Student Perceptions of an Innovative Evaluation Method in a Nursing Skills Laboratory

By

Laurie Mishmash, RN, BSN

Thesis

Presented to the Graduate Faculty

In Partial Fulfillment of the Requirements

For the Degree

Master of Science major Nursing

Summer, 2015
Abstract

The purpose of the study was to determine student perceptions of the effectiveness of videotaping and peer review for nursing skills check offs in an associate degree laboratory setting, as determined by preparedness for doing skills in clinical, level of stress and time taken to learn the skills. Using a qualitative design, six randomly chosen students were interviewed using eight field tested question. After interviews were audio-recorded and cognitively mapped, themes were identified and grouped into the study categories, along with the number of positive and negative comments. Overall, students were comfortable doing videotaped check offs with peer review and felt prepared for clinical. Students were most dissatisfied with the lack of timeliness of instructor feedback on their videotaped performance. Further studies need to be done related to this topic using a larger sample size. More specific questions related student perceptions could be developed. Exploring other methods for checking off required skills could be studied.
Acknowledgments

I am forever grateful and indebted to the following faculty for not only their assistance in the preparation of this thesis but also for their coaching, support and best of all pushing me along when I needed it:

Leah Cerankowski, MSN, RN
Peg Rooney, PhD, RN
Nancy Whetzel, MS, RN
Donna Wofford, PhD, RN
Cathy Coram, MSN, RN (PhD Candidate)

I am also extremely grateful for the advice an RN-BSN (Julia Hawley) gave me for the focus of my thesis and when to start.

I am also extremely grateful to my husband, Rodney, for his patience and continued support while I not only pursued but completed my undergraduate to graduate work.

I would like to give a very special thank you to my children, family and friends who were my cheerleaders and motivators to keep me on track to completing my thesis. I am also very grateful to Teri Nance, ED, Lynette Miller-Taylor, RN, DON, Lyndsay Hartford, RN, ADON, and Laura Saul, RN, SDC at Minnequa Medicenter for their willingness to understand the priority this thesis has had and rearranging my schedule when needed to meet deadlines.
# TABLE OF CONTENTS

**CHAPTER I: Introduction**  
1  
Background and Significance of the Problem  
1  
Statement of the Problem  
3  
Statement of the Purpose  
3  

**CHAPTER II: Review of the Literature**  
4  
Review of the Relevant Literature  
4  
Nursing Theoretical Framework  
9  
Key Words  
11-14  

**CHAPTER III: Method**  
14  
Description of the Research Design  
14  
Protecting Human Subjects  
15  
Instrument  
16  
Procedure  
17  
Data Analysis  
17  

**CHAPTER IV: Results**  
18
CHAPTER V: Conclusions and Recommendation

Conclusion

Recommendations

Summary

REFERENCES

TABLES

Table 1: Transaction Model

Table 2: Themes from Interviews with Complete Quotes

APPENDEX A

Consent Form

APPENDEX B

Institutional Review Board Written Approval CSU-P

APPENDEX C

Institutional Review Board Written Approval PCC-P

APPENDEX D

Vitae
Chapter I

Introduction

Background and Significance of the Problem

A nursing skills laboratory provides a safe haven for students to practice basic skills. It is essential for building confidence for actual clinical skill performance and safe patient care. The purpose of the lab is to “teach students to perform nursing skills competently” (Caputi, 2011, p. 102). The skills lab is an ideal place for learning. According to Strand, Naden, and Slettebo (2009), “Ethically it is necessary for students to master basic procedures prior to practicing on patients.” (p.18). Faculty usually demonstrates a specific nursing skill and then the student practices the skill. Once a student practices a skill sufficiently to feel competent, the student performs the skill in a return demonstration, also known as a check off. An instructor observes the student perform the procedure and grades the performance according to a grading rubric or checklist. Faculty develops guideline outlining consequences for students who do not successfully complete the return demonstration.

The skills lab experience occurs with a small group of students and one to two faculty members. This size ensures proper demonstration and practice of the skills’ techniques. During supervised lab practice, students can ask clarifying questions while they practice on mannequins and then can practice on their own during open lab times without a nursing faculty present. Students can also practice with other students. The “peer practice time” allows each student to experience collaboration. In turn, peer collaboration will become an integral piece in the clinical setting. The clinical setting is where the student has the opportunity to perform skills in real-life clinical experiences. Prior to performing skills on patients, the student must demonstrate mastery of the skills. A skills check off of each skill meets mastery requirement. Interactive teaching
strategies encouraging students to think critically, collaborate and be creative are goals of lab practice (Caputi, 2011).

