differences between the perceptions of nursing instructors and students. Finally, the results were compared to previous research on the characteristics of effective instructors in traditional clinical practica.

Significance of the Study

Recently, many nursing programs have begun utilizing the SCE as a substitute or adjunct to clinical practicum. Expectations are that increasing numbers of nursing programs will be utilizing this technology in the near future (Jeffries, 20006; NCSBN, 2005; Nehring, Ellis, & Lashley, 2001). In the unique setting of the SCE, clinical instructors assist students to acquire knowledge in a controlled, risk free, hospital-type learning environment.

However, no research had been conducted to examine the nursing faculty and student perceptions of the characteristics of effective instructors in the SCE. Nursing education must provide nursing students with the most effective learning experiences possible. Maximizing the effectiveness of instruction in this unique learning environment is crucial to the continued success of nursing education.

The results of this study provided information to faculty on student perceptions of the characteristics of effective faculty in the SCE. The results of this study also contribute to knowledge in nursing education regarding the characteristics of effective faculty in the SCE and may assist programs in mentoring and training new clinical faculty.

Most importantly, although research on the characteristics of effective instructors in clinical practica has been published (Campbell, Larrivee, Field, Day, & Reuter, 1994; Knox & Mogan, 1987; Landmark, Hansen, Bjones, & Bohler, 2003), no studies have examined the perceptions of characteristics of effective clinical instructors in the SCE. Due to a decrease in the availability of clinical placement sites, the National Council of State Boards of Nursing (2005) predicts an increase in the number of nursing programs utilizing the SCE. Knowledge of faculty and student perceptions of characteristics of effective faculty in the SCE can contribute to maximizing the learning experience in this unique learning environment in nursing education.

Finally, this study examined student and faculty perceptions of the characteristics of effective instructors in the SCE and compared these results with previous studies of characteristics of effective instructors in the clinical environment. Faculty and students may not share the same perceptions of effective instruction in the SCE. Therefore, the results may have implications for training or mentoring faculty in SCE education. No study has systematically examined these issues. Therefore, this study was conducted for these purposes.

<center>Theoretical Rationale</center>

As both the traditional hospital practicum and the SCE provide an authentic learning environment, the cognitive apprenticeship model provides the theoretical rationale for this study. The cognitive apprenticeship model arose from the metaphor of the apprentice working under the master craftsperson in traditional societies. In this traditional model, the master craftsperson models a skill, which is first observed by the apprentice. The apprentice then attempts the skill under coaching of the master. Instructor

support fades as the apprentice acquires skills and knowledge to deal with the complex task. The cognitive apprenticeship instructional model includes five methods of teaching: modeling, coaching, articulation, reflection, and exploration (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006; Schuell, 1996; Taylor & Care, 1999).

The cognitive apprenticeship model emphasizes the cognitive processes of problem solving and makes them visible components of the learning experience (Collins, Brown, & Newman, 1990). As it is more difficult to learn from unnatural activities, learning is tied to authentic activity, context and culture (McCormick, 2004). Like learning to ride a bike, learning comes from the activity and being involved in the authentic learning environment (Clancey, 1997).

In nursing, it is essential that students have the opportunity to practice and develop skills in a safe and controlled environment under the direction and supervision of clinical experts (Woolley & Jarvis, 2006). Learning through cognitive apprenticeship is an appropriate preparation for professional practice because it fosters the integration of complex knowledge, the authentic conditions under which that knowledge applies, and the culture in which the knowledge is used (Taylor & Care, 1999). This cognitive apprenticeship environment provides an authentic environment, such as the clinical environment or SCE, which is meaningful to the student. Thinking before and during the task is emphasized and made visible (Clancey, 1997). The student becomes emotionally engaged in the clinical problems which makes the problems more authentic (McCormick, 2004). . As students gain knowledge, instruction fades (Schuell, 1996)

Working alongside hospital nurses and their clinical faculty, nursing students apply the concepts of care learned in the classroom to real patients. The clinical

practicum of nursing education is an environment in which students apply concepts from the classroom to authentic situations. Because nurses continually evaluate critical patient information, implement nursing actions, and report findings to other health care professionals, their decision-making skills can significantly influence patient outcomes (White, 2003). Clinical practicum helps students build and strengthen technological skills and develop a clinical proficiency in critical thinking and problem solving. Clinical instructors are the knowledge experts who have a clear understanding of their subject matter. The instructor's role is to promote self-directed learning activities and scaffold learning to produce a ready to work nurse. If the purpose of nurse training is to have graduates who are highly capable in the areas of reflective practice, self-learning, and decision-making, then the cognitive apprenticeship models has much application to nursing education.

The Simulated Clinical Environment is a new environment for nursing education. Patient problems are presented in situations that are authentic and place the learner as an active participant (Smith & Ragan, 2005). Simulations in nurse training reproduce real-life clinical situations and provide consistent, safe, structured, and risk-free learning for students (Prion, 2008). Opportunities for decision-making, critical thinking and team building are advantages of the SCE for nursing education. Using a high-fidelity mannequin, the instructor guides students with a 'patient' who has pulses, visible respirations, a blood pressure, and eyes that open (Medley & Horne, 2005).). Using case studies and role-playing, the simulators allow students to practice their skills in a risk-free environment where they can integrate theory and practice without the fear of harming patients (Decker, Sportsman, Puetz, & Billings, 2008; Jeffries, 2006; Weis &

Guyton-Simmons, 1998). Students can practice technical and communication skills as they solve common or infrequent, but dangerous clinical problems (Prion, 2008). In a well-designed simulation, students review their actions, evaluate their performance, receive feedback from peers and instructor, ask additional questions about the content, and develop alternate plans of action (Prion, 2008).

In the SCE, instructors can develop an atmosphere in which learners can integrate new learning into their prior knowledge. SCE learning experiences are active, where learners are doing, reflecting, and evaluating learning experiences. The increased use of the SCE has provided a new learning environment for nursing education, therefore research on perceptions of the characteristics of effective faculty within this environment is essential. Investigations of student and faculty perceptions of the characteristics of effective nursing instructors have long been of interest to researchers (Allison-Jones & Hirt, 2004; Jacobson, 1966; Mogan & Knox, 1985), however, within the environment of the SCE, faculty and student perceptions of an effective instructor in the SCE have not been investigated. Therefore, this study investigated nursing student and faculty perceptions of the characteristics of an effective instructor in the SCE.

<div align="center">Background and Need</div>

The need for well-educated nurses continues to be a national issue. Over 110,000 RNs are needed to fill currently vacant positions, which mean a national vacancy rate of 8.1% (American Hospital Association, 2007). Future shortage projections vary from 500,000 by 2025 (Buerhaus et al., 2008), to as high as 800,000 by 2020 (Council on Physician and Nurse Supply, 2008). To meet the nation's healthcare needs, current nursing schools must sustain graduation rates as high as 30,000 additional nurses

annually, a 30% increase in the current annual number of nurse graduates (AACN, 2008). Yet in 2007, nursing schools in the United States turned away 40,285 qualified applicants to baccalaureate and graduate nursing programs because of insufficient faculty, clinical sites, classroom space, and clinical preceptors, as well as budget constraints (AACN, 2008). Over one-third of these programs (71%) identified faculty shortages as a reason for not accepting all qualified applicants into their programs (AACN, 2008).

In tandem with the nursing shortage, the shortage of nursing faculty has reached a critical stage (AACN, 2007; Buerhaus et al., 2008). In 2000, 5,132 full-time faculty positions were vacant. This national nursing faculty vacancy rate (8%) translates into roughly 1.9 faculty vacancies per school. Even one or two faculty vacancies in a nursing school can adversely affect the didactic and clinical teaching workload of the remaining faculty (AACN, 2003).

Increases in patient acuity, the complexity of technology, and a national nursing shortage have intensified the demand for newly graduated nurses who are ready to work. The transition from student nurse to qualified nurse is recognized as an experience filled with increased personal responsibility and apprehension about clinical competencies (Benner, 1984; Biley & Smith, 1998; Dreary, Watson, & Hogston, 2003). Once on staff, new nurses must make accurate decisions about what is happening, what needs to be done, how soon, and why (del Bueno, 2005; Oermann, 2004). Their decision-making skills can significantly influence patient outcomes (White, 2003). Shorter hospital stays, sicker patients, and fewer continuous clinical practice hours may all undermine the maturation of new graduates' clinical skills (del Bueno, 2005).

In nursing education, the clinical practicum provides real-life experiences for applying this knowledge to practice, building and strengthening technological skills, and developing critical thinking and problem-solving abilities as they relate to patients and families. Yet research suggests that nursing students have difficulties making the transition to the clinical area (Deary et al., 2003; Jones & Johnston, 1997; Oermann & Lukomski, 2001). To facilitate this transition, a clinical nursing instructor guides students in making observations, applying theory, reaching conclusions, selecting and performing interventions and evaluating outcomes (O'Connor, 2001). Through clinical rotations, students learn how to practice nursing and develop the knowledge, skill sets, and values essential for professional practice (Oermann & Lukomski, 2001). With the hospital registered nurses as their guides, students apply concepts learned in the classroom to the care of patients.

Traditionally, hospitals have been the principal site for clinical practicum for most nursing schools, offering a convenient laboratory-type experience (AACN, 1998). Through clinical practicum, students learn how to practice nursing and develop the knowledge, skill sets, and values essential for professional practice (Oermann & Lukomski, 2001). Unfortunately, nursing education faces a serious shortage of clinical placement sites (American Academy of Colleges of Nursing [AACN], 1998; Buerhaus, Staiger, & Auerbach, 2008) with 84% of nursing education institutions reporting that the availability of clinical placements for their students was a problem.

As a result of clinical placement shortage, the Simulated Clinical Experience (SCE) is being used more frequently in the education and training of health care professionals, including physicians, and nurses (Good, 2003; Johnson, Zerwic, & Theis,

1999). SCEs are not a new phenomena. Patient simulators have been used to train health care providers since the 1960s (Hovancsek, 2007). The latest high technology human patient simulators (HPS) are exceptionally realistic; they have a heartbeat, eyes that open, and the capability of responding to interventions through computer programs. The SCE allows students to practice their skills in a risk-free environment where they can integrate theory and practice without the fear of harming patients (Decker, Sportsman, Puetz, & Billings, 2008; Jeffries, 2006; Weis & Guyton-Simmons, 1998). The learning environment of the SCE can also allow faculty and students to collaborate on patient care problems in a safe, risk-free, structured environment (Prion, 2008). Recent research suggests the SCE is able to increase students' self-confidence, knowledge and ability (Bearnson & Wiker, 2005; Goldenberg, Andrusyszyn, & Iwasiw, 2003; Schoening, Sittner, & Todd, 2006). Effective teaching and learning in the SCE are dependent on interactions, clear expectations, and well-defined roles between instructor and student in the SCE (Jeffries, 2006).

The relationships between partners in a clinical learning environment are crucial to a positive learning experience and play an enormous role in students' perceptions of the clinical learning environment (Dunn & Hansford, 1997). When students have difficulties in the clinical setting, the interaction between the instructor and student is critical (McGregor, 2007). Descriptions of the role of the clinical instructor have been identified in the literature as liaison between the clinical and academic settings, teacher, evaluator, clinical expert, a colleague to clinical staff, and a nurse to patients (Bergman & Gaitskill, 1990; Mogan & Knox, 1987; O'Connor, 2001; Oermann, 1998; NLN, 2005).

The instructor's role in the SCE and the traditional clinical practicum has similarities and differences. Descriptions of the role of the SCE instructor have been identified in the literature as manager, facilitator, resource, evaluator, and de-briefer (Foster, Sheriff, Cheney, 2008; Johnson, Zerwick, & Theis, 1999; Larew, Lessans, Spunt, Foster, & Covington, 2006; NLN, 2005; O'Connor, 2001; Prion, 2008). SCE instructors orient and manage the experience. As a resource to the scenario, the SCE instructors provide teaching points, and work with students to debrief afterwards. The traditional clinical practicum instructor works with patients, hospital staff, and students in a clinical setting. Orienting students to the unit, and the policies and procedures are essential in maintaining safe patient care. Although teaching and evaluation are crucial, the clinical faculty often maintains the relationships between the nursing program and the agencies (O'Connor, 2001; NLN, 2005). See Table 1 for a description of the role of the clinical instructor in clinical practicum and the SCE (Foster, Sheriff, Cheney, 2008;Johnson, Zerwic, & Theis, 1999; Larew, Lessans, Spunt, Foster, Covington, 2006; NLN, 2005; Prion 2008; O'Connor, 2001).

For over three decades, characteristics of effective clinical instructors have been of interest to researchers (Allison-Jones, 2002; Barham, 1965; Benor & Leviyof, 1997; Mogan & Knox, 1987). Surveying nursing students, Barham (1965) identified 19 characteristics of effective clinical nursing instructors (e.g. accepting students as individuals, admitting limitations honestly, being available when appropriate). In a later study, Kiker (1973) asked students to rank characteristics of effective clinical instructors from least to most essential. The 12 most essential characteristics were grouped into three categories of characteristics: professional competence, relationships with students, and

Table 1

Similarities and Differences in the Role of Clinical Instructor in Practicum and SCE

Role	SCE	Practicum
Teaching Ability	Develop scenario, answer questions, and provide teaching points during SCE. Orient and familiarize students with equipment and surroundings.	Orient students to hospital equipment, policies, procedures, unit culture.
Nursing Competence	Encourage critical thinking in a wide variety of clinical care situation regardless of outcome. Nursing experience used to develop scenarios and add validity.	Work with students and hospital staff to provide care to real life patients. Nursing staff can view as clinical expert.
Ability to Evaluate	Develop and manage scenario where students can receive feedback and guidance of critical thinking.	Provide evaluation while maintaining professional environment for patients. Clinical situations limited by availability of patients.
Interpersonal Relationships	Able to video tape and debrief actions with students. Resource for questions and teaching points during SCE.	Work with staff to provide optimal patient care. Hospital patients view instructor as nurse, while staff view as colleague. Must maintain patient confidentiality.
Personality	Role model for nursing students in critical thinking and performance.	Acts as a representative of nursing program with hospital and staff.

individual personal attributes. O'Shea & Parsons (1979) studied students and faculty to

identify and compare effective and ineffective clinical teaching behaviors as described by

students and faculty in one baccalaureate school of nursing. Three categories of

characteristics were identified: evaluative, assistive and instructive, personal

characteristics. These earlier studies on the characteristics of effective clinical instructors

led to the seminal research of Knox and Mogan (1983, 1985, 1987).

Based on a qualitative analysis of nursing students' perceptions of the characteristics of effective clinical instructors, Mogan and Knox (1983) identified five categories of the characteristics of effective clinical instructors - Teaching Ability, Nursing Competence, Evaluation, Interpersonal Relationships, and personality. Using the method of constant, comparative analysis, the researchers examined and re-examined student responses until agreement was reached. Based on this analysis, the Nursing Clinical Teaching Effectiveness Inventory (NCTEI) was developed (Knox & Mogan, 1987).

With solid construct validity, the NCTEI has been used to study clinical nursing instructors in a variety of roles (Allison-Jones & Hirt, 2004; Gignac-Caille & Oermann, 2001; Lee, Chowlowski, & Williams, 2002; Mogan & Knox, 1987). The instrument has been used with a variety of nursing students (BSN/ADN, part-time/full-time, new graduates, differing experience levels), and with nursing faculty worldwide. Knox and Mogan (1983;1985; 1987) developed the instrument to determine nursing student and faculty perceptions of the characteristics of an effective instructor in the traditional clinical setting. Identifying these characteristics is essential in advancing nursing education.

Recently, many nursing programs began utilizing the SCE as a substitute or adjunct to practicum. In this environment, clinical instructors assist students to acquire knowledge in a controlled, risk free, hospital-type clinical environment. In this environment student acquire knowledge and clinical judgment with the support of an instructor. In this cognitive apprentice instructional model, instructors utilize teaching methods of coaching, articulation, reflection, and exploration (Kolikant, Gatchell, Hirsch,

& Linsenmeier, 2006; Taylor & Care, 1999). As with the traditional clinical environment, instructor effectiveness is essential to maximizing the SCE. However, no research had been conducted to examine the perceptions of effective characteristics of clinical instructors in the SCE. Therefore, this study did two things. It examined students' and instructors' perceptions of the characteristics of effective clinical instructors in the SCE and whether their perceptions differ. Further, this study compared the characteristics of effective clinical instructors in the SCE with previous research on the characteristics of effective instructors in traditional clinical placements. Because of the similarities between the traditional clinical practica and the SCE, the NCTEI was used to evaluate nursing student and faculty perceptions of effective faculty in the SCE. No study had systematically examined these issues before. Therefore, this study was conducted for these purposes.

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

This descriptive, exploratory study, posed four research questions.

1. What are nursing students' perceptions of the characteristics of effective instructors in the SCE?

2. What are clinical instructors' perceptions of the characteristics of effective instructors in the SCE?

3. In what ways are nursing students and clinical instructors different or similar in their perceptions of the characteristics of effective instructors in the SCE?

4. What are nursing students and clinical instructors' perceptions of characteristics of effective faculty in the SCE compared with perceptions of characteristics of effective faculty in the clinical environment?

Definition of Terms

- *Clinical decision-making:* a dynamic and complex thinking process that result in independent and interdependent nursing interventions (White, 2003).

- *Clinical instructors*: registered nurse with university preparation hired by the faculty of nursing to supervise students in the clinical setting as students provide patient care (Campbell, Laviree, Field, Day, & Reutter,, 1994). This term is used interchangeably with *clinical faculty.*

- *Clinical practicum*: engaging learning experiences, or field experience, with actual clients in a variety of settings (AACN, 1998). In this study, this term is interchangeable with *hospital practicum* and *traditional clinical practicum.*

- *Clinical setting*: hospital or community agency where students have access to patients/clients in order to provide care (Campbell, Laviree, Field, Day, and Reutter, 1994).

- *Evaluation:* type and amount of feedback the student receives from the teacher regarding clinical performance and written clinical assignments (Knox & Mogan, 1987).

- *Human patient simulator (HPS):* life-size computerized high fidelity mannequin designed to make the user experience realistic. The HPS responds to procedures in a realistic manner (e.g. coughs, has heart beat sounds, breathes).

- *Interpersonal relationships:* a state of reciprocal interest or communication between two or more people excluding specific therapeutic communication between nurse and patient (Knox & Mogan, 1987).

- *Nursing Competence:* theoretical and clinical knowledge used in the practice of nursing, as well as the attitude towards the profession (Knox & Mogan, 1987).

- *Nursing school*: An educational institution for the training of pre-licensure nurses. Used interchangeably with *nursing education.* In this study, only 4-year baccalaureate nursing schools will be discussed unless otherwise indicated.

- *Nursing staff*:: Registered nurses hired by the clinical setting (e.g. hospital, clinical agency) to provide patient care.

- *Nursing student:* student enrolled in a baccalaureate-nursing program.

- *Personality trait:* the totality of the individual's attitudes, emotional tendencies and character traits, which are not specifically related to teaching, nursing, or Interpersonal Relationships but may affect all three (Knox & Mogan, 1987).

- *Simulated clinical experience (SCE):* activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making, and critical thinking using a human patient simulator (NCSBN, 2005). In this study, SCE include no more than 15 students working with at least one instructor. Their purpose is learning.

- *Teaching Ability:* the process of transmission of skills and attitudes and the creation of an atmosphere in which this is done (Knox & Mogan, 1987).

Summary

A nationwide nursing shortage has increased the demand for nurses who are ready to work. Nursing students need the opportunity to apply classroom concepts to real-life situations to develop critical thinking and essential decision-making skills. However,

nursing schools are findings it increasingly difficult to secure training opportunities in hospitals.

Recently, the Simulated Clinical Environment (SCE) has been utilized in nursing education to provide a realistic, risk-free, safe environment to learning nursing procedures and to demonstrate critical thinking. Simulation reproduces real-life clinical situations. In this cognitive apprenticeship environment students acquire knowledge and clinical judgment with the support of an instructor (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006; Taylor & Care, 1999).. Using a high-fidelity mannequin, the instructor guides students with a 'patient' who has pulses, visible respirations, a blood pressure, and eyes that open (Medley & Horne, 2005). With the increase in nursing school enrollment and the shortage of clinical practicum sites, the SCE has rapidly gained in popularity.