In some settings, staffing a skills lab is a shared duty or may be a part- or full-time job position. Lab supervision is labor intensive and may include: evaluating return demonstrations, teaching a small group demonstration, preparing equipment for demonstrations, ordering supplies, establishing lab schedules, tracking skill performance, establishing rules for lab use. An unprepared student in a check off increases the burden of nursing faculty.

Active learning strategies are designed so that all students feel comfortable and safe in the practice environment so that they can critique their own performance using critical thinking skills (Caputi, 2011). Based on this principle, an associate degree nursing program in southern Colorado decided to try another approach to the traditional, “this is the way it is always been done,” check off method: videotaping the student demonstrating the skill with peer review and feedback on the student’s performance of the skill. It was thought that this method would save faculty time since students would receive corrections and suggestions from self-review and peer review (C. Coram, personal communication, February 18, 2013) and would be able to check off with an “increase in inter-rater (intra-evaluator) reliability” (Pueblo Community College Fremont Campus Nursing, Fall, 2009).

The skill validation method of videotaping return demonstrations has been in use since 1997 (Aronson, et al, 1997). Videotaping student performance reduces student anxiety, allows students to think critically and use clinical judgment, and validates psychomotor skill performance. However, including peer review and feedback in the skills lab to be used, helps students learn new skills, and engages students in the learning activity.
Maloney, et al (2013) performed and completed a randomized controlled trial of students using videotaping of performance on clinical skills competency and found that greater skill competency was achieved when traditional methods are supplemented with student videotaping of performance on clinical skills competency and found that greater skill competency was achieved when traditional methods are supplemented with student videotaping of performance of tasks. They also found that videotaping provided an increase in feedback opportunities. Yoo and Chae (2011) reported that peer review is an effective learning method for nursing students to improve communication skills and increase motivation to learn.

**Statement of the Problem**

Videotaping and peer review have been used by a southern Colorado community college since 2009 for four semesters now with the faculty mostly satisfied with this method of laboratory check offs (Pueblo Community College Pueblo Campus, NUR 109 Weekly Staff meeting, October, 2012). However, student input was lacking. It was necessary to find answers to the following questions; 1) Is it stressful to have their performance observed by a peer? 2) Is a peer critique useful? 3) Is it easier to make mistakes and get corrections from a peer? 4) Is this method less or more threatening and anxiety-provoking? 5) Does this method provide more or less time to learn the skills?

**Statement of the Purpose**

The purpose of the study was to determine student perceptions of the effectiveness of videotaping and peer review for nursing skills check offs in an associate degree laboratory setting, as determined by preparedness for doing skills in clinical, level of stress and time taken to learn the skills.
Chapter II

Review of Literature

Review of the Relevant Theoretical Literature

Since 2005, there has been an increased “concern that new nurses are neither competent nor confident in core skills.” There is an increased “concern expressed about the adequacy of clinical skills education in contemporary nursing curricula (Bloomfield, While, & Roberts, 2008, pp. 222-223).

One of the ways that nursing schools have addressed this concern is to use simulation or computerized assisted learning (CAL). CAL has been utilized since 1966, in a variety of educational applications in nursing, either as supplemental or to replace conventional teaching methods (Bloomfield et al., 2008).

Literature was reviewed from the domains of nursing, nursing education, and nursing theory. The literature search was conducted using the research database CINAHL Plus, EBSCO, Pub MED, and Google search and a review of Journal of Nursing Education. There was no time limit set for the search and the country of origin was not an issue. The search was restricted to English language items.

Key words included but were not limited to computer assisted learning, simulation, critique, recording, videotaping assessment, videotaping skills and self-assessment, self-assessment, peer evaluation, peer review, clinical skills assessment, clinical skills evaluation, safety, and perceptions of self-evaluation or peer review. Relevant literature containing any or all of the key words was reviewed with only the literature that pertained to the area of study was selected.
After reviewing the selected articles a recurring theme was noted and that was one of students’ skills acquisition in a safe, controlled and monitored environment. Safety is among the greatest concern and Brady (2011) conducted a study using the Quality and Safety Education for Nurses (QSEN) as a structure for course development. This study utilized all six quality and safety competencies for nursing when developing a new curriculum design. This new course design is to provide students with “meaningful and realistic simulation experiences, which involved limiting the number of participants at the bedside, while working within the constraints of faculty availability and workload” (Brady, 2011, p. 4). This faculty availability is further constrained by agency limits, thereby creating a more focus on safe delivery of care being provided by students at the bedside. This study demonstrated that “QSEN competencies provide a systemic structure for course redesign and course content with the goal of preparing graduates competent to deliver patient-centered care” (Brady, 2011, p. 15).