To identify perceptions of the characteristics of an effective instructor in the clinical practicum, the Nursing Teaching Effectiveness Inventory (NCTEI) has been widely used to survey faculty, students, and nurses. The instrument has been reliable in identifying which characteristics maximize the clinical learning experience.

Simulated clinical experiences, led by effective nursing faculty, can provide consistent, safe, structured, and risk-free learning for students. Utilizing a cognitive apprentice instructional model, students work under faculty. The instructional support fades as students acquire skills, knowledge, and clinical judgment (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006). However, no research had been conducted in this area. Therefore, this study investigated faculty and student perceptions of the characteristics of an effective clinical instructor in the SCE.

CHAPTER II

REVIEW OF THE LITERATURE

Graduates of nursing schools must be competent in critical thinking, patient assessment, and rendering care to acutely ill patients in today's complex technological health care environment. Nursing schools traditionally prepare students through didactic instruction and clinical practica in health care settings. Lectures deliver content knowledge while the clinical practicum, with real life problems, transmits contextual knowledge (Tsai & Tsai, 2004). Instructors in both the classroom and the practica teach students the skills needed to become a competent RN, facilitating the transition from theory to practice.

With improvements in technology, and shortages of clinical placements, many universities have begun using the simulated clinical experience (SCE) to check clinical competencies and provide clinical experiences not available in a clinical setting (Alinier, Hunt, Gordon, & Harwood, 2006; Lusk Winne, & Desleskey, 2007). Within the next few years, it is expected that increasing numbers of nursing programs will utilize the technology of the SCE (Jeffries, 2006; NCSBN, 2005; Nehring, Ellis, & Lashley, 2001).

The SCE has been shown to influence students' self-confidence and knowledge (Goldenberg, Andrusyszyn, & Iwasiw, 2003; Schoening, Sittner, & Todd, 2006). Although the SCE provides an environment for students to problem solve and apply concepts in scenarios with computerized patient simulators in a risk-free environment, the characteristics of effective instructors in the SCE had not been investigated.

The purpose of this study was to investigate nursing faculty and student perceptions of the characteristics of effective nursing instructors in the SCE. Defining the

characteristics of effective instructors will enable faculty to refine their skills and to maximize the effectiveness of the SCE for nursing education. The review of the literature, which examined relevant research on nursing students, instructors, and the clinical learning environment, was divided into three sections. The first section examined the nursing education experience of students and faculty. The second section examined research on nursing faculty and student perceptions of the characteristics of effective clinical instructors. Finally, the third section assessed research to date on the comparative strengths and weaknesses of the SCE for nursing education.

Nursing Education Experience

During nursing school, students learn in two environments: the traditional didactic environment, and the clinical environment. The knowledge and skills required for clinical practice begins in the classroom with didactic lectures (Becker, Rose, Berg, Park, & Shatzer, 2006). Nursing students apply the concepts of care they have learned in the classroom to real patients during clinical practicum.

During their college years, nursing students meet challenges common to most college students. Balancing work or family commitments with study time, preparing for examinations and keeping up with coursework are typical college concerns experienced by nursing students (Nicholl & Timmins, 2005). Because of demands of the profession and anxiety about passing the state exams, many nursing students feel over-worked, unprepared and in need of support from faculty (Magnussen & Amundson ,2003). They appreciate instructors who engage students, clearly apply theory, give meaningful examples, and interact with students during class (Gibbons, Dempster, & Moutray, 2008).

The clinical practicum provides an entirely different experiential learning environment in which students learn how to practice nursing and develop knowledge, skills, and values essential for professional practice (Oermann & Lukomski, 2001). The application of theory to the real world of patient care can cause conflict for nursing students between their initial expectations of nursing and the reality of their nursing program (Sharif, 2004). According to Benner (1982) "…clinical practice is always more complex and presents many more realities than can be captured by theory alone" (p.407). Clinical practicum helps students to build and strengthen technological skills and to develop a clinical proficiency in critical thinking and problem solving.

Upon graduation, nurses are expected to have mastered decision-making skills, nursing theory, and practical skills. Once on staff, new nurses must make accurate decisions about what is happening, what needs to be done, how soon, and why (del Bueno, 2005; Oermann, 2004). Because nurses continually evaluate critical patient information, implement nursing actions, and report findings to physicians and other health care professionals, their decision-making skills can significantly influence patient outcomes (White, 2003). Shorter hospital stays, sicker patients, and fewer continuous clinical practice hours may all undermine the maturation of new graduates' clinical skills (del Bueno, 2005).

A nursing instructor's presence has been identified as *the* most powerful force in promoting student success (Poorman, Webb, & Mastrovich, 2002). Nursing instructors play a major role in promoting a positive clinical learning experience by creating a rapport with students and staff, fostering mutual respect, and honoring unit procedures (Dunn & Hansford, 1997). With an increasing number of complex patients to care for,

staff nurses may have limited time to share their knowledge and participate in student learning. Students expect their clinical instructor to guide them in making observations, applying theory, reaching conclusions, selecting and performing interventions, and evaluating outcomes (Mogan & Warbinek, 1994; O'Connor, 2001).

Along with the typical faculty role of teaching, publishing, researching, and working with the community, nursing faculty must also maintain clinical competence (Hawkins, & Fontenot, 2008). Instructors' clinical skills, clinical currency and confidence strongly influence the development of students' identity as professional nurses and are part of competent clinical teaching practice (Gillespie, 2002). Clinical instructors acknowledge the pressure to maintain clinical competence or a clinical practice without adequate time to do so. Less experienced faculty may need additional training in how to work with agency personnel, plan clinical assignments, direct student learning, and evaluate performance in order to mitigate some of the negative experiences associated with their role as a teacher (Oermann, 1998).

In addition to a clinical instructor's primary role as an educator, she or he is also a professional colleague to staff and a nurse to patients. The staff expects a clinical instructor to be responsible for the care their students provide to patients and to intervene if things go awry on the unit. Frequently, the clinical instructor assists the staff's reception of students into the clinical area (O'Connor, 2001).

Utilization of the technological simulated clinical environment (SCE) is a recent development in nursing education. In this unique environment, instructors facilitate student application of the classroom theory in a technological patient setting. In this risk-free, controlled hospital-type environment, nursing assessments and interventions are

performed on a high technology patient. Instructors and students can review outcomes, whether successful or not in a safe environment.

Previous studies have suggested that the relationship between faculty and student in the clinical environment is significant (Dunn & Hansford, 1997). However, no studies had yet been conducted to examine the perceptions of effective characteristics of clinical instructors in the SCE. Therefore, this study examined students' and instructors' perceptions of the characteristics of effective clinical instructors in the SCE and whether their perceptions differ. The following section discusses previous studies regarding the perceptions of students and faculty of the characteristics of effective clinical instructors.

Characteristics of Effective Clinical Instructors

For over three decades, nursing education researchers have sought to identify the characteristics of effective clinical instructors (Allison-Jones & Hirt, 2004; Barham, 1965; Benor & Leviyof, 1997; Jacobsen, 1966; Mogan & Knox, 1987). Identification of these characteristics contributes to training new faculty, and making the most of nursing student education.

In an early study on the perceptions of the characteristics of an effective instructor, Barham (1965) identified behaviors of effective and ineffective clinical nursing instructors in a community college in California. She utilized the critical incident technique to attempt to identify effective nursing instructor behaviors in the classroom, clinical, or advising areas. The critical incident technique involves asking participants to describe a behavioral situation or incident to illustrate effective or ineffective characteristics of instructors. By eliciting an actual instructor incident, vague descriptions of instructor characteristics are avoided.

Using participants from 13 Associate Degree Nursing (ADN) programs in California, group interviews were used to collect data from 12 program directors, 64 instructors, and 102 first and second year students. Each participant described one effective and one ineffective teaching incident from the classroom, clinical, or advising areas. From the 362 incidents cited, 19 categories were identified – 80% were interpersonal or relationship behaviors (e.g.. accepting students as individuals; being available when appropriate; counseling without humiliating). Although students cited incidents from all teaching areas (classroom, clinical, and advising), two-thirds of incidents were from the clinical setting. This suggests that the clinical instructor's personality traits and interactions with students can have a considerable impact on students' perceptions of clinical instruction.

Jacobson (1966) used a modified critical incident technique to identify effective and ineffective teaching characteristics in both the nursing classroom and clinical setting. Using a large sample of students from five university settings, six areas of effective teaching behavior were identified (availability to students, apparent general knowledge and professional competence, interpersonal relationships with students and others, teaching practices in classroom and clinical setting, personal characteristics, and evaluation practices). Exhibiting fairness in evaluation and being a nursing expert were identified as highly important characteristics of effective instructors. The study suggests that the human component or relationship between student and teacher is extremely important to learning in the clinical setting.

O'Shea & Parsons (1979) examined effective and ineffective clinical teaching behaviors as described by students and faculty in one baccalaureate school of

nursing. This was one of the first studies focusing only on the clinical area of teaching. Students (n = 205) and faculty (n = 24) were given a two item questionnaire. Students were asked to list teaching behaviors that facilitated and interfered their learning in clinical practicum. Three categories of teaching behaviors were identified: evaluative, assistive/instructive, and personal characteristics. The evaluative category included instructor feedback and expectations. Providing positive feedback was labeled facilitating behavior, while insufficient feedback was interfering behavior. The second category of assistive/instructive included behaviors which require the instructor to become physically engaged or to assist in problem solving. Being available in the clinical setting is an example of a facilitative behavior, while taking over the student's assignment is an example of an interfering behavior. The final category, personal, included personality, and was therefore, more subjective. These earlier studies on the characteristics of effective nursing instructors led to the seminal research of Knox and Mogan (1983, 1987).

Mogan and Knox (1983) studied student (N = 435) perceptions of the behaviors of effective and ineffective clinical instructors. The initial purpose of the study was to develop an effective clinical instructor evaluation tool, and to improve clinical teaching. Researchers assessed students' perceptions of effective or ineffective teaching characteristics in the clinical setting.

Students enrolled in a four-year baccalaureate nursing program were asked to evaluate teachers after each clinical rotation. First, students evaluated overall clinical instructor performance (excellent, above average, average, unacceptable). Then, two open-ended questions were asked: "What are the most effective aspects of this

individual's instruction?", and "How could this instructor's effectiveness be improved in this course?" Qualitative in design, the responses to the two open-ended questions on the form were the primary focus of analysis.

Data analysis by constant-comparative methods generated five categories of the characteristics of effective clinical instructors. Students descriptions and the categories generated were similar to findings in the literature (Jacobson, 1966; O'Shea & Parsons, 1979).

Participants found it easier to list effective rather than ineffective teaching behaviors. Effective and ineffective behaviors portrayed the same qualities, the former stated in positive terms, the latter in negative ones. Consequently, all responses fit into one of five categories of nursing clinical teaching effectiveness:

1. Teaching Ability – defined as the process of transmission of knowledge, skills and attitudes, and the creation of an atmosphere in which this is done.

2. Nursing Competence – defined as theoretical and clinical nursing knowledge and attitude toward the nursing profession.

3. Ability to evaluate – defined as the type and amount of feedback the student receives from the teacher regarding clinical performance and written clinical assignments

4. Interpersonal relationship – defined as a state of reciprocal interest or communication between two or more people excluding specific therapeutic communications between nurse and patient.

5. Personality – defined as the totality of the individual's attitudes, emotional tendencies, and character traits, which are not specifically related to teaching, nursing, or interpersonal relationships but may affect all three.

In a follow-up study, Knox and Mogan (1985) compared students' (N = 393), instructors' (N = 49), and practicing nurses' (N = 45) perceptions of the behaviors of effective clinical instructors. The views of the three groups, provider (instructor), consumer (student), and product of the educational experience (graduated nurses) were examined in order to provide a more comprehensive picture of the characteristics of effective clinical instructors.

Based on their previous study (Mogan and Knox, 1983), the researchers developed a 47-item, 7-point Likert scale survey, the Nursing Clinical Teaching Effectiveness Inventory (NCTEI), in which each item describes a clinical teacher characteristic. The purpose of the instrument is to measure perceptions of clinical teacher effectiveness. Over the past 20 years, the NCTEI has been utilized throughout the world in many geographic locations, in a variety of college settings, with a range of nursing participants, and even with physical therapy students (Wetherbee, 2008). The NCTEI instrument is internally consistent (Cronbach's alpha ranged from 0.79 to 0.92), stable over time (test-retest scores at 4-week intervals ranged from 0.76 to 0.93 using Pearson's correlation), and is judged to have content and face validity (Allison-Jones, 2002; J.Mogan, personal communication, August 8, 2008).

The characteristics of effective clinical instructors on the NCTEI were based on students' perceptions of effective clinical teaching in their previous research (Mogan & Knox, 1983). The discrete teacher characteristics clustered into five categories of

characteristics: Teaching Ability, Nursing Competence, personality, Interpersonal Relationship, and evaluation. The next section will discuss these categories of characteristics of effective clinical instructors.

Teaching Ability is defined the process of transmission of knowledge, skills and attitudes, and the creation of an atmosphere in which this process occurs (Knox & Mogan, 1983). Nursing instructors have an impact on student knowledge acquisition in the clinical setting (Kushnir, 1986; Landmark, Hansen, Bjones, & Bohler, 2003; McGregor, 2007). Hanson and Stenvig (2008) supported this finding in a recent study where educator teaching proficiency along with knowledge of nursing theory were deemed essential instructor attributes.

Nursing Competence is defined as theoretical and clinical nursing knowledge and attitude toward the nursing profession (Knox & Mogan, 1983). Instructors and students agreed with the value of role modeling, but instructors placed more importance on Nursing Competence than students did. Perhaps students take the instructors' knowledge and expertise for granted, or perhaps nurses on a unit are viewed as the nursing experts. Instructors consistently rank Nursing Competence higher than do students (Gignac-Caille & Oermann, 2001; Knox & Mogan, 1985).

Ability to evaluate is defined as the type and amount of feedback a student receives from the teacher regarding clinical performance and written clinical assignments (Mogan & Knox, 1983). One role of clinical instructors is to evaluate student performance. Spending time reviewing content or helping students focus on what to study was highly valued by the students (Gillespie, 2002; Knox & Mogan, 1983; Poorman,

Webb, & Mastrovich, 2002). When an instructor offers to assist a student, the student feels motivated to tackle the problem at hand (Poorman, Webb, & Mastorovich, 2002).

Interpersonal relationships is defined as a state of reciprocal interest or communication between two or more people excluding specific therapeutic communications between nurse and patient (Mogan & Knox, 1983). The literature suggests that a positive, supportive relationship with one's nursing clinical professor can ease a student's transition to the clinical environment (Gardner, Deloney, & Grando, 2007; Gillespie, 2002; Landmark et al., 2003; Nehring, 1990; Oermann & Lukomski, 2001). In contrast, clinical instructors can also have a negative effect on the clinical practicum experience (Campbell, Larrivee, Field, Day, & Reutter, 1994; Kushnir, 1986).

Personality is defined as the totality of the individual's attitudes, emotional tendencies, and character traits, which are not specifically related to teaching, nursing, or interpersonal relationships but may affect all three (Mogan & Knox, 1983). For personality, students value an enthusiastic teacher who is well organized, but at the same time flexible (Mogan & Knox, 1983). The following section of the literature review will describe research using the five categories of characteristics of effective clinical instructors (see Table 2).

To identify nursing student and instructor perceptions of the characteristics of the best and worst clinical instructors, Nehring (1990) surveyed undergraduate nursing students (N = 121), and clinical instructors (N = 63) from 11 baccalaureate nursing programs in Ohio. Using the NCTEI, instructors and students rated the characteristics of the best and worst clinical teachers. Participants were asked to think of their 'best' clinical teacher and rate that teacher using the NCTEI. Participants were then asked to

Table 2

Summary of Research Done Using NCTEI

Author	Year	Participants	Primary Question(s)	Key Result(s)
Mogan & Knox	1983	435 BSN students	Descriptive study to identify perceptions of effective or ineffective teaching characteristics in the clinical setting.	Characteristics grouped into one of five categories: *Teaching Ability* (TA) *Nursing Competence* (NC) *Evaluation* (E) *Interpersonal* (IR) *Personality* (P)
Knox & Mogan	1985	393 BSN students 49 clinical instructors 45 practicing nurses with BSN	Initial testing of NCTEI to evaluate categories of effective instructors in the clinical setting.	While all five categories rated as important for effective clinical instructors, their order differed. Students, nurses, and instructors rated *Evaluation* highest and *Personality* lowest. Nurses and instructors rated *Nursing Competence* higher than students did. Students with less experience rated *Interpersonal Relationships* higher than *Evaluation.*
Mogan & Knox	1987	28 instructors 173 students	Explored which characteristics within the five categories of effective teaching differentiated between best and worst clinical instructors.	Compared student and faculty results for the 10 'best' and 'worst' characteristics. Similar results for the 'best' characteristics including *good role model* (NC), *well-prepared* (TA), *self-confident* (P), *skilled clinicians* (NC). Less agreement on 'worst' characteristics. Students identified the worst instructors as *being unapproachable* (IR), *belittling students* (E), and *lacking empathy* (IR). Faculty identified *lack of enjoyment of nursing* (NC), and *deficient communication* (NC) as worst.
Nehring	1990	121 BSN students 63 clinical instructors	Replication of Mogan & Knox, 1987-Is there a difference between Knox & Mogan's 1987 findings and these results from students and faculty?	Comparable results to Mogan and Knox with instructors and students in greater agreement on the 'best' characteristics within the five categories of effective clinical instructors. *Enjoys nursing* (NC), and *being a good role model* (NC), identified as important.

Table 2: continued

Author	Year	Participants	Primary Question(s)	Key Result(s)
Benor & Leviyof	1997	123 students from three universities in three different RN programs	Replication of Mogan & Knox 1987 with addition of 'ideal' instructor. Conducted in Israel.	Participants identified *Nursing Competence* as the most effective instructor category with *Evaluation* second. Lowest rated category was *personality*. The 'ideal' instructor was not found to be anyone they had met and did not reflect a specific instructor.
Kotzabassak i et al.	1997	185 students 31 instructors	Replication of Mogan & Knox, 1987.	Both instructors and students rated *Interpersonal Relationships* as most important category of effective instructors. Similar results for faculty and students on highest rated characteristics within the categories *enjoys nursing* (NC), *self-confident*(P), *dynamic energetic person*(P). Agreement on 4 of 10 lowest rated characteristics by both instructors and students *poor role model* (NC),, *unable to direct to useful literature* (NC), *unable to use self-criticism*(P) , *belittles students* (E).
Gignac-Cail le & Oermann	2001	292 AND students 59 AND clinical instructors	Identified perceptions of faculty and students of the characteristics of effective clinical instructors.	Instructors and students agreed on 6 of the top 10 characteristics of effective faculty *explains clearly, clinical skill* (NC), *well-prepared* (TA), *approachable* (IR), *corrects students without belittling* (E), *clear expectations* (E).
Lee, Chowlowski , & Williams	2002	104 BSN students with and without clinical experience 17 clinical instructors	Replication conducted in Australia.	Instructors and students ranked categories of effective clinical instructors similarly. *Interpersonal Relationships* was rated highest by both groups. *Personality* was rated lowest. Students rated *Evaluation* as second highest category. Instructors rated *Nursing Competence* second highest. Students with no clinical experience ranked *Interpersonal Relationships* higher than students with clinical experience.

Table 2: continued

Author	Year	Participants	Primary Question(s)	Key Result(s)
Allison-Jones & Hirt	2004	583 ADN students 44 ADN instructors	Compared perceptions of the teaching effectiveness of full-time and part-time clinical nurse instructors in ADN programs. Also examined how instructors view their own effectiveness in clinical teaching.	Students rated full-time instructors as more effective than part-time instructors. No significant differences were found in student perceptions of clinical teaching or the way instructors perceived their own instruction.
Beitz & Weiland	2005	198 students from three nursing programs	Examine differences between full-time and part-time nursing students in three programs (basic BSN, LVN to BSN, RN to BSN) perceptions of effective clinical teaching behavior	Part-time students rated their instructors higher in effectiveness than full-time students. Type of nursing program had no impact on ratings.
Weatherbee	2008	158 physical therapy students 158 physical therapy instructors	Examined perceptions of student perceptions of credentialed and non-credentialed physical therapy clinical instructors on effective clinical teaching behaviors.	No significant differences in NCTEI scores for credentialed and non-credentialed. Positive correlation between the number of teaching years and NCTEI ratings.

Notes: TA = Teaching Ability, NC = Nursing Competence, P = personality, E = Evaluation,
IR = Interpersonal Relationship

think of their 'worst' clinical teacher and rate that teacher using the NCTEI. A mean for

each items for 'best' and 'worst' as perceived by instructors and students were calculated

and compared.

Both instructors and students agreed that the best clinical teachers are those who

are good role models, enjoy nursing, and take responsibility for their actions. Instructors

and students agreed on the top four characteristics of effective instructors. The worst

instructors were not good role models, did not demonstrate empathy, and did not

encourage mutual respect. With results similar to other studies, these results support the

reliability of the NCTEI (Gignac-Caille & Oermann, 2001; Knox & Mogan, 1987;

Kotzabassaki et al., 1997).

Benor and Leviyof (1997) used the NCTEI to gather students' perceptions of the

effectiveness of their best, worst, and ideal clinical instructors. One goal of the study was

to determine if the ideal clinical instructor was a reflection of a particular teacher.

Students from three nursing schools (N = 123) participated in this study to determine if

perceptions of ideal clinical instructors were derived from past instructor experiences.

The highest rated characteristic was competence, the next highest was Evaluation; rated

least important was an instructor's personality. The researchers discovered that the

students' concept of the ideal clinical teacher is not based on any one particular instructor

but rather on a mental representation of an ideal instructor.

In a later descriptive, exploratory study, Associate Degree Nursing (ADN)

students (N = 292) and instructors (N = 59) were surveyed using the 48-item NCTEI on

the characteristics of effective clinical instructors (Gignac-Caille & Oermann, 2001). As

with previous studies on effective clinical instructors, all of the characteristics were rated

highly which reflects applicability of the instrument. There was a negative correlation

between the number of clinical courses students had taken and their ranking of the level

of important of Teaching Ability (r = -.201) and Nursing Competence (r = -.169). In other

words, students with less clinical experience valued nursing competency and teaching

skills more than students with more experience. This finding suggests that students with less experience and limited knowledge are more dependent on the clinical instructors.

These findings are supported in a study by Lee, Chowlowski, and Williams (2002). This study found that students who had no clinical experience before beginning their nursing studies ranked Interpersonal Relationships more highly than students who had previous nursing experience. Thus, instructors must be aware that inexperienced students may have higher levels of anxiety and, consequently, value moral support more highly than clinical competence. Students' high rating of Evaluation and instructors' high rating of Nursing Competence suggested discrepancies between instructors and students.

In an Associated Degree nursing program, Allison-Jones (2004) investigated student perceptions of the teaching effectiveness of full-time and part-time clinical nursing instructors. Using the NCTEI, a convenience sample of students (n = 583) and 44 instructors (n = 44) from seven ADN programs in the United States were surveyed. Students rated full time instructors significantly higher than part time instructors on each of the scales, as well as on the total effectiveness score. Students clearly perceived a difference between the two groups of instructors. There were no significant differences in the ways that students rated the effectiveness of teachers and the self-ratings of the teachers themselves. Hence, the researcher posited that the students' perceptions of teaching effectiveness could be considered reliable.

Using a comparative descriptive design, Beitz and Wieland (2004) examined full and part time baccalaureate nursing students' ratings (N = 198) of effective clinical teaching behaviors. A convenience sample of baccalaureate nursing students from a nursing program in the northeast region of the United States was used. No instructors

were surveyed in this study. The goal was to examine students' perceptions of the characteristics of effective clinical instructors taking into consideration their student type (part-time versus full-time) and the type of nursing program (basic BSN, LVN to BSN, and RN to BSN)

Utilizing the NCTEI along with another instrument, the part-time students rated their clinical instructors significantly higher in effective clinical teaching and associated subscales than other categories. Three of the five categories (Teaching Ability, Interpersonal Relationships, and personal traits) were also significantly higher. As the part-time students were an older age group, the research speculated that maturity may have been a factor between the groups . There were no differences in the ratings of instructor characteristics between the type of student (RN to BSN, BSN, or LPN to BSN), and the type of program(basic BSN, LVN to BSN, and RN to BSN).

In nursing education, the goal is to strive for effective nursing instruction, especially in the clinical setting. Research suggests that instructors in the clinical setting were more influential in shaping students' attitudes towards nursing than classroom teachers. (Campbell, Larrivee, Field, Day, & Reutter, 1994). The NCTEI has proven to be a valuable instrument in evaluating clinical nursing instructors in the practicum worldwide, with a variety of participants.

Previous literature describes the nursing student role in the clinical area and the potential impact the nursing clinical instructor can have on the experience (Dunn & Hansford, 1997; Jones & Johnston, 1997). Nursing education now has a new teaching environment, the simulated clinical experience. The following section discusses research in the simulated clinical experience.

The Simulated Clinical Experience in Nursing Education

Simulations reproduce real-life clinical situations. Simulated clinical experiences (SCE), led by effective nursing instructors, can provide consistent, safe, structured, and risk-free learning for students. Some advantages of the SCE for nursing education include opportunities for students to practice decision-making, critical thinking, and team building, all essential skills for today's ready-to-work nurse.

Simulation in nursing education resembles nursing reality (Hovancsek, 2007). Simulation attempts to reproduce actual clinical situations so they be more readily understood and analyzed by instructors and students (Morton, 1995). For this study, the SCE is a high-fidelity experience with patient simulators which provide a realistic, interactive experience for the student. The SCE is managed by a instructor who is providing information, and encouraging students to solve clinical problems. The instructor is orienting, managing, evaluating, debriefing, and acting as a role model for students. The SCE provides an interactive learning environment where instructors and students collaborate to solve clinical problems (Jeffries & Rogers, 2007).

The SCE may be a positive experience for students, but it is labor intensive for instructors. Designing scenarios, outfitting laboratories with equipment, and facilitating groups of students can be time-consuming and expensive (Hovancsek, 2007; Jeffries, 2005; Larew, Lessans, Spunt, Foster, & Covington, 2006). Additionally, even though nursing schools are still learning how to use simulation equipment, financial incentives for faculty to learn to use the equipment are scarce (Jeffries, 2005; Medley & Horne, 2005; Nehring & Lashley, 2004).

Although the SCE is becoming more common, there is little empirical evidence
that this technology is better than traditional techniques in preparing undergraduate
nursing students (Medley & Horne, 2005; NCSBN, 2005). Yet, recent research suggests
student SCE learning can have a powerful effect on self-confidence, self-efficacy, and
satisfaction with learning (Bremner, 2008; Feingold, 2004; Foster, Sheriff, & Cheney,
2008). Further research on the role of the instructor in the simulated clinical experience is
essential. This section discusses current available research on the instructors and student
perceptions of the effect of the SCE on clinical confidence, self-efficacy, and satisfaction.

Clinical confidence cannot be learned in the classroom; it can only be acquired in
the clinical setting by mastering newly learned skills and experiencing success (Benner,
1984; Lundberg 2008). Likewise, instructors cannot assume that students who are
confident in a simulation laboratory will be confident in actual clinical practice.

Bremner et al. (2008) conducted a study to investigate the effect of the Human
Patient Simulator™ (HPS) on the confidence and comfort levels of nursing students
entering their first clinical experience as measured by their anxiety level. The objectives
of the study were to examine the effects of an HPS session on the anxiety level of
students as they entered their first clinical experience, and to explore the relationship
among learning styles, coping styles, and anxiety levels of students using this form of
educational technology.

The method was experimental using randomized intervention groups over two
consecutive college semesters. A sample of sophomore nursing students *(N* = 149) was
divided into two groups: one group (*n* = 71) received the HPS session, the control group

(n = 78) received the usual skills lab practice session without the HPS. Both sessions occurred one week prior to the students' first clinical experience.

To measure anxiety levels, the researchers used the State-Trait Anxiety Inventory. The pretest measured the students' anxiety state, and the posttest measured the students' anxiety trait. The posttest was given twice: first, in the debriefing session following the group experience, and again one week after the first clinical experience in a hospital setting. The instrument allowed the researchers to measure the students' normal state of anxiety with the anxiety engendered by their first clinical experience. The control group, which did not have the HPS intervention exhibited a higher level of anxiety on their post tests. The findings suggest that students who trained on the HPS were less anxious during their clinical practicum. Ninety-seven percent of those in the HPS condition said that it should be a component of nursing curricula. Further the HPS strengthened confidence in their physical assessment skills (71%), relieved stress on the first day of their clinical rotation (65%), and made them less anxious about their first clinical day (42%).

Feingold , Calaluce, and Kallen (2004) evaluated the perceptions of student and instructors about using a Human Patient Simulator (HPS) in a simulated clinical scenario. The purpose of the study was to evaluate senior undergraduate nursing instructors and students responses to the use of a computerized patient model during an interactive clinical simulation. It was hypothesized that clinical simulation involving assessment, clinical decision making, communication, and psychomotor performance would adequately test the students' clinical competence and would provide a learning experience with high transferability to real life.

Baccalaureate nursing students received two scenario-based sessions with the HPS during the semester. At the end of the semester, the students were asked 20 questions that addressed the value of the experience, the ability to transfer skills learned in the simulation to the real clinical world, the realism of the simulation, and the value of the learning experience. The survey was given to two classes over the course of two semesters. Four instructors who worked with students during the two semesters also completed the survey.

The survey instrument included 20 items scored on a 4-point Likert scale. Instructors ($N = 4$) were surveyed using a 17-item questionnaire with the same response scale. These survey items addressed the reality of the simulations, the pace and flow of the clinical simulation, the ability to transfer learned skills to actual clinical settings, and the value of the SCEs.

Fewer than half of the students believed that the SCEs increased their confidence (47%) or improved their clinical competence (47%); 55% believed that the SCE prepared them for the real clinical environment. Students agreed that the experience was an adequate test of clinical skills (80%) and decision making (88%). Only half of the students agreed that the skills learned in the clinical simulation were transferable to a real clinical setting.

All of the instructors believed that the simulation was realistic, tested clinical skills, reinforced course objectives, and was an effective teaching tool. Instructors reported that implementing the SCE required additional time and resources. The majority of the instructors reported that although the simulator required extra preparation time, they would use it more if additional support were available. Given the increased

workload to present an SCE, only one instructor reported that support for using the HPS was adequate. The researchers concluded that novice nurses may not able to appreciate the value of the HPS in building confidence, using critical thinking, and reinforcing prior knowledge. They also acknowledged that time and financial commitments were critical factors in setting up an SCE.

In the light of the faculty shortage, Foster, Sheriff, and Cheney (2008) conducted a prospective, quasi-experimental, non-randomized multi-site study to determine the effectiveness of non-faculty registered nurses (NF-RNs) in facilitating simulation exercises. Satisfaction, self-confidence, and self-efficacy of students experiencing the SCE were also measured. Students from two metropolitan universities (N = 409) in the Southwestern United States participated in the study over two semesters. The NF-RNs were instructed in how to use the simulation mannequins and computer software in two training workshops. The NF-RNs were trained and worked for two semesters,. Forty-three NF-RNs worked for the first semester and 30 for the second semester.

The researchers selected the management of a patient with a pulmonary embolism as the study's clinical topic. The control group consisted of junior students who learned about pulmonary embolism from lectures only. The experimental group, senior students, learned about the subject from lectures and the SCE.

Learner outcomes were measured in several ways. Self-confidence was measured by an 8-item, 5-point Likert scale. Student participants in the experimental group agreed (94%) that they were confident and developed skills in the SCE that were required for the clinical setting. Student satisfaction with the SCE as a teaching/learning alternative was measured with a 5-item, 5-point Likert scale developed by the National League for

Nursing. Students in the experimental group agreed that the teaching methods in the SCE were helpful (96%) and motivating (93%).

Knowledge acquisition was tested after lectures (control group) and after the SCE (experimental group) with a 10-item, multiple-choice, investigator constructed posttest. There were significant differences existed between the experimental and control groups on the posttest (t = 11.202, p = 001). The mean of the experimental group was 78.80 (SD = 13.94), and the mean of the control group was 64.17(SD = 16.11). This study had major limitations. First, the two nursing groups were at different stages of their training. The control group included junior students while the experimental group was composed of senior students. Second, the experimental group received additional instruction, not replacement instruction. Exposing the control group to additional instruction may have affected the findings.

Effectiveness of the NF-RNs was measured through direct observation and student responses. The NF-RNs managed the SCE effectively providing feedback and facilitating active learning. Participants agreed that NF-RNs were helpful (94%) and that they taught in a way suitable to student learning (92%). This is the only study that included any student input on instruction. Further investigation into characteristics of effective instructors is needed to maximize the use of the SCE.

Schoening, Sittner, and Todd (2006) studied the perceptions of baccalaureate nursing students (N = 60) who participated in an SCE in the second semester of their junior year. After completing a high-risk obstetrical scenario with the HPS, the students reviewed a videotape of the session and discussed the case, their actions, and the plan of care. At the end of the second week of simulation, the students completed a 10-item,

4-point Likert scale evaluation of the scenario. The students were asked if they met the objectives of the SCE and if they felt the SCE increased their confidence, improved their skills, or increased their knowledge of preterm labor. Narrative comments were invited. The students' weekly clinical journals were also analyzed.

The quantitative data indicated that students felt that they met the clinical objectives (mean of 3.64). Student perceptions of the SCE were also high (Mean of 3.75). These results suggest that students felt the SCE not only effectively met the objectives but also raised their confidence in the clinical setting.

Qualitative data were obtained from the students' weekly journals. Content analysis and line-by-line analysis were used to compare and cluster the data. Five areas of the SCE were assessed: (a) skills, hands-on learning, and practice; (b) confidence self-efficacy, and nonthreatening environment; (c) critical thinking, realism, knowledge, review, and decision making; (d) value, transferability, satisfaction; and (e) teamwork, communication, preparedness. These five areas were developed from the students' perceptions of increased confidence and decision-making skills. This study reported student perceptions, not student outcomes such as knowledge acquisition or skill development.

To determine the effects of SCE on nursing students' clinical skills and competence, Alinier et al., (2006) used a pretest/posttest design with undergraduate nursing students ($N = 99$) in a 2-year diploma program in the United Kingdom. The pretest, the Objective Structured Clinical Examination (OSCE), was given initially to both the control ($N = 50$) and experimental ($N = 49$) groups. The OSCE, which the researchers affirm is a valid and reliable assessment instrument, has effectively assessed

the practical skills of other health care students. Students moved through 15 stations, spending 3 to 10 minutes at each. Each station focused on patient care and clinical skills.

In addition to their regular curriculum, the experimental group attended two 3-hour simulation sessions over the course of two afternoons. Eight students and one instructor attended each session. During the first session, students worked in pairs to care for a patient. When appropriate, facilitators assumed the role of the resuscitation officer or doctor. Reflection and debriefing were done after the scenario. Six months later, the experimental group received another identical simulation session. After the second OSCE, the instructors gave immediate feedback on student performance.

Student scores on the first assessment were comparable: control group, 48.8%, experimental group, 47.4%. On the second assessment, the experimental group scored higher (61.7%) than the control group (56.0%), although both improved. The control group's performance improved by 7.2%; the experimental group by 14.2 % ($p < .001$).

Only a slight difference between the groups' perceptions of stress and confidence was detected using a 5-point Likert scale. Many students felt less stressed during the second assessment, preferred receiving immediate feedback from instructors, and experienced less stress because they had already experienced the first assessment.

Although this study suggests that two 3-hour simulation sessions could improve scores on the assessment, the two groups' scores may not be comparable since the control group did not receive any instruction, while the experimental group received six additional hours of instruction with an 8:1student-to-instructor ratio. The researchers also conceded that extraneous variables between the two groups were not controlled and they

acknowledged that the instructors' time demands to learn the computer programs, create the scenarios, set-up the equipment, and teach the session were considerable.

In another study on the impact of the SCE in nursing education, Grady et al. (2008) measured learning outcomes on first year nursing students. To determine if nursing procedures using the high-fidelity HPS is superior to learning with low-fidelity simulator technology, nursing students (n = 39) were given an experimental treatment for learning basic nursing procedures. The control group was given instruction on a low fidelity, non-reactive mannequin. The treatment group was given instruction on a reactive, high-fidelity HPS.

Results suggest that high fidelity mannequins enhanced training effectiveness, and provided a more realistic environment to students. Male students benefited more from high-fidelity simulation than did female students. Further, the male students' attitude toward high-fidelity simulation was more positive. The researchers posited that the high-fidelity mannequin fosters improved learning of nursing procedures. Because of these results, the researchers concluded that the cost and time considerations for high-fidelity HPS is worthwhile.

Although the SCE provides an interactive learning environment for students, the simulation may increase the time and work of faculty members to design the scenario and be available to provide content validity (Rhodes & Curran, 2005). Maintaining the equipment, keeping current on software, and training instructors are issues to consider with the interactive, risk-free SCE setting. In light of these issues, obtaining maximum educational value from the SCE is crucial.

Although research has been conducted in the SCE, no study has examined perceptions of instructor effectiveness in the SCE. This study identified SCE instructor and student perceptions of the characteristics of an effective instructor in the SCE to increase understanding of this valuable resource.

Summary

The relationships between partners in a clinical learning environment are crucial to a positive learning experience and play an enormous role in students' perceptions of the clinical learning environment (Dunn & Hansford, 1997). When students have difficulties in the clinical setting, the interaction between the instructor and student is critical (McGregor, 2007). The literature suggests that a positive, supportive relationship with one's nursing clinical professor can ease a student's transition to the clinical environment (Gillespie, 2002; Landmark et al., 2003; Oermann & Lukomski, 2001). Effective teaching requires outstanding personal characteristics to promote learning and demands that clinical educators be knowledgeable, have clinical expertise, and are skilled in teaching students in the clinical setting (Benor & Leviyof, 1997).

To identify perceptions of the characteristics of an effective instructor in the clinical practicum, the Nursing Teaching Effectiveness Inventory (NCTEI) has been widely used to survey instructors, students, and nurses. The instrument has been reliable in identifying these characteristics to maximize the clinical learning experience.

Recently, the Simulated Clinical Environment (SCE) has been utilized in nursing education to provide a realistic, risk-free, safe environment in which to learn nursing procedures and demonstrate critical thinking (Prion, 2008). Studies have been conducted to assess nursing student perceptions about their self-confidence, self-efficacy, and

knowledge acquisition. All of these studies were about students' affective growth in the SCE. None of the studies looked at instructor and student perceptions of the characteristics of an effective instructor in the SCE. Therefore, this study encompassed unstudied areas for the use of the SCE in nursing education. This study included nursing instructor and student participants. Both instructors and students identified variables regarding characteristics of an effective instructor in the SCE. This study also compared results with the previous literature on the perceptions of the characteristics of an effective instructor in the traditional clinical practicum environment. The literature review provided the empirical foundation and rationale for the proposed study.

CHAPTER III

METHODOLOGY

This study investigated clinical instructors and student perceptions of the characteristics of effective instructors in the Simulated Clinical Environment (SCE). Identification of these characteristics will allow instructors to refine their skills and maximize the effectiveness of the SCE for nursing education. This chapter contains a restatement of the research questions, a description of the study design, sampling and data collection procedures, and human subjects' considerations.

Research Questions

The proposed descriptive, exploratory study posed four research questions. The research questions were as follows:

1. What are nursing students' perceptions of the characteristics of effective instructors in the SCE?

2. What are clinical instructors' perceptions of the characteristics of effective instructors in the SCE?

3. In what ways are nursing students and clinical instructors different or similar in their perceptions of the characteristics of effective instructors in the SCE?

4. What are nursing students and clinical instructors' perceptions of characteristics of effective instructors in the SCE compared with perceptions of characteristics of effective instructors in the clinical environment?

Research Design and Variables

A descriptive survey design was used for this study. In order to describe the characteristics of effective instructors in the SCE, the Nurse Clinical Teaching

Effectiveness Inventory was distributed to instructors and students. Descriptive research involves analyzing the data to describe trends, test research questions, and interpret the meaning of the data through past research (Creswell, 2005). All aspects of the current study including overall design and variables, participants, instrumentation, procedures, and analyses followed descriptive research guidelines.