Minardi and Ritter (1999) stated that recording skills practice on videotape enhanced learning. Both nursing students and lecturers thought there was a “positive belief that video tape recording was useful in enhancing students’ ability to learn…” (p. 1318).

Jefferies (2001) conducted a study comparing two methods of teaching students how to perform oral medication administration. One method was “learner-controlled, interactive, multimedia CD-ROM.” The second method was “teacher-controlled lecture with overhead transparencies and a videotape.” Jefferies developed the CD-ROM. The results of the study are to be interpreted with caution due to the study’s limitations. The limitations were a single, and convenience sample. Jefferies agrees that this study needs to be replicated but did find the participants found the interactive, self-paced CD-ROM was effective in their ability to learn oral
medication administration safely, competently and confidently (Jefferies, 2011, pp. 325 & 327-328).

Brimble (2008) conducted a study using video to analyze skills competency in a simulated environment. The conclusion of the study was that video assessment in the simulated environment was a “useful tool for assessing competency.” Students reported they recognized the benefits even those who had expressed concerns prior to this experience (Brimble, 2008, p. 26). Immediate feedback was a part of this experience. “Students, particularly those who had made mistakes, may feel vulnerable about receiving feedback; small groups were the favored means of receiving feedback both pre- and post-experience” The conclusion was that no definitive conclusions about this form of assessment could be concluded. “Nevertheless, the findings have provided a valuable starting point for the development of practice in this area and led to the use of simulation in summative assessment of pre-registration programme” (Brimble, 2008, p. 31).

Yoo, Yoo, and Lee (2010) performed a study using video recording of students performing Foley catheter skills. The control group and experimental group both received lecture and demonstration performed by nursing faculty. The experimental group was allowed to video record their practice and then review the video after it was e-mailed to them. The control group practiced live with instructor critique. Both groups were given the criteria sheet that the individual could look over before a final pass or fail critique live before nursing faculty. They concluded “that when students can actively participate in the learning process by having an opportunity to review and reflect on their performance, their overall competency in nursing skills can be improved” (Yoo, Yoo, & Lee, 2010, p. 404).
Brooks, Moriarty, and Welyczko (2010) conducted a study for implementing simulated practice for nursing students. Upon implementing these simulated practices several areas of benefit were discovered.

The clinical environment and clinical scenarios can be simulated authentically. It is a safe environment and there is no risk to patient safety or public confidence in the profession. Variables and the outcomes of simulated scenarios can be manipulated by lecturing staff in accordance with students’ knowledge and responses. Differing levels of complexity, progressing from core clinical skills to complex scenarios involving teams of students and critical problem solving, enhance the ethos of a spiral curriculum. Active, shared multidisciplinary learning can occur. Specific learning outcomes and module specific patient situations can be created and explored (Brooks, Moriarty, & Welyczko, 2010, p. 42).

This is only a partial list of the benefits of simulated learning.

Wagner, Bear, and Sander (2009) conducted a study where simulation was used to increase student competence and confidence. When a student felt ready for discharge teaching a post-partum mother, he or she approaches the instructor, after simulating and demonstrating the discharge teaching to a faculty member. Upon approval by the instructor the student then performed the discharge teaching with the post-partum mother. “Students acquired tools to use throughout their professional career and expressed satisfaction with their effectiveness in providing quality care” (Wagner, Bear, & Sander, 2009, pp. 466-467).

Meechan, Jones, and Valler-Jones (2011) performed a study looking at nursing students’ perspectives regarding skills acquisition and confidence. The authors used a convenience sample of nursing students to participate in the study. A questionnaire was designed asking the
participant their “perceived confidence level upon educational preparation, perceived competence levels following their educational experience, perception of the usefulness of skills and knowledge acquired and their ability to transfer into the clinical environment, objective structured clinical examination (OSCE) and essential skills clusters (ESCs) when in the clinical environment” (pp. 445-446). The authors concluded that the first year students perceived both confidence and competence (Meechan, Jones, & Valler-Jones, 2011, p. 450).