The independent variables included students' and clinical instructors' perceptions of the characteristics of effective instructors in the SCE as measured by scores on the NCTEI, the dependent variable.

<div align="center">Participants</div>

The study population included 304 traditional undergraduate BSN nursing students with experience learning in the SCE and 16 BSN clinical nursing instructors with experience teaching in the SCE. All participants were selected from two universities in northern California. Participants were entered into the study through their voluntary completion of the survey instrument. Generalizability to the population of baccalaureate nursing students was verified by demographic information obtained from the sample.

Student demographic information included previous health care experience, number of clinical courses completed, and previous education. All of the students had previous experience in traditional clinical practica and the SCE. The students were in their final two years of their nursing program. One hundred and fourteen students were in their last semester. Ninety-one students had two semesters to finish. Eighty-one had three semesters to finish and eighteen had four semesters to finish. Most of the students (n=189, 62%) had no previous health care experience before nursing school, and no previous college degree (n=197, 65%).

Instructor demographic information included educational experience, the number of years experience as nursing faculty, and number of years teaching in the simulation laboratory. Seven instructors held a doctoral degree, five a master's degree, and four a bachelor's degree. For teaching experience, one instructor taught for less than one year, eight taught between one and five years, two taught six to ten years, and five had more than ten years teaching experience. There was a wide range of teaching experience in the SCE. Two taught in the SCE less than one year, 10 taught in SCE between one and three years, two taught four to five years, and two taught five to ten years. Twelve instructor participants had received training in SCE education, while four had received no training.

The sample included instructors and nursing students from two baccalaureate nursing schools, one public and one private. The public college is the Commission on Collegiate Nursing Education (CCNE) accredited baccalaureate nursing program in a State University. Located in a major metropolitan area, the public university offers a 2-year bachelors nursing program in which students are admitted at the junior level, an accelerated bachelors in nursing degree program, and a master's of science in nursing degree program. The school of nursing is accredited by WASC, the CCNE, and has been conferring degrees since 1951.

The private college is a Commission on Collegiate Nursing Education (CCNE) accredited baccalaureate nursing program in a private university. The university offers a 4-year undergraduate degree in which students are admitted as freshmen, a clinical nurse leader program, a master's of science in nursing degree program, and a doctoral nurse practitioner program. Located in a major metropolitan area, the School of Nursing is accredited by the Western Association of Schools and Colleges (WASC), the California

Board of Registered Nursing (CBRN), and the Commission on Collegiate Nursing

Education (CCNE), and has been conferring degrees since 1954.

Participants included students and clinical instructors from both nursing programs

with experience in the SCE. All traditional baccalaureate nursing students with

experience learning in the SCE were surveyed for the current study for a total of 304

students. Only the students in the traditional baccalaureate programs participated. All

full-time and part-time clinical instructors with experience teaching in the SCE at both

the public and the private institutions were asked to participate in the survey.

Both universities utilize the SCE and traditional clinical practicum for student

training purposes. Each university has a dedicated simulated clinical center for students

to work with clinical instructors on the application of classroom theory to nursing

practice.

Protection of Human Subjects

Approval for the study was granted from the University of San Francisco

Institutional Review Board for the Protection of Human Subjects. The Committee for the

Protection of Human Subjects at the publicly funded state university was granted to

approve the study. The specific criteria were met for the boards' review and approval of

the study aims, design, procedures, data collection instrument, and the plan for assuring

confidentiality and informed, voluntary consent of the study participants.

Instrumentation

The NCTEI is a 47-item survey instrument developed by Mogan and Knox (1985)

to measure clinical teacher effectiveness. For this study, the instrument was used to

identify perceptions of characteristics of effective instructors in the SCE.

Permission to use the NCTEI for this study was obtained via email from Judith Mogan in August 2008. Respondents rated each NCTEI item on a 7-point Likert-type scale. The items, or characteristics, are grouped into five categories: Teaching Ability (TA), Nursing Competence (NC), Evaluation (E), Interpersonal Relationships (IR), and Personality(P). The first category, Teaching Ability, has 17 characteristics such as accessibility, enjoying teaching, and emphasizing what is important. Nursing Competence, the second category, includes nine characteristics such as communication skills, knowledge, and clinical skills. The third category, Evaluation, has eight items and involves providing feedback, correcting mistakes, and making suggestions. Interpersonal Relationships, the fourth category, includes six items such as listening, and being approachable. The final category, Personality, contains seven items, which include sense of humor, organization, and confidence.

Reliability estimates were established for each of the five categories of teacher items with reliability coefficients $\propto= .89$ for Teaching, $\propto= .84$ for Nursing Competence, $\propto= .82$ for Evaluation, $\propto= .86$ for Interpersonal Relationship, and $\propto= .83$ for Personality. Reliability of each item was also estimated with reliability coefficients ranging from $\propto= .79$ for item 42 (is a dynamic and energetic person), to $\propto= .88$ for item #2 (emphasizes what is important).

To determine test and retest reliability, Knox and Mogan submitted the NCTEI to 69 3rd year generic students in a baccalaureate program in nursing. Four weeks later, the same group was asked to complete the questionnaire again. Comparing t-test results, there was no significant difference between first and second testing (see Table 3).

Table 3

NCTEI Test-Retest Reliability

Category		M		SD	MODE	MEDIAN	Variance	t	df	*p*
Teaching	*	93.9	±	11.94	99	95.8	142.6	.07	129	.94
	**	93.8	±	10.3	92	95.6	106.9			
Nursing Competence	*	52.9	±	7.4	57	53.8	55.4	.34	139	.74
	**	52.5	±	6.4	52	52.4	40.9			
Evaluations	*	61.4	±	6.2	56	52.8	38.1	.08	140	.94
	**	51.5	±	5.1	51	52.2	25.9			
Relationship	*	36.6	±	4.9	42	37.1	24.1	.66	140	.51
	**	37.2	±	4.6	42	38.2	21			
Personality	*	39.9	±	6.6	41	41.1	43.1	.46	134	.65
	**	40.4	±	5.1	41	40.0	26			

* first questionnaire
** second questionnaire

Developed in 1985, the NCTEI has been modified for a variety of nursing studies. In their seminal research, Knox and Mogan's (1985) 47-item survey, the Nursing Clinical Teacher Effectiveness Inventory (NCTEI), contained items describing clinical teacher items which were derived from students' perceptions of effective teaching. The instrument was then distributed to clinical instructors and students to test for content validity and refinement. The NCTEI has been used in numerous studies.

Utilizing the NCTEI, Nehring (1990) surveyed instructors (N = 63) and students (N = 121) from 11 NLN accredited baccalaureate nursing programs in Ohio. It is unclear why Nehring's survey contained 48-items in contrast to Knox and Mogan's 47-items. Participants were asked to think of their 'best' clinical teacher and rate that teacher using the NCTEI. Participants were then asked to think of their 'worst' clinical teacher and rate that teacher using the NCTEI. A mean for each items for 'best' and 'worst' as perceived by students and clinical instructors were calculated. The student highest-rated items and

the lowest-rated items were compared to the ratings by clinical instructors. Both clinical instructors and students agreed that the best clinical teachers are those who are good role models, enjoy nursing, and take responsibility for their actions. These findings were similar to Knox and Mogan's earlier findings and support reliability of the NCTEI.

Benor and Leviyof (1997) utilized a modified NCTEI to survey nursing students (n = 123) in Israel. Participants were asked to identify important items of a clinical instructor. Then participants were asked to assess to what extent their best and poorest clinical teachers possessed these items. The highest rated characteristic was competence, the next highest was evaluation; rated least important was an instructor's personality. The researchers discovered that the students' concept of the ideal clinical teacher is not based on anyone they have met nor does it reflect a specific teacher.

To measure the effective of part-time and full-time clinical instructors, Allison-Jones (2002) adapted the NCTEI to measure the degree to which clinical nursing clinical instructors demonstrated the effective items. Students rated full time instructors significantly higher than part time clinical instructors on each of the scales as well as on the total effectiveness score. Students clearly perceived a difference between the two groups of clinical instructors. There were no significant differences in the ways that students rated the effectiveness of teachers and the self-ratings of the teachers themselves. Hence, the researcher posits that the students' perceptions of teaching effectiveness can be considered reliable.

For the current study, content validity was established in two ways. First, a review of the literature was performed to examine the clinical instructor role as it related to nursing students and the learning environment. The items on the NCTEI were

comparable to the results of studies on clinical teaching effectiveness. A pilot study was also conducted to establish content validity.

<div align="center">Pilot Study</div>

A pilot study was conducted using the modified NCTEI to ensure that the data collection and data analysis procedures were appropriate. The pilot participants were a convenience sample of 51 graduating nursing students with experience in the SCE. Forty-four of the participants were female, seven were male. Most of the participants were age 20 to 29 years (n = 44). Pilot study participants were not included in the actual study. Each student was given a copy of the instrument, a cover letter, and an informed consent letter. The students signed the informed consent, and kept another consent form for their own reference. The cover letter was read aloud by the researcher. All participants in the pilot study were asked to report any difficulties they encountered in completing the survey, including items and directions. Extra space was provided on the survey for comments.

The pilot study instrument was divided into two sections. The first 12 questions on the instrument are demographic items. The final section of the survey asks the subjects to rate the level of importance of specific teaching behaviors. These items are rated on a Likert scale (1 = not at all important to 7 = very important). Items 1-17 addressed Teaching Ability. Nursing Competence was addressed with items 18-26, Evaluation with items 27-34, Interpersonal Relationships with items 35-50, and Personality with items 41-47.

The research question examined in this student pilot was: what are nursing students' perceptions of the characteristics of effective instructors in the SCE. Students

rated Evaluation as most important (Mean of 6.53; SD = .55) and Nursing Competence as

least important (Mean of 5.95; SD = .72). Table 4 presents the means for the pilot study

responses for the five categories of instructor characteristics.

Table 4

Pilot Study Responses

Category	Mean	SD
1. Evaluation	6.54	.55
2. Interpersonal Relationships	6.42	.61
3. Teaching Ability	6.39	.49
4. Personality	6.17	.70
5. Nursing Competence	5.95	.72

Based on the feedback from students and the data analysis, several demographic

items (e.g., gender, age, confidence, satisfaction with nursing program) were deleted

from the survey. Gender and age were deleted primarily for confidentiality. Confidence

and satisfaction were deleted since they did not pertain to the research questions. Also,

several response items were reworded into negative form to avoid response perseveration

(items 9, 14, 16, 19, 28, 35, 39, 41, 51, 52), and all of the items were randomized from

their original order based on the categories.

Procedures

Written permission to access the student sample was obtained from the nursing

program directors at both universities. Selection of the BSN programs was based on two

criteria. First, the program directors of the nursing programs would allow survey of

students and SCE clinical instructors. Second, the nursing program must have a

Simulated Clinical Experience laboratory that includes high-fidelity simulators.

Procedures for permission to collect data from students were completed for both universities. Human Subjects applications for approval were also approved at both universities. The program directors for both nursing schools were contacted for permission to survey their students. Any concerns or questions were addressed by the researcher.

The researcher worked with the nursing program directors and faculty administrators to schedule visits to classrooms. Study criteria included students with experience in the SCE, therefore the researcher visited classes with students who all had experience in the SCE. Classes with students who did not have experience in the SCE were excluded. One hundred percent of the students participated. The surveys were divided into packets for each classroom course. With permission from the classroom instructor, the researcher distributed the surveys at the end of class. The researcher brought surveys and consent forms to each class. Estimated time to complete the survey was 10 minutes. The researcher was available for questions from the participants. At the end of the survey session, the researcher asked for interview volunteers. Contact information from the interview volunteers was collected by the researcher. Data were collected between December 2008 and February 2009.

With permission from the program directors, the researcher contacted clinical instructors with experience teaching in the SCE via email. Surveys were given directly to the instructors. They returned the instruments anonymously using envelopes via U.S. mail. One university requested that the instructors be surveyed online. The data were then transferred to a paper survey by the researcher. Instructor responses from both universities were 100%. The researcher was available for questions from the participants

via phone or email. Data were collected from instructors between December 2008 and February 2009.

Nursing instructors and students with SCE experience who chose to participate in the study received a cover letter. The cover letter stated the general intention of the study and requested their participation. The cover letter also informed instructors and students that anonymity would be protected. As participation was voluntary, instructors and students were free to decline to be in this study or withdraw from it at any point. There was no foreseeable harm to students or instructors participating in the study. There were no consequences for not participating in the study. All information was kept confidential, and responses were kept in a locked, secure location.

After completing the demographic items, the survey instructions asked the participants to think of the characteristics of the best instructor in the SCE. The participants then rated the importance of the characteristics on a 7-point Likert scale (1 = Not at all important, 7 = Very important).

To avoid response perseveration, negative direction was added to several questions (items 9, 14, 16, 19, 28, 35, 39, 41, 51, 52). Also the questions were scrambled to separate the behavior categories. Teaching Ability was measured by items 6, 7, 9, 12, 14, 16, 17, 20, 23, 24, 26, 29, 36, 43, 45, 46, and 50. Nursing Competence was assessed in items 8, 19, 25, 28, 31, 33, 38, 42, and 48. Evaluation included items 11, 30, 32, 34, 35, 37, 39, and 44. Interpersonal Relationships was assessed in items 13, 15, 21, 41, 47, and 49. Personality was measured in items 10, 18, 22, 27, 40, 51, and 52.

The completed surveys were collected by the researcher. All surveys and data were maintained in a locked, confidential location. All participant responses remained

confidential. Each survey was given a unique identification number. Any blank or unreadable items were considered invalid and not included in the results.

Data from the surveys was entered into an Excel spreadsheet by research assistants. To verify accuracy, the research randomly selected 50 surveys to check. All data on the 50 surveys was correctly entered into Excel.

In order to identify potential characteristics of SCE instructors that are not in the NCTEI, 15-minute interviews were conducted with two instructors and eight students. Utilizing a framework by Jeffries & Rogers (2007), interview participants were asked the following open-ended questions about instructor behaviors:

1. Are there characteristics of effective instructors that are similar between the simulated clinical experience and the traditional clinical practicum?

2. Are there characteristics of effective instructors that are different between the simulated clinical experience and the traditional clinical practicum?

3. Is there anything you would like to add about the role of instructors in the SCE compared with traditional clinical practicum?

Student and clinical instructor participant interviews were conducted at a convenient, private place to ensure confidentiality. With permission, the interviews were audio recorded for transcription and analysis.

<div align="center">Data Analysis</div>

Analysis of findings included Cohen's *d* reliability coefficients, means, and standard deviations, for the NCTEI results for each of the 47 items as well as for each of the five categories. Database management and statistical computations were supported with the use of SPSS (version 16.0). Descriptive statistics was used to present

demographic data. The means and standard deviations for each category and characteristic were analyzed.

Limitations

This study has several limitations. First, the number of clinical instructors utilizing SCEs was limited by teaching assignment or the availability of SCE equipment. Second, instructor and student experiences with the SCE were not identical for all participants and may have varied by patient type, course topic, scenario, and length of time in the SCE. In addition, the number of previous SCE experiences and traditional practicum experiences may have varied between nursing programs and students. Third, the NCTEI was based on teaching in the traditional clinical practicum and may include items that are less relevant to the SCE. Finally, the results are based on instructor and student perceptions and, therefore, are limited based on honesty and reflections of the participants.

Summary

This study investigated students' and clinical instructors' perceptions of the characteristics of effective nursing instructors in the SCE. Defining the characteristics of effective instructors could assist clinical instructors in refining their skills and maximizing the effectiveness of the SCE for nursing education. The methodology described in this chapter addresses the study research questions.

CHAPTER IV

RESULTS

This study investigated instructor and student perceptions of the characteristics of effective clinical instructors in the SCE. Identification of these characteristics will allow instructors to refine their skills and maximize the effectiveness of the SCE for nursing education. This chapter contains a restatement of the research questions, a description of the study design, and findings based on the research questions.

The purpose of this descriptive study was to investigate nursing students' and instructors perceptions of effective instructors in the simulated clinical experience (SCE). The setting for the study was two large, urban universities in Northern California, one private and one public. The participants were 304 undergraduate baccalaureate nursing students with experience learning in the SCE and 16 nursing instructors with experience teaching in the SCE. The data were obtained via responses on the Nursing Clinical Teaching Effectiveness Inventory (NCTEI) developed by Knox and Mogan (1985). The instrument contains 52 items: five demographic information items and 47 response items. The five demographic items included anticipated graduation date, number of completed courses, previous healthcare experience, number of simulated clinical experiences, and highest previous academic degree earned. The 47 response items correspond with five categories: Teaching Ability (TA), Nursing Competence (NC), Evaluation (E), Interpersonal Relationships (IR), and Personality (P). Each NCTEI response item contains seven choices ranging from 1 (not at all descriptive) to 7 (very descriptive).

The researcher distributed the NCTEI instrument to the student participants during class time. Instructors received the survey via mail or online. Response rate was

100% from of junior and senior nursing students with experience in the SCE at both universities. From the total public university two-year nursing program enrollment of 340, 56% of the students (191 students) had SCE experience and responded to the survey. From the total private university four year nursing program enrollment of 578, 21% of the students (113 students) had SCE experience and responded to the survey.

Category scores on the NCTEI are obtained by summing scores for all items or characteristics within each category (Nehring, 1990). The category Teaching Ability has 17 items such as accessibility, enjoyment of teaching, and emphasis on what is important. Nursing Competence includes nine items such as communication skills, knowledge, and clinical skills. The Evaluation category includes items such as providing feedback, correcting mistakes, and making suggestions. The Interpersonal Relationships category covers six items such as listening and being approachable. The Personality category contains seven items such as sense of humor, organization, and confidence. Findings are presented by research question.

In order to assess internal consistency of the NCTEI for the SCE, a Cronbach's alpha was used for each of the categories. The Cronbach's alpha for Teaching Ability category was .89, for the Nursing Competence category.71, for the Personality category .67, for the Evaluation category .80, and for the Interpersonal Relationships category .73. The results indicate moderate to high correlations for the categories on the NCTEI in the SCE. These coefficients are slightly lower than Mogan and Knox's (1985) results for the Cronbach's alpha on the NCTEI in the clinical setting of .89 for Teaching Ability, .84 for Nursing Competence, .82 for Evaluation, .86 for Interpersonal Relationship, and .83 for Personality.

Research Question 1

4. What are nursing students' perceptions of the characteristics of effective

   instructors in the SCE?

In this study, BSN students from two universities were asked to identify the items

they perceived as important for effective SCE instructors by rating 47 teaching

characteristics on a seven point scale (1 = not at all descriptive to 7 = very descriptive).

These 47 items correspond to one of five categories of effective teaching. Students rated

all of the categories highly (above 5.92 on a 7-point scale) and therefore, all

characteristics were perceived as valuable for effective instructors in the SCE.

Students from both universities rated the categories in the same order. For private

university, there was a .01 difference between the top rated category of Evaluation and

the second rated category Teaching Ability. See Table 5 for a comparison of student

category means, standard deviations, and effect sizes based on each university.

Table 5

Comparison of Student Category Means, Standard Deviations, and Effect Sizes Based on

Each University

	Public (N = 191)		Private (N = 113)		
	Mean	SD	Mean	SD	*d*
Evaluation	6.33	.68	6.08	.73	.36
Teaching Ability	6.27	.66	6.07	.68	.30
Interpersonal Relationships	6.25	.73	6.03	.82	.29
Personality	6.22	.77	5.99	.80	.25
Nursing Competence	5.97	.77	5.83	.74	.18

As the order and means were similar for both institutions the data for this results discussion were pooled to provide overall student ratings. In addition, the effect sizes were small, indicating a small difference between the institutions. See Table 6 for the means and standard deviations of student ratings of categories of effective teaching by rank order.

Table 6

Student Ratings of Categories on the NCTEI with Means and Standard Deviations

(N = 304)

Ranking	Category	Mean	SD
1	Evaluation	6.23	.71
2	Teaching Ability	6.20	.67
3	Interpersonal Relationships	6.17	.77
4	Personality	6.13	.79
5	Nursing Competence	5.92	.76

Students rated the category of Evaluation as the most important teaching category (Mean = 6.23; SD = .71). Evaluation is defined as the type and amount of feedback a student receives from a teacher regarding clinical performance and written clinical assignments (Mogan & Knox, 1983). In several earlier studies, Evaluation was the highest rated category by students for effective traditional clinical practicum instructors (Knox & Mogan, 1985; Gignac, Caille, & Oermann, 2001). In this study, within the category of Evaluation, the two highest student rated characteristics were "provides frequent feedback on students' performance (Mean = 6.37; SD = .98) and "corrects students' mistakes without belittling them" (Mean = 6.29; SD = 1.18).

Analysis of the findings was based on the cognitive apprenticeship model. In the cognitive apprenticeship model ,learning is considered a natural process that often occurs

with the aid of another individual. Working alongside instructors, students work as apprentices to gain expertise (Schuell, 1996). The cognitive apprenticeship instructional model includes five levels of teaching: modeling, coaching, articulation, reflection, and exploration (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006; Taylor & Care, 1999). . As skills are acquired, students move through the levels in a scaffolded fashion where instruction gradually fades.

When the 47 items were individually analyzed, students gave the highest ratings to "appears organized" (P) (Mean = 6.54; SD = 1.14) and "enjoys teaching" (TA) (Mean = 6.54; SD = .81). Also in the top 10 characteristics were "demonstrates clinical skill and judgment" (NC) (Mean = 6.45; SD = .82), "demonstrates communication skills" (NC) (Mean = 6.47; SD = 1.32), "explains clearly" (TA) (Mean = 6.44; SD = 1.89) and "is approachable" (IR) (Mean = 6.42; SD = 1.38).

Although Evaluation was the highest rated category, none of the top 10 characteristics were in the Evaluation category. Five characteristics were in the Teaching Ability category, which may be an artifact of the high number of items in this scale. Three were in the Nursing Competence category, and one each from the Personality and Interpersonal Relationships categories. See Table 7 for the 10 highest rated characteristics of effective teaching according to the students in this study.

Among the five categories, students rated Nursing Competence the lowest (Mean = 5.92; SD = .76). The two lowest rated items, overall, were in the Nursing Competence category -"reveals broad reading in his/her area of interest" (Mean = 5.27; SD = 1.6) and "directs students to useful literature in nursing" (Mean = 5.34; SD = 1.5). Other lower rated items perceived by students were "demonstrates empathy" (IR)

Table 7

Student Ratings of the 10 Most Effective Characteristics of SCE Instructors

Rating	Characteristic	Category	Mean	SD
1	Appears organized*	P	6.54	1.14
2	Enjoys teaching	TA	6.53	.81
3	Demonstrates good communication skills	NC	6.47	1.32
4	Demonstrates clinical skill and judgment*	NC	6.45	.82
5	Explains clearly	TA	6.44	.89
6	Is approachable	IR	6.42	1.38
7	Emphasizes what is important	TA	6.41	.86
8	Is a good role model *	NC	6.41	.92
9	Is well prepared for teaching	TA	6.40	1.44
10	Answers carefully and precisely questions raised by students	TA	6.39	.87

Items marked with an asterisk (*) were recognized in the 10 highest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

(Mean = 5.68; SD = 1.62), "encourages active participation in group discussion" (TA)

(Mean = 5.88; SD = 1.99), and "has a good sense of humor" (P) (Mean = 5.92;

SD = 1.60). Of the 10 lowest rated items, four were in Nursing Competence category,

three in Teaching Ability category, two in Personality category, and one in Interpersonal

Relationships category. Again, the high number of items in the Teaching Ability category

may cause an artifact in the results. The highest rated category, Evaluation, had no items

on the students' 10 lowest rated list. See Table 8 for the 10 items rated lowest by

students.

<div align="center">Research Question 2</div>

5. What are clinical instructors' perceptions of the characteristics of effective
   instructors in the SCE?

   Similar to the students, instructors rated all five teaching categories highly (above

5.78 out of 7) and, therefore, valuable for effective instruction in the SCE. Instructors

(and students) rated the category of Evaluation most highly (Mean = 6.66; SD = .42).

Table 8

The 10 Lowest Rated Characteristics of Effective SCE Faculty According to Students

(N = 304)

Rating	Characteristic	Category	Mean	SD
47	Reveals broad reading in his/her area of interest*	NC	5.27	1.63
46	Directs students to useful literature in nursing*	NC	5.34	1.49
45	Recognizes own limitations*	NC	5.48	1.33
44	Discusses current development in his/her field*	NC	5.63	1.45
43	Demonstrates empathy*	IR	5.68	1.33
42	Is able to critique own actions	P	5.83	1.38
41	Remains accessible to students	TA	5.84	1.83
40	Encourages active participation in discussion*	TA	5.88	1.99
39	Has a good sense of humor	P	5.92	1.60
38	Questions students to elicit underlying reasoning	TA	5.98	1.12

Items marked with an asterisk (*) were recognized in the 10 lowest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

Instructors and students rated the categories in the same order except for Interpersonal Relationships and Teaching Ability. The two highest rated items within the Evaluation category were "corrects students' mistakes without belittling them" (Mean = 6.86; SD = .36) and "gives students positive reinforcement for good contributions, observations, or performance" (Mean = 6.80; SD = .41). Instructors (and students) rated Nursing Competence the lowest (Mean = 5.78; SD = .66). The lowest rated items under the category of Nursing Competence were identical for both instructors and students - "reveals broad reading in his/her area of interest" (Mean = 5.27; SD = 1.34) and "directs students to usefully literature in nursing (Mean = 5.60; SD = 1.99). See Table 9 for instructor ratings of categories of effective instructors in the SCE.

Instructors rated the top three items with the highest score of 7.00. These items included two items from the Interpersonal Relationships category and one from

Table 9

Instructor Ratings of the Five Categories on NCTEI (N = 16)

Ranking	Category	Mean	SD
1	Evaluation	6.66	.42
2	Teaching Ability	6.63	.51
3	Interpersonal Relationships	6.39	.36
4	Personality	6.36	.66
5	Nursing Competence	5.78	.39

Evaluation: "provides support and encouragement to students" (IR) (Mean = 7.00; SD = .00), 'does not criticize students in front of others" (E) (Mean = 7.00; SD = .00), and "encourages a climate of mutual respect" (IR) (Mean = 7.00; SD = .00). Only 3 of the instructor rated top 10 items were on the students' list of top 10 items (see Table 10). Of the students' top 10 items of effective faculty, there were three each from the Evaluation and Teaching Ability categories, two from Interpersonal Relationships category, and one each for Nursing Competence and Personality categories. See Table 10 for instructors' highest rated characteristics of effective instructors in the SCE.

The two lowest rated characteristic by instructors were "demonstrates clinical procedures and techniques" (NC); (Mean = 5.13; SD = 2.64) and "reveals broad reading in his/her area of interest" (NC) (Mean = 5.27; SD = .1.34). For the 10 lowest rated items, six were in Nursing Competence, two were in Teaching Ability, and one each were in Personality and Interpersonal Relationships. See Table 11 for of the 10 lowest rated characteristics of effective instructors in the SCE.

Research Question 3

6. In what ways are nursing students and clinical instructors different or similar in their perceptions of the characteristics of effective instructors in the SCE?

Table 10

The 10 Highest Rated Characteristics According to Instructors

Rating	Characteristic	Category	Mean	SD
1	Provides support and encouragement to students	IR	7.00	.00
1(tie)	Does not criticize students in front of others	E	7.00	.00
1(tie)	Encourages a climate of mutual respect	IR	7.00	.00
4	Is a good role model*	NC	6.87	.35
5	Appears organized*	P	6.86	.36
6	Corrects students mistakes without belittling them	E	6.86	.36
6(tie)	Demonstrates clinical skill and judgment*	TA	6.86	.36
8	Gives students positive reinforcement for good contributions, observations, or performance	E	6.80	.41
9	Stimulates student interest in the subject	TA	6.75	.58
9(tie)	Questions students to elicit underlying reasoning	TA	6.75	.58

Items marked with an asterisk (*) were recognized in the 10 highest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

Table 11

The 10 Lowest Rated Characteristics According to Instructors

Rating	Characteristic	Category	Mean	SD
47	Demonstrates clinical procedures and techniques	NC	5.13	2.64
46	Reveals broad reading in his/her area of interest*	NC	5.27	1.34
45	Self-confidence	P	5.56	2.13
44	Directs students to useful literature in nursing*	NC	5.60	1.99
43	Encourages active participation in discussion*	TA	5.87	2.35
42	Demonstrates good communication skills	NC	5.94	2.29
41	Recognizes own limitations*	NC	6.06	1.18
40	Guides students development of clinical skills	TA	6.12	1.15
39	Demonstrates empathy*	IR	6.12	.96
38	Discusses current development in his/her field*	NC	6.13	1.06

Items marked with an asterisk (*) were recognized in the 10 lowest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

Both instructors and students rated all of the NCTEI categories of effective

clinical instructors with means consistently above 5.8. Instructors and students rated the

categories of effective instructors in the SCE similarly with only a slight difference between the order for second place. Instructors rated Interpersonal Relationships second. Students ranked Teaching Ability second with Interpersonal Relationships in third place. Though there is a difference between instructor and student category rankings, the difference between the student means for second place is only a few decimal places (.02). While the order of importance for categories was similar, instructors rated both Evaluation (Instructor Mean = 6.66; SD=.42; Student Mean=6.23; SD=.71; d=.62) and Interpersonal Relationships (Instructor Mean=6.63; SD=.51; Student Mean=6.17; SD=.77; d=.61) much higher than students did. The magnitude of the difference is considerable because these are high effect sizes. For the other three categories, Teaching Ability, Personality, and Nursing Competence, the effect sizes were comparable. See Table 12 for student and instructor NCTEI category means, standard deviations, and effect sizes.

Table 12

Student and Instructor NCTEI Category Means, Standard Deviations, and Effect Sizes.

	Instructor			Student		
Category	Mean	SD	Category	Mean	SD	Cohen's d
E	6.66	.42	E	6.23	.71	.62
IR	6.63	.51	IR	6.17	.77	.61
TA	6.39	.36	TA	6.19	.67	.30
P	6.36	.66	P	6.13	.79	.29
NC	5.79	.39	NC	5.92	.76	.17

TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = Interpersonal Relationships

The NCTEI category means displays the similarities in student and instructor ratings of the NCTEI categories. Overall, the instructors rated each of the categories

slightly higher than the students. See Figure 1 for a graph comparing student and instructor means of the five categories of effective clinical instructor teaching in the SCE.

Within categories, students and clinical instructors differed in the order of importance of specific characteristics of effective instructors in the SCE. Among the top 10 characteristics of effective instructors, only three were similar for both groups: "appears organized (P)", "demonstrates clinical skill and judgment (NC)", and "is a good role model (NC)." Faculty and students perceived effective SCE clinical instructors as good role models who demonstrate clinical skill and judgment and are organized. The majority of the top 10 highest rated items are in the Teaching Ability and Nursing Competence categories. See Table 13 for a comparison of the 10 most highly rated characteristics by instructors and students.

Figure 1

Graph of Student and Instructor Means of the Five Categories on the NCTEI
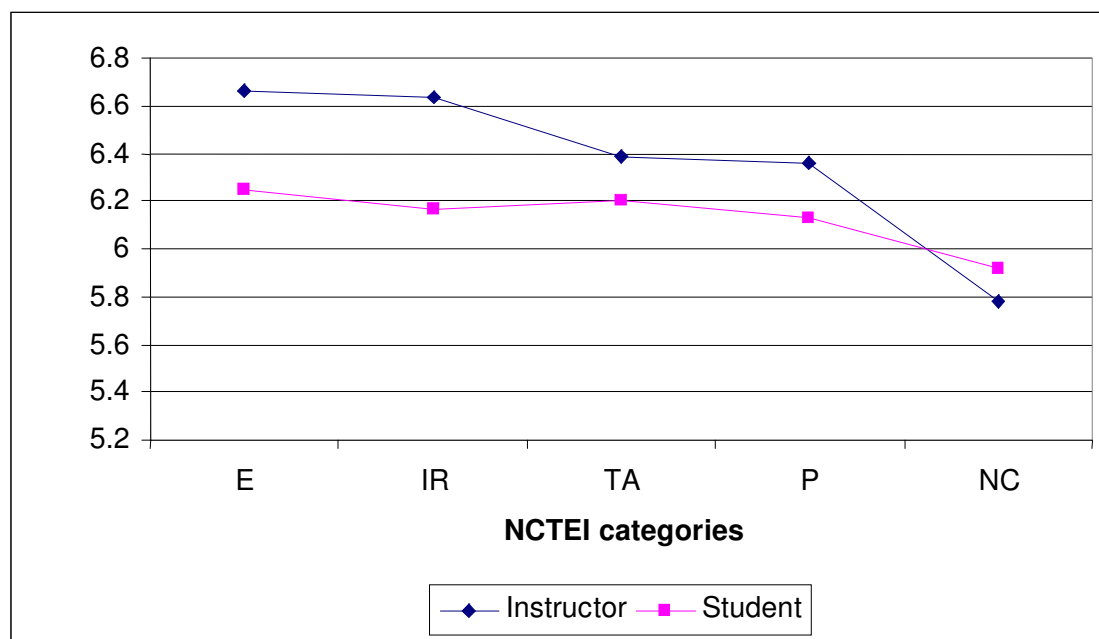
TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation,
IR = Interpersonal Relationships

Table 13

The 10 Most Highly Rated Characteristics by Instructors and Students

Rating	Students			Instructors		
	Characteristic	Mean	SD	Characteristic	Mean	SD
1	Appears organized (P)*	6.54	1.14	Provides support and encouragement to students (IR)	7.00	.00
2	Enjoys teaching (TA)	6.53	.81	Does not criticize students in front of others (E)	7.00	.00
3	Demonstrates good communication skills (NC)	6.47	1.32	Encourages a climate of mutual respect (IR)	7.00	.00
4	Demonstrates clinical skill and judgment(NC)*	6.45	.82	Is a good role model (NC)*	6.87	.35
5	Explains clearly (TA)	6.44	.88	Appears organized (P)*	6.86	.36
6	Is approachable (IR)	6.42	1.38	Corrects students mistakes without belittling them (E)	6.86	.36
7	Emphasizes what is important(TA)	6.41	.86	Demonstrates clinical skill and judgment (NC)*	6.86	.36
8	Is a good role model (NC)*	6.41	.92	Gives students positive reinforcement for good contributions, observations, or performance (E)	6.80	.41
9	Is well prepared for teaching (TA)	6.40	1.44	Stimulates student interest in the subject(TA)	6.75	.58
10	Answers carefully and precisely questions raised by students (TA)	6.39	.87	Questions students to elicit underlying reasoning (TA)	6.75	.58

Items marked with an asterisk (*) were recognized in the 10 highest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

Instructors and students agreed on 6 of 10 of the lowest rated characteristics: "directs students to useful literature in nursing"(NC), "reveals broad reading in his/her area of interest"(NC) , "encourages active participation in discussion" (TA), "recognizes own limitations" (NC), "demonstrates empathy" (IR), and "discusses current development in his/her field"(NC). Of these six, four were in the Nursing Competence category, one in the Teaching Ability category, and one in the Interpersonal Relationships category. See Table 14 for a comparison of the 10 lowest rated characteristics of effective instructors by instructors and students.

Table 14

The 10 Lowest Rated Characteristics by Instructors and Students

	Student			Instructor		
Rating	Characteristic	Mean	SD	Characteristic	Mean	SD
47	Reveals broad reading in his/her area of interest (NC)*	5.27	1.63	Demonstrates clinical procedures and techniques (NC)	5.13	2.64
46	Directs students to useful literature in nursing (NC)*	5.34	1.49	Reveals broad reading in his/her area of interest(NC)*	5.27	1.33
45	Recognizes own limitations (NC)*	5.48	1.33	Self-confidence (P)	5.56	2.13
44	Discusses current development in his/her field (NC)*	5.63	1.45	Directs students to useful literature in nursing (NC)*	5.60	1.99
43	Demonstrates empathy (IR)*	5.68	1.33	Encourages active participation in discussion (TA)*	5.87	2.36
42	Is able to critique own actions (P)	5.83	1.38	Demonstrates good communication skills (NC)	5.94	2.29
41	Remains accessible to students (TA)	5.84	1.83	Recognizes own limitation (NC) *	6.06	1.18
40	Encourages active participation in discussion (TA)*	5.88	1.99	Guides students development of clinical skills (TA)	6.12	1.15
39	Has a good sense of humor (P)	5.92	1.60	Demonstrates empathy(IR)*	6.12	.96
38	Questions students to elicit underlying reasoning (TA)	5.98	1.12	Discusses current development in his/her field (NC)*	6.13	1.06

Items marked with an asterisk (*) were recognized in the 10 lowest rated characteristics by both instructors and students. TA = Teaching Ability, NC = Nursing Competence, P = Personality, E = Evaluation, IR = interpersonal relationships.

Graphs of the ratings of characteristics within the NCTEI characteristics suggest many similarities between student and instructor perceptions of effective SCE faculty. This section discusses the overall differences between students and faculty perceptions within each category on the NCTEI.

Teaching Ability

Seventeen items comprise the Teaching Ability category. The category of Teaching Ability includes preparation, explaining clearly, being prepared for teaching, and answering questions while guiding student development.

In the Teaching Ability category, the item means were within a narrow range for both students (5.8 to 6.5) and instructors (5.9 to 6.8), with the exception of the instructor rating of "demonstrates clinical procedures and techniques" which was rated 5.1 by instructors. This was the lowest rated characteristic in any category in the study and is significantly lower than the other items rated by instructors and students. The effect size for this item illustrates the magnitude of the difference (Instructor mean = 5.13; SD=2.64; Student Mean=6.17; SD=1.19; d=.80). The students value the demonstration of clinical procedures much more highly than instructors in the SCE. In addition, the item "questions students to elicit understanding" had a high effect size (Instructor Mean = 6.75; SD=.58; Student Mean=5.98; SD=1.12; d=.70). For this item, instructors value the characteristic of questioning student understanding more than students did. For the rest of the Teaching Ability items, the effect sizes were comparable.

Another item given lower importance is "encourages active participation in discussion." Both students (Mean = 5.88; SD = 1.99) and instructors (Mean = 5.87; SD = 2.36) agreed on this lower rating. See Figure 2 for a comparison of student and instructor means within the Teaching Ability category. See Table 15 for a comparison of instructor and student results for Teaching Ability with effect size.

Figure 2

Comparison of Student and Instructor Means within the Teaching Ability (TA) Category

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Student	6.4	6.4	6.3	5.8	6.1	6.2	6.2	6.2	6.4	6.5	5.9	6.1	6.1	6.4	6	6.2	6.2
Instructor	6.6	6.2	6.8	6.7	5.1	6.1	6.6	6.2	6.5	6.7	5.9	6.4	6.2	6.3	6.8	6.5	6.7
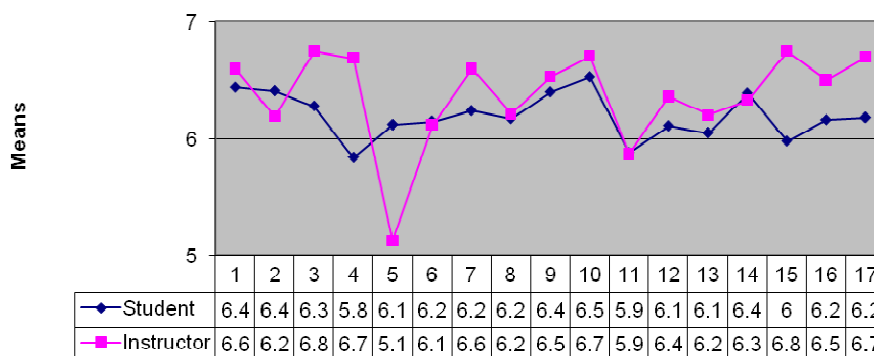
NCTEI teaching ability category
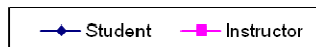
1 = Explains clearly
2 = Emphasizes what is important
3 = Stimulates student interest in the subject
4 = Remains accessible to students
5 = Demonstrates clinical procedures and techniques
6 = Guides students' development of clinical skills
7 = Provides specific practice opportunity
8 = Offers special help when difficulties arise
9 = Is well prepared for teaching
10 = Enjoys teaching
11 = Encourages active participation in discussion
12 = Gears instruction to students level of readiness
13 = Quickly grasps what students are asking or telling
14 = Answers carefully and precisely questions raised by students
15 = Questions students to elicit underlying reasoning
16 = Helps students organize their thoughts about patient problems
17 = Promotes student independence

Nursing Competence

Nine items comprise the Nursing Competence category. Nursing Competence

includes the technical aspects of nursing such as demonstrating procedures and being a

good role model, and the academic aspects of nursing such as familiarity with the nursing

literature and current developments in nursing.