Baxter and Geoff (2011) conducted a study regarding nursing student’s self-assessment or was there self-deception. “….Emphasis on self-assessment in nursing may require serious reconsideration …Suggestive that self-assessment is not an effective method to determine an individual’s own strengths and weaknesses in the clinical setting” (Baxter & Geoff, 2011, p. 2411).

Casey, Burke, Houghton, Mee, Smith, Van Der Putten, Bradley, and Folan (2011) conducted a study looking at peer review. The author findings that the students felt “more involved in the whole process. In a way, it makes you have work harder the next time you have to do an assignment, because you know exactly, after reading someone else’s, what they’re looking for” (Casey, Burke, Houghton, Mee, Smith, Van Der Putten, Bradley, & Folan, 2011, p. 516).

Yoo and Chae (2011) conducted a study utilizing the effects of utilizing video based peer review on nursing students’ communication and learning motivation. “Peer reviewers … able to use self-reflection during the peer review triggers changes in their attitudes, as well as critical thinking” (Yoo & Chae, 2011, pp. 230 & 232). Based on the authors’ findings “it is recommended that video-based peer review should be considered for students with difficulties in
communication as an effective learning method to improve their communication skills” (Yoo & Chae, 2011, p. 232).

Morgan (2006) conducted a study using clinical skills lab to promote theory-practice integration. The author’s findings indicated “that sessions in the clinical skills laboratory before the first practice placement were useful and helped students integrate theory with practice. The author solidifies that nursing students must be adequately prepared to carry out clinical skills competently and efficiently. Clinical skills laboratories are essential to help students develop the skills required to carry out clinical work and to link theory to practice” (Morgan, 2006, p. 155).

Leski (2009) conducted a study seeking the perceptions of student and faculty regarding computer based instruction (CBI). The author discovered “five themes;

- Student recollections of CBI are time bound
- CBI enhances learning under certain important conditions: multisensory, realistic, provided new information, integrated information and provide new perspective
- CBI hinders learning under certain important conditions; time pressure, and length of time for each scenario
- Effective application of CBI depends on a variety of conditions; nursing curriculum and fewer optional assignments
- CBI benefits nursing education in certain important areas; helpful in the understanding of nursing theory; “reinforces the nursing process and also the theory behind it” (Leski, 2009, pp. 92-95).

Nursing Theoretical Framework

One of the most adaptable theories is King’s Goal Attainment Theory (GAT). This researcher wrote a paper (2012) applying GAT to tutoring and realized this theory is easily
adaptable to any aspect of nursing. The idea is that each person has three areas that pertain to achieving a goal. These three areas are perception, judgment, and action. There is the instructor and the student. Then there must be a transaction. This transaction has four areas that need to occur. These transactions are reaction, interaction, transaction and feedback. This was called the transaction model. This model can be adapted to the simulation learning. The simulated patient and the student. The patient’s perception, judgment and then the student’s perception, judgment. The interchange brings action between the two. The transaction is the reaction and interaction between the student and the simulated patient that brings an action. The debriefing can bring about feedback that can bring improvement for the student in clinical laboratory skills acquisition and competence. The increase in acquisition and competence increases the student’s confidence bringing about integration of nursing theory in practice.

To best understand the adaptation theory one must understand the key terms identified by King (King, 2010), the three areas defining the student and or teacher are perception, judgment, and action. Each individual has a “perception, a defined meaning of the environment, health, their growth, and development” (Mishmash, March, 26, 2012, p. 12). The perception is where an individual interacts with the environment, other individuals, etc. Upon an interaction then the individual “forms judgments, a predefined truth or non-truth that one will buy into” (Mishmash, March 26, 2012, p. 12). Once a judgment is formed an individual will then take action, “what one will do or what they will not do” (Mishmash, March 26, 2012, p. 12). When the student and teacher combine these three together, this forms an interaction and this begins what King refers to as a feedback system (King, 2010, p. 151). This feedback system loop is best defined in Table 1: The Transaction Model. When each student interacts with another student in this feedback system, one is looping, not only to one’s self, but also with the other individual. Each student
experiences a feedback loop and positive reactions lead the students to positive learning outcomes (King, 2010, p. 150, adaptation by this writer).