Table 15

Comparison of Instructor and Student Results for Teaching Ability with Means, Standard

Deviations, and Effect Sizes

Item	Instructor (N = 16)		Student (N = 304)		
	Mean	SD	Mean	SD	d
Explains clearly	6.60	.63	6.44	.89	.18
Emphasizes what is important	6.19	1.05	6.41	.86	.25
Stimulates student interest	6.75	.58	6.28	.98	.49
Remains accessible	6.69	1.11	5.84	1.83	.47
Demonstrates procedures	5.13	2.64	6.17	1.19	.80
Guides students	6.12	1.15	6.15	1.02	.03
Provides practice	6.63	.62	6.24	1.04	.38
Offers special help	6.21	.98	6.17	1.10	.04
Is well prepared	6.53	1.55	6.40	1.44	.09
Enjoys teaching	6.71	.47	6.53	.81	.23
Encourages active participation	5.87	2.36	5.88	1.99	.01
Gears instruction to students	6.36	.84	6.11	1.12	.23
Quickly grasps what students are asking	6.20	.68	6.05	1.01	.15
Answers question	6.33	.82	6.39	.87	.07
Questions students	6.75	.58	5.98	1.12	.70
Helps students organize their thoughts	6.50	.63	6.16	1.03	.34
Promotes student independence	6.71	.47	6.18	1.00	.54

Within the category of Nursing Competence, the item means were within a wider

range for both instructors (5.27 to 6.87) and students (5.27 to 6.47). The highest rated

items by instructors and students were the more technical aspects of nursing

"demonstrates skill and judgment" and "is a good role model." The item "demonstrates

communication skills" was rated lower by instructors (Mean = 5.94) than by students

(Mean = 6.47). The two lowest rated items for both instructors and students were "reveals

broad reading in his/her area of interest" and "directs students to useful literature in

nursing." These items reflect the academic aspects of nursing. The effect size for the item

"directs students to useful literature in nursing" had a considerable magnitude (Instructor

Mean = 5.60; SD=1.99; Student Mean=5.34; SD=1.49; d=..71). Two other items, "Is a

good role model" and "demonstrates clinical skill and judgment" had identical moderate

effect sizes (d=.51). See Figure 3 for a comparison of student and instructor means within

the Nursing Competence (NC) category. See Table 16 for a comparison of instructor and

student results for the category of Nursing Competence with mean, standard deviations,

and effect sizes.

Figure 3

Comparison of Student and Instructor Means within the Nursing Competence (NC)

Category

	1	2	3	3	5	6	7	8	9
Student	5.27	5.34	5.48	5.63	6.12	6.21	6.41	6.45	6.47
Instructor	5.27	5.6	6.06	6.13	6.71	6.6	6.87	6.86	5.94
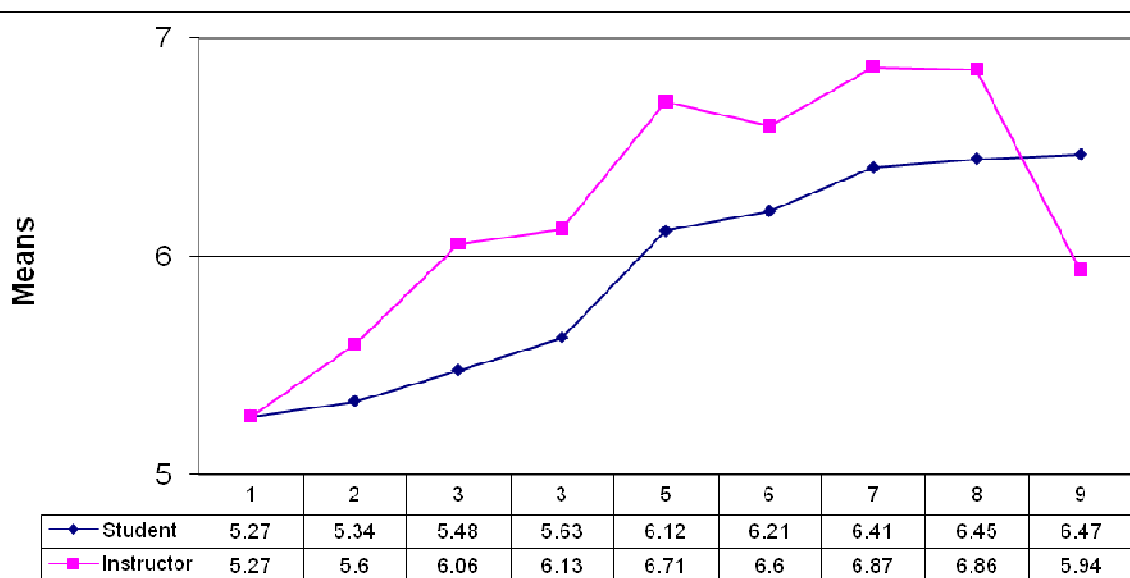
Nursing competence characteristics

1 = Reveals broad reading in his/her area of interest
2 = Directs students to useful literature in nursing
3 = Recognizes own limitations
4 = Discusses current development in his/her field
5 = Takes responsibility of own actions
6 = Demonstrates a breadth of knowledge in nursing
7 = Is a good role model
8 = Demonstrates clinical skill and judgment
9 = Demonstrates communication skills

Table 16

Comparison of Instructor and Student Results for Nursing Competence with Mean,

Standard Deviations, and Effect Sizes

	Instructor (N = 16)		Student (N = 304)		
Item	Mean	SD	Mean	SD	d
Reveals broad reading	5.27	1.34	5.27	1.63	.00
Directs students to useful literature	5.60	1.99	5.34	1.49	.71
Recognizes own limitations	6.06	1.18	5.48	1.33	.44
Discusses current developments	6.13	1.06	5.63	1.45	.35
Takes responsibility of own actions	6.71	.61	6.12	1.09	.55
Demonstrates a breadth of knowledge	6.60	1.55	6.21	1.09	.35
Is a good role model	6.87	.35	6.41	.92	.51
Demonstrates clinical skill and judgment	6.86	.35	6.45	.82	.51
Demonstrates communication skills	5.94	2.29	6.47	1.32	.38

Evaluation

Eight items comprise the Evaluation category. Evaluation includes items that

pertain to Evaluation, expectations, feedback, and style of student critique. Items means

had a narrow, high range for both students (6.11 to 6.62) and instructors (6.25 to 6.86).

The highest rated item by instructors was "corrects students mistakes without belittling

them" (Mean = 6.86). Students rated the item "identifies students' strengths and

limitations objectively" (Mean = 6.62) highest in the Evaluation category. There was

agreement on the lowest rated item in the Evaluation category: "Observes students'

performance frequently" by both students (Mean = 6.11) and instructors (Mean = 6.33).

Four of the items "Communicates expectations of students" (d=.54) , "does not criticize

students in front of others" (d=.56), "gives students positive reinforcement for good

contributions' (d=,55), and 'corrects students mistakes" (d=,51), had moderate effect

sizes. Instructors valued these characteristics more than students did. See Figure 4 for a

Figure 4

Comparison of Student and Instructor Means within the Evaluation Category

	1	2	3	4	5	6	7	8
Student	6.11	6.17	6.2	6.24	6.25	6.28	6.29	6.37
Instructor	6.33	6.6	6.7	6.25	6.6	6.8	6.86	6.37

NCTEI Evaluation Category

Student   Instructor

1 = Identifies students' strengths and limitations objectively
2 = Observes students' performance frequently
3 = Communicates expectations of students
4 = Does not criticize students in front of others
5 = Makes specific suggestions for improvement
6 = Gives students positive reinforcement for good contributions, observations or performance
7 = Corrects students mistakes without belittling them
8 = Provides frequent feedback on students' performance

comparison of student and instructor means within the Evaluation category. See Table 17

for a comparison of instructor and student results for the category of Evaluation with

means, standard deviations, and effect sizes.

Interpersonal Relationships

Six items pertain to the Interpersonal Relationships category. The interpersonal

category includes support, empathy, and approachability. Within this category, students

identified the most important characteristics of effective SCE faculty as approachability

(Mean 6.42) while faculty gave the highest rating to "encourages a climate of mutual
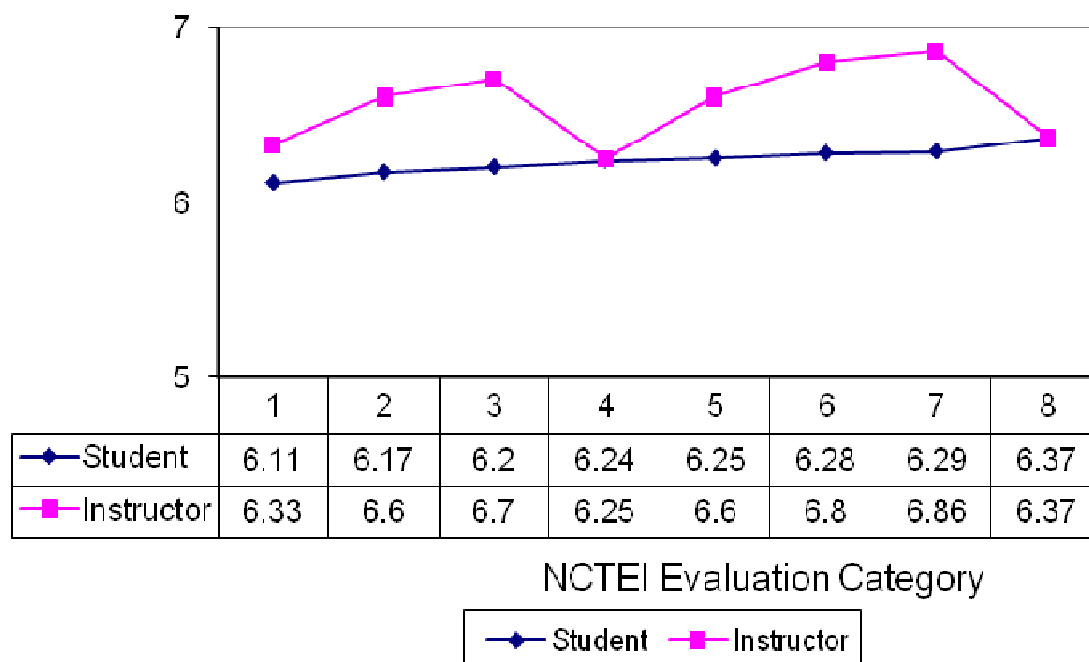
Table 17

Comparison of Instructor and Student Results for the Evaluation Category with Means,

Standard Deviations, and Effect Sizes

	Instructor (N = 16)		Student (N = 304)		
Item	Mean	SD	Mean	SD	d
Identifies students strengths and limitations	6.33	.90	6.11	1.08	.21
Observes students' performance frequently	6.60	1.55	6.17	1.63	.26
Communicates expectations of students	6.73	.59	6.20	.99	.54
Does not criticize students in front of others	7.00	.00	6.24	1.40	.56
Makes specific suggestions for improvement	6.60	.74	6.25	.97	.36
Gives students positive reinforcement for good contributions	6.80	.41	6.28	.96	.55
Corrects students mistakes	6.86	.36	6.29	1.18	.51
Provides frequent feedback	6.37	1.63	6.37	.98	.00

respect" (Mean = 7.0) and "provides support and encouragement to students"

(Mean = 7.0). These two items also had a significant effect size with both above .60. See

Figure 5 for a comparison of student and instructor means within the Interpersonal

Relationships category. See Table 18 for a comparison of instructor and student results

with means, standard deviations, and effect sizes for the category of Interpersonal

Relationships.

Personality

Seven items comprise the Personality category on the NCTEI. Personality

includes confidence, enthusiasm, humor, and organization. The items in this category

were rated similarly with the exception of "self-confidence", "is self-critical", and "has a

good sense of humor." Instructors rated "self confidence" somewhat lower (Mean = 5.56;

SD=2.13) than students (Mean = 6.17; SD=1.00). The effect size for this item (d=.57)

illustrates this difference.

Figure 5

Comparison of Student and Instructor Means within the Interpersonal Relationship (IR)

Category

	1	2	3	4	5	6
Student	5.68	6.42	6.13	6.13	6.34	6.37
Instructor	6.12	6.21	6.57	6.69	7	7

NCTEI Interpersonal category
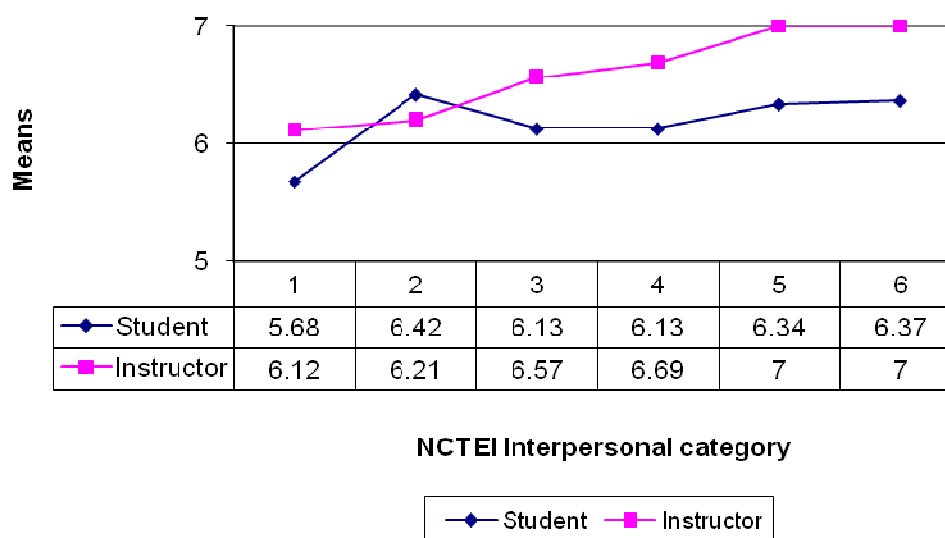
1 = Demonstrates empathy
2 = Is approachable
3 = Shows a personal interest in students
4 = Listens attentively
5 = Encourages a climate of mutual respect
6 = Provides support and encouragement to students

Table 18

Comparison of Instructor and Student Results for Interpersonal Relationships with

Means, Standard Deviations, and Effect Sizes

	Instructor (N = 16)		Student (N = 304)		
Item	Mean	SD	Mean	SD	d
Demonstrates empathy	6.12	.96	5.68	1.33	.34
Is approachable	6.21	2.01	6.42	1.38	.07
Shows a personal interest in students	6.57	.85	6.13	1.15	.39
Listens attentively	6.69	.70	6.13	1.23	.49
Encourages a climate of mutual respect	7.00	.00	6.34	1.02	.66
Provides support and encouragement	7.00	.00	6.37	.90	.72

Students did not perceive an ability to be self-critical or a sense of humor as important for SCE instructors. See Figure 6 for a comparison of student and instructor means within the Personality category. See Table 19 for a comparison of instructor and student results for the category of Interpersonal Relationships with means, standard deviations, and effect sizes.

Figure 6

Comparison of Student and Instructor Means within the Personality Category

	1	2	3	4	5	6	7
Student	6.17	6.19	6.26	5.83	6.13	5.92	6.54
Instructor	5.56	6.31	6.69	6.46	6.21	6.23	6.86

NCTEI personality category

1 = Self-confidence
2 = Is a dynamic and energetic person
3 = Demonstrates enthusiasm
4 = Is self-critical
5 = Is open-minded and non-judgmental
6 = Has a good sense of humor
7 = Appears organized

Research Question 4

7. What are nursing students and clinical instructors' perceptions of characteristics of effective instructors in the SCE compared with perceptions of characteristics of effective instructors in the clinical environment?

Table 19

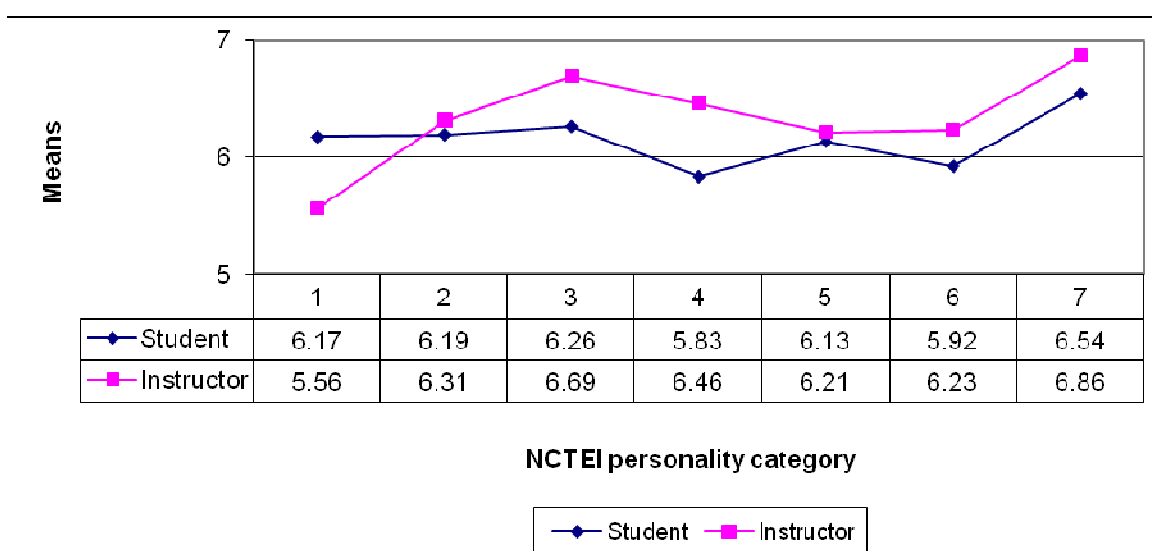*Comparison of Instructor and Student Results for Personality with Means, Standard*

Deviations, and Effect Sizes

Item	Instructor (N = 16)		Student (N = 304)		
	Mean	SD	Mean	SD	d
Self-confidence	5.56	2.13	6.17	1.00	.57
Is a dynamic and energetic person	6.31	.95	6.19	1.09	.11
Demonstrates enthusiasm	6.69	.60	6.26	.98	.45
Is self-critical	6.46	.78	5.83	1.38	.46
Is open-minded and non-judgmental	6.21	1.05	6.13	1.27	.06
Has a good sense of humor	6.23	1.24	5.92	1.60	.20
Appears organized	6.86	.36	6.54	1.14	.29

This study is the first to survey students and faculty about the characteristics of effective faculty in the simulated clinical experience (SCE). Previous studies examined perceptions of instructors in the traditional clinical practicum. See Table 20 for student rankings of categories from previous studies.

As with past studies of traditional clinical practicum instructors, (Knox & Mogan, 1985) students rated all five categories as important for effective instructors in the simulated clinical experience (Mean 5.92 to 6.23).

Evaluation was rated highly by students in previous studies (Gignac-Caille & Oermann, 2001; Knox & Mogan, 1985) and was ranked most important in this study. Similar to previous studies, students gave Personality a lower rating (Gignac-Caille & Oermann, 2001; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002) and Evaluation a higher rating (Gignac-Caille & Oermann, 2001; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002). Teaching Ability was ranked second in the current

Table 20

Student Rank Order of Categories in Previous Studies

Rank	Knox & Mogan (1985)	Nehring (1990)	Gignac-Caille, & Oermann, 2001	Lee, Chowlowski, & Williams, 2002	Current Study
1	Evaluation	Interpersonal Relationship	Evaluation	Interpersonal Relationship	Evaluation
2	Interpersonal relationship	Nursing Competence	Teaching Ability	Evaluation	Teaching Ability
3	Teaching Ability	Personality	Interpersonal Relationship	Nursing Competence	Interpersonal Relationships
4	Nursing Competence	Evaluation	Nursing Competence	Teaching Ability	Personality
5	Personality	Teaching Ability	Personality	Personality	Nursing Competence

study, and lower in previous studies (Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002; Nehring, 1990).

In previous studies, Nursing Competence has not been ranked the highest category by students (Knox & Mogan, 1985; Lee, Chowlowski, & Williams,2002), yet it was not ranked the lowest either (Gignac, Caille, & Oermann, 2001; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002; Nehring, 1990). In the current study, Nursing Competence is the lowest rated category by both students and faculty. See Table 20 for student ranking of categories from previous studies.

Comparisons using effect sizes between results from the current study and previous studies is limited. In contrast to the current study, Benor and Leviyof (1997), Lee, Chowlowski, and Williams (2002) and Gignac-Caille and Oermann (2001) utilized the NCTEI with a 5-point scale. Standard deviations for findings were not available in the study by Nehring (1990). Knox and Mogan (1985) provided the results for only the top and bottom categories for instructors, and did not collapse the data for all students.

Results from a previous study by Kotzabassaki et al (1997), were compared with the current study. Means, standard deviations, and effect size reveal a significant difference between the ratings of categories by students. Effect sizes for these results range from .61 to .89. See Table 21 for a comparison of the results from Kotzabassaki et al (1997) and the current study.

Table 21

Comparison of Means, Standard Deviations, and Effective Sizes of Kotzabassaki et al. (1997) and Current Study Student Results

	Kotzabassaki, et al (1997) (N = 185)		Current Study (N = 304)		
Scale	Mean	SD	Mean	SD	d
Evaluation	5.45	1.08	6.23	.71	.89
Interpersonal Relationship	5.60	1.15	6.17	.77	.61
Teaching Ability	5.52	1.00	6.19	.67	.83
Nursing Competence	5.59	1.01	5.92	.76	.74
Personality	5.51	1.01	6.13	.79	.71

Of the characteristics within the NCTEI categories in previous studies, students perceived effective traditional practicum instructors as good role models who enjoy nursing, are approachable, and well-prepared (Beitz & Weiland, 2005; Kotzabassaki et al., 1997; Mogan & Knox, 1987; Nehring, 1990). Students perceive effective SCE instructors as organized, prepared, approachable and skilled clinicians who are good role models. Students did not perceive the characteristics of humor, questioning, empathy, and familiarity with nursing literature as important for effective faculty in the SCE. Overall, instructors rated the characteristics of effective instructors more high than students did (Gignac-Caille & Oermann, 2001; Kotzabassaki, et al., 1997). Instructor

ratings of the order of categories of effective instructors varied in previous investigations.

Table 22 displays the previous and current ratings of NCTEI categories by instructors.

Table 22

Instructor Rank Order of Categories in Previous Studies

Rank	Knox & Mogan (1985)	Nehring (1990)	Gignac, Caille, & Oermann, 2001	Lee, Chowlowski, & Williams, 2002	Current Study
1	Evaluation	Nursing Competence	Interpersonal Relationship	Interpersonal Relationship	Evaluation
2	Nursing Competence	Interpersonal Relationship	Evaluation	Nursing Competence	Interpersonal relationships
3	Interpersonal relationship	Evaluation	Teaching Ability	Evaluation	Teaching Ability
4	Teaching Ability	Personality	Personality	Teaching Ability	Personality
5	Personality	Teaching Ability	Nursing Competence	Personality	Nursing Competence

Results from the comparison of Kotzabassaki et al (1996) and the current study indicate considerable differences in instructor ratings of the characteristics of effective instructors. Effect sizes for instructor ratings were high for Evaluation (d=.96), Interpersonal Relationship (d=.90), Teaching Ability (d=.75), and Personality (d=.60). See Table 23 for a comparison of instructor results from Kotzabassaki et al (1997) and the current study.

With limited available data, results from the current study were compared with Knox and Mogan (1985). Effect sizes for Evalaution (d=50) and Interpersonal Relationships (d=.72), were also considerable. See Table 24 for a comparison and effective size of Knox and Mogan (1985) and current study instructor results.

Table 23

Comparison of Means, Standard Deviations, and Effective Sizes of Kotzabassaki et al.

(1997) and Current Study Instructor Results

	Kotzabassaki, et al (1997) (N = 31)		Current Study (N = 16)		
Scale	Mean	SD	Mean	SD	d
Evaluation	5.65	1.22	6.66	.42	.96
Interpersonal Relationship	5.80	1.07	6.63	.51	.90
Teaching Ability	5.66	1.16	6.39	.36	.75
Nursing Competence	5.64	1.36	5.79	.39	.13
Personality	5.84	.96	6.36	.66	.60

Table 24

Comparison of Means, Standard Deviations, and Effective Sizes of Knox and Mogan

(1985) and Current Study Instructor Results

	Knox and Mogan (1985) (N = 49)		Current Study (N = 16)		
Scale	Mean	SD	Mean	SD	d
Evaluation	6.42	.50	6.66	.42	.50
Interpersonal Relationship	6.17	.67	6.63	.51	.72
Teaching Ability	NA	NA	6.39	.36	NA
Nursing Competence	NA	NA	5.79	.39	NA
Personality	NA	NA	6.36	.66	NA

In previous studies of effective faculty in the traditional clinical practicum, instructors identified effective faculty as good role models who communicate well, enjoy nursing, and are open-minded and non-judgmental (Mogan & Knox, 1987; Nehring, 1990). High rated categories included Interpersonal Relationship (Gignac-Caille & Oermann, 2001; Lee Chowlowski, & Williams, 2002). Low rated categories included Personality (Knox & Mogan,1985; Lee, Chowlowski, & Williams, 2002). In the current

study, instructors identified effective SCE faculty as supportive, organized role models who encourage mutual respect, and do not criticize students in front of others. The highest rated category is Evaluation, and the lowest rated category is Nursing Competence.

In the current study, the characteristic of "demonstrates clinical procedures and techniques" (NC) was the lowest rated characteristic for effective SCE faculty. This characteristic was rated of high importance by faculty in the seminal research by Mogan and Knox (1987).

Additional Findings

Student and Faculty Interviews

Clinical instructors and students who completed the NCTEI were offered the opportunity to participate in brief interviews in order to collect additional information about the characteristics of clinical instructors in the SCE. Participants were given the option of face-to-face, phone, or email interviews. Anonymity was assured by the researcher. The following questions were asked:

8. Are there characteristics of effective instructors that are similar between the simulated clinical experience and the traditional clinical practicum?

9. Are there characteristics of effective instructors that are different between simulated clinical experience and the traditional clinical practicum?

10. Is there anything you would like to add about the role of instructors in the SCE compared with traditional clinical practicum?

Eight students and three SCE instructors participated in the interviews. Phone and face-to-face interviews were recorded, transcribed, and content analyzed by the

researcher. In the student interviews, six themes emerged: the five NCTEI categories (Personality, Teaching Ability, Evaluation, Nursing Competence, and interpersonal relationships), and realism. In the instructor interviews, five themes emerged: four from the NCTEI categories (Evaluation, Nursing Competence, Personality, and Teaching Ability) and technology. The interview findings will be discussed by themes, which emerged during the interviews.

<div align="center">*Student Interviews*</div>

Personality

According to the students who participated in the follow up interviews, characteristics in the Personality category such as patience, respect, and support were important, especially when covering unfamiliar topics. Students described effective instructors as "understanding that students are new to the profession" and "having patience as they try to grasp new concepts and gain proficiency in complicated skills." Several students indicated that effective instructors in the SCE "listen to students", "demonstrate understanding", and "have a love of teaching." One student described the instructor-student relationship in this way, "The teachers I have found that are successful as SCE instructors are more positive, have less of an egocentric attitude, do not treat students as 'their students'. These instructors are more like participants in the students' success." Another student stated effective SCE instructors "give more of themselves, engage the students, care more for the students and their struggles, and make students feel as if our presence is beneficial to them." Several students mentioned that effective SCE instructors share their time, experiences, and enthusiasm

Teaching Ability

"Being able to guide students during patient care" was mentioned by students as important in both the SCE and the clinical setting. One student said, "Both groups of instructors must be able to explain anatomy, physiology and the pathophysiology of a disease at a level that is not overwhelming for the student. This way the explanations and outcomes are easier to remember." An SCE instructor is effective if he/she "can gently guide the student towards the next step without giving out the answers or taking over tasks when the student is in doubt of what to do." In describing the differences between the traditional clinical instructor and the SCE instructor, one student stated, "In clinical, the instructor is not always with the student. They may walk a student through a procedure the first time, but not the second time." Another student said, "In clinical we are on our own a lot which leaves us kind of stuck." In another interview, a student stated, "Clinical instructors have lots of other students to work with and do not always know what students are thinking since they are not always there." Since the SCE is meant to be similar to an actual scenario, one student said, "The same characteristics that make for an effective clinical instructor are equal to those that make for an effective SCE instructor."

Evaluation

Several interview participants described the SCE as more of a "learning ground" for basic questions and experimentation, while the clinical area is a place to perform and to be evaluated. Students felt that the instructor is valuable in both learning environments. One student said, "In both settings, instructors help us build a foundation of knowledge for when we enter the real world of nursing. They are highly important for our learning

and, when effective, contribute greatly to our success." Critical thinking development is essential in both the SCE and the clinical practicum, so providing a supportive, positive environment can facilitate learning in both areas (Dunn & Hansford, 1997; O'Connor, 2001; Poorman, Webb, & Mastrovich, 2002).. Student success was a common theme among the interviews. One student stated, "Good SCE instructors give positive, direct, and energetic responses to students participation, and seem to truly want the students to succeed."

Nursing Competence

Several students discussed the differences between the nursing setting of the traditional clinical practicum and the SCE. One student stated, "In clinical there are more variables to consider. We can't just talk anywhere. We need to consider the location, the patient, the patients' feelings, the surroundings. Are we talking in front of the patient? In the lab, we don't have to consider the patients' feelings. It's very straightforward." Another student stated, "In the SCE, the instructors can slow down and take time to explain more in front of the 'patient'. In clinical, it seems the instructors are there to keep students safe and answer questions as they arise during the shift." Another common topic mentioned by students was that "instructors need to adapt" to unexpected events in the traditional clinical practicum. One student said, "I think that the instructors of the traditional clinical practicum are forced to think on their feet more. In the clinical experience every patient is different and both the student and instructor may see and/or hear things that they haven't experienced before."

Interpersonal Relationships. Students discussed the relationship differences between the instructor and students in the SCE and traditional clinical setting. In contrast to the

traditional clinical practicum, the SCE instructor "has developed the scenario and knows where they are leading the students." Effective SCE instructors "engage the whole group of students in formulating decisions. This helps students feel more confident in clinical situations, engages students in critical thinking more effectively, and makes instructors and students feel as if they are part of a team rather than just a student who is striving to succeed all alone." Effective SCE instructors "give more thorough explanations, discuss pathophysiology, and are looking for more technical answers from students." One student said, "To me a good analogy would be a supervisor (the practicum instructor) who oversees your work with less engagement compared to a sports coach (SCE instructor) who engages all of its members and wants the whole team to succeed."

Realism

Students mentioned the realism of SCE as both a positive and a negative feature. One student commented, "In the hospital, we can truly see the patient decompensate. In the SCE, we can only hear the lung sounds getting worse, or see the numbers dropping on the monitor. In the hospital, there is more environmental information to help us put things together." Another student said, "I thoroughly enjoyed all of the SCE experiences that I've been a part of over the semesters. However, I feel that nothing surpasses the learning experience of working with real patients and all of the variances that entails."

SCE Instructor Interviews

Evaluation

All three SCE instructors emphasized the need for constructive student Evaluation during the SCE. One instructor said, "The SCE instructors must be trained in giving

specific detailed feedback on skills and critical thinking." Another instructor stated, "Giving feedback is crucial. Going back and redoing a simulation in which the student has made a big error is crucial so that the student learns to interpret the data and to respond correctly, but also so they leave feeling that they can do it right!" The instructors agreed that both the traditional clinical and the SCE require instructors with high standards who need to communicate their expectations clearly. Instructors felt it important to hold students accountable for their actions, and give immediate feedback in both the SCE and the traditional clinical practicum.

Nursing Competence

Instructors mentioned that clinical instructors in both settings must be current on practice skills, have an expertise in bedside nursing, and a foundational base of critical thinking. One instructor said, "Like in the traditional clinical setting, an unprepared instructor in a simulation setting can be deadly. It may be a different kind of deadly, but if students don't learn nursing skills correctly, it can have an effect on real patients in the hospital."

Personality

Only one instructor identified the importance of instructor personality in the SCE. The instructor stated, "I think the simulation instructor must have a sense of humor, make the learning fun, and engage the student." Although only one instructor mentioned this category, the importance of Personality has been identified by previous research (Allison-Jones, 2002; Knox & Mogan, 1983).

Teaching Ability

The instructors identified the need for SCE instructors to allow students to make independent decisions without taking over to correct any "would-be" errors. SCE instructors must have the skills to assess the learning needs of students. One instructor said, "SCE instructors must have skills in being quiet and letting students work through their own problems." At the end of the scenario, the SCE instructor debriefs students about their actions in order to "move students to higher order thinking and skill."

Technology skills. SCE instructors identified an ability to work with technology to design and run the scenarios as important. As this study is the first to use the NCTEI with students and instructors in the SCE, technology is a unique category previously unidentified as important for effective clinical instructors. All of the instructors interviewed discussed the need for technology skills. One instructor said, "In the hospital setting today, nurses must feel comfortable with computers to do charting. In the SCE, instructors have to understand computers in order to set up the programs." Training in how to run simulations was deemed important for effective instructors in the SCE. Another instructor stated, "I do believe the work in the SCE is comparable to the clinical setting if it has been orchestrated well." This finding has implications for future research regarding effective instructors in the SCE.

<div align="center">Summary</div>

Instructors and students rated Evaluation as the most important teaching category of effective instructors in the SCE. Instructors and students agreed that the most effective SCE instructors are organized, skilled clinicians who are good role models. The characteristics of being well-read in the nursing literature, encouraging active

participation in discussion, and discussing current developments in nursing were deemed less important by both instructors and students. Though the order of the importance of characteristics within the categories varied, all had high means of 5.1 to 7.0 on a 7-point scale (1 = not at all descriptive to 7 = very descriptive).

Interviews with SCE instructors and students revealed similar themes. Students valued all five categories of teaching with an additional area of "realism" regarding the differences between the SCE and traditional clinical practica. Instructor themes corresponded with four of the NCTEI categories with an additional category of "technology skills" regarding the differences between the SCE and traditional clinical practica. As the need for technology skills has not been previously identified as a category of effective clinical instructors, further research is warranted.

CHAPTER V

DISCUSSION

This study investigated instructor and student perceptions of the characteristics of effective instructors in the simulated clinical experience (SCE). Increasing numbers of nursing programs are anticipated to utilize the technology of the SCE where critical thinking and decision-making can affect outcomes on high fidelity "patients" (Jeffries, 2006; NCSBN, 2005; Nehring, Ellis, & Lashley, 2001). In this environment, students acquire knowledge and clinical judgment with the support of an instructor. Using a cognitive apprentice instructional model, instructors utilize the teaching methods of modeling, coaching, articulation, reflection, and exploration (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006; Taylor & Care, 1999) to scaffold learning for the students. As knowledge is acquired, the guidance, or instruction, fades (Schuell, 1996). SCE instructors provide guidance along with authenticity to this risk-free, hospital type environment. Identification of the characteristics of effective instructors in this teaching area will maximize the educational experience.

The purpose of this descriptive study was to investigate nursing student and instructor perceptions of effective instructors in the SCE. The participants were 304 undergraduate baccalaureate-nursing students and 16 nursing instructors with experience in the SCE. The data were obtained via responses on the Nursing Clinical Teaching Effectiveness Inventory (NCTEI) and from open-ended interviews regarding the role of instructors in the SCE. The 47 response items correspond with five categories of teaching: Teaching Ability, Nursing Competence, Evaluation, Interpersonal

Relationships, and Personality. Each NCTEI response item contains seven choices ranging from 1 (not at all descriptive) to 7 (very descriptive).

In this chapter, the results of the data analysis are discussed. The discussion of the study results is presented according to the four research questions and additional findings from interviews. Following the discussion of the research questions, conclusions, recommendations for further research, and practical implications are presented.

Discussion of the Findings

Research Question 1

The first research question addressed nursing students' perceptions of the characteristics of effective instructors in the simulated clinical experience (SCE). Results suggest that despite possible institutional differences, the public and private school students in this study agree on the top rated and lowest rated categories. The effect sizes for all NCTEI categories were comparable, indicating small differences in the ratings. The highest rated category, Evaluation, includes making suggestions for improvement, communicating expectations, and not criticizing students in front of others. The lowest rated category, Nursing Competence, includes nursing knowledge and attitude toward the profession.

In the current study, student participants gave high ratings (5.27-6.54 on a 7-point scale) to all of the NCTEI items. As with previous research conducted in the traditional practicum setting, students perceive all of the items to be important in their SCE instructor (Knox & Mogan, 1983; Lee, Chowlowski, & Williams, 2004; Mogan & Knox, 1985). The pivotal role of the traditional clinical instructor has been well-documented (Campbell, Larrivee, Field, Day, & Reuter, 1994; Landmark, Hansen, Bjones, & Bohler,

2003). Findings from the current study suggest that the instructor plays a significant role in the SCE as well. This finding can be explained utilizing the cognitive apprentice model where students practice under the guidance of an established expert (Schuell, 1996). In the SCE, students engage in a natural environment to learn clinical judgment and decision making skills from an established expert in the field (Schuell, 1996). In the SCE, the instructor provides guidance and authenticity to a risk free patient care scenario. As there are no actual patients, or hospital staff, students learn directly from the instructor. The high ratings of teaching characteristics indicate that students value effective instructors in the SCE.

In the current study, student participants rated the category of Evaluation highest, which is similar to previous research using the NCTEI (Benor & Leviyof, 1997; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002). Students rated all of the items in the Evaluation category within a narrow range of ratings (6.11-6.37). The high rating of the Evaluation category, and all the items within the category, may be related to several factors . First, in the cognitive apprentice model, instructors are modeling and coaching student behaviors during the early stages of learning. Next, like the traditional practicum setting, students in the SCE are participating in a university course required for a degree. Thus, the evaluation of their performance and/or participation may have high stakes for students. Both the outcomes and the method of evaluation are critical to students successfully completing a practicum. Previous studies in the traditional clinical setting have suggested that student nurses' confidence and skills can be affected by the instructor's clinical teaching behaviors, such as offering prompt feedback (Dunn &

Hansford, 1998; Tsai & Tsai, 2004). The use of supportive, constructive evaluation by SCE instructors may promote a more successful student-learning environment.

The SCE provides a decision-making environment guided by instructor comments, rather than patient outcomes or hospital staff judgments. Students get hands on learning in a risk-free environment while building their knowledge and self-confidence (Bremner, Aduddell, & Amason, 2008; Feingold, Calaluce, & Kallen, 2004; Rhodes & Curran, 2005). In the traditional practicum setting, students receive responses from patients and advice from nursing staff in addition to feedback from their instructor. In contrast to the traditional clinical environment, students in the SCE learn from a patient care scenario developed by the instructor. As in the cognitive apprentice model after the SCE instructor initiates the patient care scenario, instructor support fades, and the students assume greater responsibility for clinical judgments and decision making. In the SCE, students and instructors can collaborate to solve nursing clinical problems (Jeffries & Rogers, 2007). The high rating for Evaluation suggests that students value instructors who support their decision-making through positive reinforcement and appropriate feedback.

In the current study, students gave the lowest rating to the category of Nursing Competence, yet three of the Nursing Competence items were among the top 10 highest rated items. This finding may be related to several different factors. First, the category of Nursing Competence encompasses both the academic and the technical aspects of nursing. The academic items, such as familiarity with the nursing literature, received lower scores from participants than the more technical aspects of nursing, such as demonstrating clinical judgment and being a good role model. The SCE provides an

atmosphere where students can actively integrate theory and practice without the fear of harming patients (Decker, Sportsman, Puetz, & Billings, 2008; Jeffries, 2006; Weis & Guyton-Simmons, 1998). Findings from the current study suggest that students value SCE instructors who provide insight into nursing through active learning, rather than discussion of nursing issues.