An example of the transaction model in regards to videotaping of skills for check offs and peer review: Both students arrive for the videotaping at the scheduled time. Each student perceives the each student is ready to record one another. Students bring their perceptions and ability to judge as they evaluate each other’s skill performance using the evaluation check list. The action is doing the while being recorded. The reaction is the giving and receiving the critique. The interaction is discussing the critique and debriefing with each other. The transaction is the give and take between the two students before, during and after the peer review. The feedback loop then continues.

Key Words

Videotaping- An instructional tool using a video recording camera that is interconnected to a computer. The camera is mounted on the ceiling in the nursing lab. The video camera and computer are used to record the student performing the skills check off (Pueblo Community College Fremont Campus, 2009, pg. 1) (Yoo, Yoo, & Lee, 2009, pp. 402 & 403).

Peer Review- Critical feedback from a peer providing critical critique of ones skill performance and professional behavior for improvement (Yoo, & Chae, 2011, p. 231).
Self-assessment- Self-reflection and self-review of video tape performance as an effective method of evaluation of one’s own behaviors, such as communication and interaction skills (McConville & Lane, 2006) (Yoo et al, 2009, p. 402).

Clinical Skills Check Off/Evaluation- A checklist that is much like a rating scale with the difference being a lists of steps to be followed in performing a procedure or carrying out a specific intervention. This specific checklist is then used by the instructor to evaluate a student’s performance (Caputi & Engelmann, 2004, p. 171).

Perceptions- “the act or faculty of perceiving, or apprehending by means of the senses or of the mind; cognition; understanding. The result or product of perceiving, as distinguished from the act of perceiving; percept” (Dictionary.com, definition 1, 3).
Judgment- “the ability to judge, make a decision, or form an opinion objectively, authoritatively, and wisely, especially in matters affecting action; good sense; discretion. The forming of an opinion, estimate, notion, or conclusion, as from circumstances presented to the mind” (Dictionary.com, definition 2, & 4).

Action- “something done or performed; act; deed. An act that one consciously wills and that may be characterized by physical or mental activity. Actions, habitual or usual acts; conduct. An effect or influence” (Dictionary.com, definition 2, 3, 4, & 7).

Reaction- “action in response to some influence, event, etc.” (Dictionary.com, definition 3).

Interaction- “reciprocal action, effect, or influence” (Dictionary.com, definition 1).

Feedback- “a reaction or response to a particular process or activity. Evaluative information derived from such a reaction or response. A knowledge of the results of any behavior, considered as influencing further performance” (Dictionary.com, definition 3, 4, & 5)
Chapter III

Method

Description of the Research Design

The purpose of the study was to determine perceptions of the effectiveness of videotaping and peer review for nursing skills check-offs in an associate degree laboratory setting, as determined by preparedness for doing skills in clinical, level of stress and time taken to learn the skills. Review of both quantitative and qualitative literature determined a gap in knowledge regarding the perception of students’ utilizing videotaping as a means of fundamental nursing skills check-offs along with peer review. After the literature review a basic qualitative design was used to determine students’ perceptions of the effectiveness of videotaping and peer review or nursing skills. In order to describe student perceptions and to identify any commonly recurring themes in the data obtained, an interview qualitative design was selected for this study. According to Folkestad (2008) “interviews allow the respondents to reflect and reason on a variety of subjects in a different way than say opinion polls or party manifests. (p. 3). Opinions, attitudes, and perceptions were the variables of interest.

Qualitative research is seen as a, “systematic, interactive, subjective approach used to describe life experiences and give them meaning according to Marshall and Rossman (2006) in Designing qualitative research and Munhall (2001) in Research methods: a qualitative perspective (as cited in Burns & Grove, 2009, p.22). According to Hancock (2002) an introduction to qualitative research states’ that it is “concerned with developing explanations of social phenomena.” All authors agree that qualitative research is subjective and allows the subjective data to be obtained in the natural environment without the researcher manipulating the environment for the purposes of the study.
Identification of the Population and sample

The population of the study was students enrolled in a southern Colorado community college associate degree nursing program. The sample consisted of six students enrolled in Fundamentals of Nursing NUR 109, who used videotaping and peer review for their nursing skills checkoffs spring semester 2012.

Student participants were randomly selected. The student’s identification number given upon admission to Pueblo Community College is known as the S#. The last four digits of the S# were used to identify the subjects for this study. Randomize a List of Students Using Excel was used to randomly select the six participants. One alternate was needed as one of the first six did not respond to contacts made by this researcher. The last four of the S#’s for all the students that met the inclusion criteria were then placed on an excel spread sheet called S# list and then the random list was formed upon completion of each list then going back to the list of student names with their S# along with e-mail or other means of contacting the potential subjects. One alternate was needed as one of the first six did not respond via e-mail or answer the phone when called by the researcher.