Of the student participants' top five highest rated NCTEI items, only one, "appears organized" (P), was among the instructor participants top five. Students gave high ratings to instructors with "communication skills" (NC) who "explains clearly" (TA), "demonstrates clinical skill and judgment" (NC), and "who enjoy teaching" (TA). Previous research on traditional clinical instructors found similar high ratings for these characteristics (Gignac-Caille & Oermann, 2001; Mogan & Knox, 1987).

Findings from the first research question suggest that although the SCE reproduces nursing reality (Hovancsek, 2007), a risk to actual patients does not exist. This may partially explain why students value feedback and evaluation somewhat more than the nursing skills and judgment of the nursing instructor. This is in contrast to the clinical practicum setting where instructors must be concerned with patient safety first.

Research Question 2

The second research question addressed the clinical instructors' perceptions of the characteristics of effective instructors in the SCE. The category rated highest by instructors was Evaluation, which includes correcting students without belittling them, and giving positive reinforcement for contributions. The lowest rated category was Nursing Competence, which includes demonstrating clinical procedures, and referring to nursing literature. Overall, instructors rated all the NCTEI items higher than students.

Like the student participants, instructors gave high ratings to all the items on the NCTEI (5.78 to 7.00 on a 7-point scale). In the traditional clinical setting, the instructor works, not only with students, but also with patients, staff, and hospital administration to facilitate student transition from theory to practice (Benner, 1982; Oermann & Lukomski, 2001; O'Connor, 2001; Tsai & Tsai, 2004). In the current study, instructors perceived all NCTEI items valuable for effective SCE faculty.

Instructors ranked Nursing Competence as the lowest NCTEI category for SCE instructors. In addition, instructors gave the lowest rating to the Nursing Competence characteristic of "demonstrates clinical procedures and techniques." This may be related to several different factors. First, the findings suggest that instructors do not consider the SCE an area for learning basic skills, but an environment for the development of critical thinking. Second, in contrast to a lecture or skill demonstration lab, instructors appear to agree that the SCE is not a setting in which to explain or demonstrate nursing skills. Finally, the SCE provides an interactive learning environment where students make nursing judgments and instructors provide the content validity (Rhodes & Curran, 2005). The SCE is not the setting for instructor demonstration.

Although the Nursing Competence category received the lowest ratings, one characteristic from the NCTEI category of Nursing Competence, "being a good role model", was rated in the top 10. In previous NCTEI research, instructors have rated this characteristic in the top 10 (Kotzabassaki et al., 1997; Mogan & Knox, 1987; Nehring, 1990). This finding suggests that instructors believe students look to the SCE instructor not just as a teacher, but also as a nursing example. As in the traditional clinical setting, it

appears SCE instructors play a significant role for students (Dunn & Hansford, 1997; Gillespie, 2002; Landmark et al., 2003).

Finally, SCE instructors rated familiarity with the nursing literature and current developments in the field among the lowest rated items. Again, this finding supports the concept of the SCE as a non-lecture environment; rather, as in the cognitive apprentice model, students in the SCE are learning more naturally. Students develop competence by performing tasks with fading instructional support (Schuell, 1996).

Research Question 3

The third research question asked about the differences and similarities in nursing students' and clinical instructors' perceptions of the characteristics of effective instructors in the SCE. The data analysis confirmed that instructors and students have similar perceptions of the rankings of NCTEI categories for effective faculty in the SCE. Both instructors and students agreed that Evaluation was the highest rated category and that Nursing Competence was the lowest rated category. Yet, even though both instructors and students rated Evaluation and Interpersonal Relationship highly, instructors rated both categories more highly. Moderate effect sizes were found for the categories of Evaluation (d=.62) and Interpersonal Relationships (d=.61) with instructor ratings significantly higher. In the SCE, students make decisions based on the information and feedback provided by the instructor. Instructors recognize the importance of the manner and type of feedback provided to the students. This is in contrast to the traditional clinical environment in which students receive additional guidance from the environment, patients, and hospital staff. For the other three categories, Personality, Nursing Competence, and Teaching Ability, the magnitude of the ratings were similar.

Instructors and students agreed on three items in their top 10 lists: "appears organized" (P), "demonstrates good communication skills" (NC), and "is a good role model" (NC). The remaining items on the top 10 list appear to differ significantly. For students there is a focus on instructors such as "enjoys teaching" (TA), "emphasizes what is important" (TA), "is approachable" (IR), and "demonstrates good communication skills" (NC). In contrast, instructors remaining items from the top 10 list focus on the teaching environment such as "provides support and encouragement to students" (IR), "encourages a climate of mutual respect" (E), "corrects students mistakes without belittling them" (E), and "stimulates students interests in the subject" (TA). Students perceive effective instructors to be approachable, good communicators who enjoy teaching. According to instructors' perceptions, effective SCE instructors provide a respectful, supportive environment that stimulates students with constructive feedback. As in the cognitive apprentice teaching environment, student desire instructors who are easy to work with, and instructors value a supportive environment. As the instruction fades and the student gains expertise, natural learning occurs.

Previous research suggests clinical instructors are more influential in shaping student attitudes toward nursing than classroom instructors (Campbell, Larrivee, Field, Day, & Reutter, 1994). In the current study, the characteristic "is a good role model" (NC) appears in the top 10 for both instructors and students. Although role modeling has been cited as an important in teaching, a clear definition of what actions this entails is unclear (Lee, Chowlowski, & Williams, 2002; Mogan & Knox, 1987).

Findings from the current study support the premise of the SCE as an interactive learning environment where students and faculty collaborate to solve clinical problems

(Jeffries & Rogers, 2007). Both groups of participants gave high ratings to the category of Evaluation, yet the item "encourages active participation in group discussion" in the Teaching Ability category received a low rating by both faculty (Mean = 5.87; SD = 2.36) and students (Mean = 5.88; SD = 1.99). The low effect size (d=.01) demonstrates the similarity between the ratings. This finding supports the suggestion that instructors and students want the faculty to provide feedback during scenarios, but not to interfere in the group process. In the cognitive apprentice environment, students acquire the knowledge and skills from experts in the field. After instructors model and coach students in the complex tasks, students practice the skills, and instruction fades (Schuell, 1996). These results indicate that effective SCE instructors guide students with evaluation, while allowing students to problem solve without interference from the instructor. This finding supports Johnson, Zerwic, and Theis (1999) who described the SCE as a setting for nursing students to work with their peers to validate their knowledge and decision-making skills.

Differences in the ratings between instructors and students are less clear than the similarities. In the Teaching Ability category, instructors identified "demonstrates clinical procedures and techniques" as the least important characteristic (Mean = 5.12; SD=2.64), yet this item was highly rated (Mean = 6.17; SD=1.19) by students. The high magnitude of the effect size (d=.80) reveals this difference. In the cognitive apprentice model, SCE instructors are experts who guide student learning rather than demonstrate nursing skills. Modeling is an early stage in this environment. The students, who are practicing in this environment, still value the opportunity to learn nursing procedures in the SCE.

Both instructors and students gave the lowest rating (Instructor Mean =5.79; SD=.39; Student Mean=5.92; SD=.76; d=.17) to the Nursing Competence category. This low rating is not common in NCTEI studies (Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002; Nehring, 1990). Several factors may contribute to this finding. First, a nursing instructor's position requires professional nursing experience, thus, instructors and students assume nursing faculty members have this competence (Mogan & Knox, 1983). The instructor is considered an expert by the students. Next, analyses of items show a wide range of means for Nursing Competence items for instructors and students. For both groups of participants, higher ratings are given to the more technical areas of nursing such as clinical judgment, being a good role model, and communication skills. Lower ratings were found in the academic areas of nursing such as discussing current developments and familiarity with nursing literature. In fact, of the six items on the instructor and student 10 lowest rated items, four of them "reveals broad reading", "directs students to useful literature", "recognizes own limitations", and "discusses current developments", were from the Nursing Competence category. This finding suggests that Nursing Competence, involving the actual process of nursing such as decision-making, role modeling, and communicating, is highly valued while familiarity with the nursing literature, or discussing current developments are not.

The effect size difference was noted for the item "directs students to useful literature in nursing" which had a considerable magnitude (Instructor Mean = 5.60; SD=1.99; Student Mean=5.34; SD=1.49; d=..71). Although both groups gave low ratings to this item, instructors valued this characteristics more than students did. Instructors and

students value good role models who demonstrate nursing judgment without spending time in the active SCE learning environment discussing current nursing issues.

In the category of Nursing Competence, "demonstrates good communication skills" was given high ratings by students (Mean = 6.47) but not as high by instructors (Mean = 5.94). On the overall ratings, this characteristic was number three for students and number forty-two for instructors. Traditionally, students rely on their clinical instructors for guidance and transition to the nursing profession (Gibbons, Dempster, & Moutray, 2008). This may explain the high ratings given by students. Again, this example highlights the overall high mean ratings for all of the NCTEI items for this study. Instructors and students perceive all of the characteristics on the NCTEI valuable for effective SCE instructors.

Evaluation was the highest rated NCTEI category for both instructors and students. This finding suggests that instructors and students share similar perceptions about the purpose and intent of SCE learning goals. The SCE has been described as an authentic learning environment where students can engage in the clinical problems under direct supervision of an instructor (McCormick, 2004; Woolley & Jarvis, 2006) which reflects the cognitive apprentice model. For instructors and students to have similar ratings in this relatively new learning environment suggests that the evaluation aims of the SCE are clear.

Both instructor and student ratings of individual items within the Evaluation category fell within a narrow range and had comparable effect sizes. This suggests agreement about the overall importance of items within this category. Instructors and students both recognize appropriate feedback and positive reinforcement as

characteristics of effective SCE faculty. In an authentic learning environment, students can become emotionally engaged in the process (McCormick, 2004). Knowledge and skills are facilitated in the SCE with expert guidance and feedback. As most SCE environments are conducted with small student groups, giving feedback without embarrassing or demeaning students is considered critical

The category of Interpersonal Relationships was rated highly by both instructors and students. Instructors rated "encourages a climate of mutual respect" (Mean=7.00; SD=.00; d=.66) and "provides support and encouragement" (Mean=7.00; SD=.00; d=.72) higher than students.

For the category of Personality, the effect sizes for instructors and students were comparable. Only "self-confidence" had a rating above .50 (d=.57). Students rated instructor self-confidence higher than instructors did.

Research Question 4

This study's final research question compared nursing students' and clinical instructors' perceptions of characteristics of effective faculty in the SCE with their perceptions of characteristics of effective faculty in the traditional clinical environment. No other study has examined the characteristics of effective faculty in the SCE. Therefore, the results from the current study will be compared to NCTEI results from the studies conducted in traditional practicum settings.

In the previous literature, both instructor and student participants gave the Evaluation category high ratings (Gignac-Caille & Oerrmann; 2001; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002). Instructors and students in both the traditional clinical practicum and the SCE value the skills of evaluation for the

development of future nurses. The narrow range of means within the category of Evaluation for both instructors and students supports each characteristic as important for effective SCE instructors. Effective traditional clinical instructors and effective SCE instructors provide positive reinforcement, clear expectations, and do not criticize or belittle students in front of others.

Student participants rated Nursing Competence as the lowest category in the current study. A study by Gignac-Caille & Oermann (2001) found students with less experience valued Nursing Competence more highly than students with experience. It has been posited that students with less experience are more dependent on instructors in the clinical setting. The fact that all student participants in the current study had experience in the SCE and the traditional practicum setting may have influenced these results.

In previous studies conducted with students in the traditional clinical practicum, Nursing Competence was highly rated (Benor & Leviyof, 1997; Nehring, 1990). Further Nursing Competence was not the lowest rated category in any previous study (Gignac, Caille, & Oermann, 2001; Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002; Nehring, 1990). This is a contrast to the results of the current study where students gave the lowest ratings to the Nursing Competence category. Perhaps this is a direct result of the lack of risk to actual patients in the SCE. In the clinical environment, nursing instructors work alongside students to care for actual patients. The potential outcomes of poor nursing judgment in the traditional clinical setting could have life-threatening outcomes.

The characteristic of "demonstrates clinical skill and judgment" (NC) has consistently been highly rated in previous research (Benor & Leviyof, 1997;

Gignac-Caille & Oermann, 2001; Mogan & Knox, 1987, Nehring, 1990). In the current study, this characteristic was among the top 10 for both instructors and students. In addition, one of the lowest rated items in this study "directs students to useful literature in nursing" (NC) also received low ratings in previous research (Gignac-Caille & Oermann, 2001; Sieh & Bell, 1984). The category of Nursing Competence includes two aspects of nursing: the academic, such as familiarity with literature, and technical, such as being a role model. For this study, the more technical aspects of Nursing Competence received higher ratings than the more academic aspects. As both of these items are within the Nursing Competence category, the variety of characteristics included in this category may be questioned.

The category of Personality has been rated low in studies using the NCTEI (Gignac-Caille, & Oermann, 2001; Knox & Mogan, 1985; Kotzabassaki et al., 1997; Lee Chowlowski, & Williams, 2002). In the current study, instructors and students rated Personality fourth on the list of five NCTEI categories. Despite the lower rating, students and faculty consider Personality to be a component of effective teaching as found in previous studies (Allison-Jones, 2002; Knox & Mogan, 1983). The category of Personality includes items that instructors can improve upon such as organization, as well as characteristics that are more difficult to improve upon, such as enthusiasm, self-confidence, and sense of humor.

Means, standard deviations and effect sizes from a study by Kotzabassaki et al (1997) and Knox and Mogan (1985) reveal significant differences compared to the current study for both instructors and students. Compared to Kotabassaki et al (1997), students and instructors in the current study gave higher ratings to all NCTEI categories,

except Nursing Competence (d=.13). Effect sizes for Evaluation (d=.96), Interpersonal

Relaitonship (d=.90), Teaching Ability (d=.75), and Personality (.60) were all significant.

These differences suggest the role of the instructor is highly valued by both instructors

and students in the SCE. In the traditional clinical setting, students can receive feedback

and guidance from the environment, patient, and hospital staff. In the SCE, instructors

model, coach, and fade the instructional support in an authentic learning environment.

Discussion of Additional Findings

Students discussed all five categories of the NCTEI during the interviews. The

students addressed the issue of Realism as a difference between the traditional clinical

area and the SCE. Previous studies have suggested that the SCE learning environment

can have a powerful effect on self-confidence, self-efficacy, and satisfaction with

learning (Bremner, 2008; Feingold, 2004; Foster, Sheriff, & Cheney, 2008). The results

of the current study support these findings. Interviews suggest that students would like

SCE instructors to be partners with them in the learning process while providing support

through their decision-making. Student interview participants appreciate the combination

of instructor guidance and student independence in the SCE.

During the open-ended interview, instructors discussed characteristics of effective

and ineffective faculty in the SCE. Faculty discussed characteristics that fit into the

NCTEI categories of Personality, Evaluation, Nursing Competence, and Teaching

Ability.

Instructor interviews also addressed a new teaching category, Technological

Skills. The category would include such characteristics as computer skills, designing

scenarios, and manipulating equipment. A study by Rhodes & Curran (2005) suggested that the simulated clinical experience may increase the time and workload of faculty members to design the scenario and to provide content validity. Interviews with instructors support the belief that SCE instruction requires some expertise in technology to work with the equipment, design the scenarios, and coordinate the experience for the students.

In a previous study by Grady et al (2008), learning with a high fidelity mannequin fostered improved learning of nursing procedures. Interestingly, instructors in the current study gave the lowest overall characteristic rating to "demonstrates nursing procedures and techniques." Instructors may not perceive the SCE as a place for demonstrating nursing procedures, but rather for high-level problem solving and critical thinking.

The results of this study reflect similar faculty and student perceptions to those found in previous studies (Knox & Mogan, 1985; Gignac-Caille & Oermann, 2001). Both groups gave high ratings to all the NCTEI characteristics with means above 5.10 on a 7-point scale. The similarity of the findings confirms the tool's reliability over time and in different instructional settings. The Nursing Clinical Teaching Effectiveness Inventory has been further validated as a useful evaluation tool for clinical instructors. Previous research has suggested that the nursing instructor is the most powerful force in promoting student success (Poorman, Webb, & Mastrovich, 2002). Utilization of the NCTEI to evaluate SCE instructor performance also appears to be valid and appropriate.

Conclusions

Faculty and students have similar perceptions of the importance of teaching categories for effective faculty in the SCE. Both groups rated Evaluation as the highest

category and Nursing Competence as the lowest. Providing feedback appears to have greater importance in this risk-free environment.

In order to provide an effective learning environment, instructors need to be clear with students about the purpose of SCE. Faculty need to be trained on providing feedback and establishing positive relationships with students. Interviews suggest that students see SCE instructors as supportive team members. In contrast, students find traditional clinical practicum instructors in a supervisor role.

Nursing Competence was rated as the lowest category for effective instructors in the SCE. Student interviews suggest the need for traditional clinical instructors to be able to manage patient care and make quick decisions. Quick decisions are not as important in the SCE where patient safety is not an issue.

A noticeable finding in this study is a new teaching category, Technology Skills, which was suggested in the open-ended interviews with faculty participants. The category would include such characteristics as computer skills, designing scenarios, and manipulating equipment. This finding can be explained by the need for computer and technological skills to design and run the simulated clinical experience. As these skills are not required in the traditional clinical practicum, it was previously unidentified in the NCTEI.

<div align="center">Limitations</div>

There were additional limitations this study. First, it is unclear if both programs utilized the SCE for the same purposes, or with similar scenarios. For example, it was unknown if the SCE is being used to replace or supplement traditional clinical practicum. Next, although participants from both universities were invited to participate in the

open-ended interviews, only students from the public university participated. Also, there was a limited number of faculty (from both universities) who volunteered to participate (n = 3) in interviews. Finally, the instrument was designed for evaluation of clinical instructors in the traditional clinical practicum. It appears that there may be characteristics of effective SCE instructors that are not included in the NCTEI, such as technology skills.

<div align="center">Recommendations</div>

<div align="center">*Recommendations for Future Research*</div>

This is the first study on the characteristics of effective faculty in the SCE. Therefore, further research on the subject is recommended either by replication of this study or by the use of other methods, such as alternative instruments. Direct observation of SCE instruction may be useful to assess the effectiveness of the instructor characteristics.

The NCTEI category of Evaluation was rated highly by both instructors and students in this study. Further research on effective feedback and positive reinforcement strategies could significantly add to learning in the SCE.

The participants in this study were from two different universities with simulated clinical experiences. Nonetheless, students rated the categories of effective instructors identically. Future research with participants from a variety of nursing education programs would add strength to the use of the NCTEI in the SCE setting.

Results from this study suggest that instructors and students agree on the role of faculty in the SCE. Research has shown the importance of the nursing instructor in the clinical setting (Dunn & Hansford, 1997; Mogan & Warbinek, 1994; Poorman, Webb, &

Mastrovich, 2002). Further research needs to be conducted on the impact and role of faculty in the SCE.

Previous research suggests differing rank orders of categories based on student experience (Knox & Mogan, 1985; Lee, Chowlowski, & Williams, 2002). All student participants in the current study had previous experience in the traditional clinical practicum, the SCE, and at least one year in their nursing program. Perhaps further research among students with less experience in the traditional clinical practicum is warranted.

Recommendations for Nursing Education

Future nursing faculty will require preparation in working in the SCE. This should include training on providing feedback, promoting positive interactions with students, as well as technical training. According to the cognitive apprenticeship instructional model, the instructor plays an integral role in the learning experience. As the instructor support fades, the student acquires skills and knowledge to solve the complex task. The role of the instructor includes modeling, coaching, articulation, reflection, and exploration (Kolikant, Gatchell, Hirsch, & Linsenmeier, 2006; Taylor & Care, 1999).

The SCE provides a realistic environment for students, fosters improved learning of nursing procedures, and increases student confidence and satisfaction (Alinier et al., 2006; Foster, Sheriff, & Cheney, 2008; Grady et al., 2008; Schoening et al., 2006). Led by an effective instructor, student knowledge acquisition and clinical judgment skills can be developed. Although these findings should be viewed with caution, the need to prepare instructors to teach in this new nursing education environment, the SCE, is

apparent. The simulated clinical experience in nursing education shows enormous

promise. Continue research to maximize this resource for future nurses is essential.

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