Protecting Human Subjects

Before interviewing students, approval for this study was obtained from Colorado State University-Pueblo (CSU-Pueblo) and Pueblo Community College’s (PCC) Institutional Review Boards (see Appendix B & C for IRB approvals from both institutions). This study was conducted in accordance with the standards of the nursing departments at CSU-Pueblo and PCC and the IRB boards.

Information pertaining to the study participants was kept strictly confidential and managed as designated by the IRBs. Signed consent was obtained from the six students who
were randomly selected as study participants. (see Appendix A for Consent Form). The students were told that their participation was voluntary and that they could refuse to be in the study or stop at any time. There would be no consequence if they decided not to participate or to stop. Students were also told that their interviews would be recorded and used by the researcher to identify themes among the interviews. Consent forms and tape recordings of interviews will be maintained in a locked filing cabinet for five years and will then be destroyed by the researcher.

**Instrument**

The researcher, in consultation with the thesis committee, developed three interview questions. The interview questions were then field tested with three PCC associate degree second year nursing students who had checked off on nursing skills during the spring semester of 2011 and found that there were too few questions. Consequently, the researcher added five more questions to gauge student perceptions of the videotaping/peer review method.

The following were the interview questions used for the study:

1. Share your thoughts about the effectiveness of the videotaping of nursing skills and peer review, as determined by preparedness for doing skills in clinical, level of stress and time taken to learn the skills.

2. In your opinion, what was the most effective part of this approach?

3. In your opinion, what was the biggest barrier to using this approach?

4. Did you feel more prepared for the skill check off using the videotaping and peer review?

5. Did the amount of time it took to perform the skill and receive peer feedback limit the value of this method?

6. What made videotaping skills for check off a better learning experience?
7. What made videotaping skills for check off a less effective learning experience?

8. What other thoughts would you like to add regarding videotaping skills for check off?

Procedure

The researcher followed up an initial contact e-mail with a phone call to the randomly selected students and, after explaining the study, arranged a time to meet for the interview. All interviews were conducted in a coffee shop. The first interview took place in a coffee shop in a mall in Colorado Springs since the first interviewee lived near this location. The second interview was in the coffee shop on the north side of Pueblo as the second interview lived near this location. All other interviews were conducted at a coffee shop in midtown Pueblo. The researcher met with each student, explained the study again, obtained written consent and began the interviews. The same questions were asked of all participants in the study. The interviewees were allowed to discuss each question as fully as they chose. The recorded interviews lasted one hour. The interviews were replayed by the researcher looking for common themes to emerge.

Data Analysis

The researcher decided identified and analyzed common themes using a concept map and determined how many positive and negative responses occurred. Results are discussed in Chapter IV.
Chapter IV

Results

The purpose of this study was to determine student perceptions of the effectiveness of videotaping and peer review for nursing skills check offs in an associate degree laboratory setting, as determined by preparedness for doing skills in a clinical, level of stress and time taken to learn the skills.

A total of six interviews were conducted with associate degree nursing students enrolled in NUR 109, Fundamentals of Nursing, at a southern Colorado community college during spring semester 2012. Each interview, consisting of eight questions, lasted one hour each and were audio-recorded. Upon completion of all six interviews each individual recording was listened to over a course of three hours to extrapolate recurring words and or themes.

In order to understand the recurrence of words or themes, the researcher decided to do a cognitive map (a type of concept mapping) of the responses to the questions onto a large piece of paper. Once each interview was cognitively mapped, themes were able to be detected. The number of positive and negative responses were then identified. Since the study defined effectiveness as preparedness for doing skills in a clinical, level of stress and time taken to learn the skills, the data was grouped according to these topics.

A total of ten themes emerged from the data extrapolation. Common themes that emerged included: comfortable with skill or peers, lack of orientation to equipment, prepared, learning experience, acting or pretending, schedule or pressure, instructor feedback, likes, dislikes, ideas to improve videotaping check off. These ten were then grouped into the effectiveness measures of preparedness for doing skills in clinical (instructor feedback, learning experience, preparedness), level of stress (comfortable with skill or peer, acting/pretending, lack of
orientation to equipment) and time taken to learn skills (schedule or pressure). Likes and dislikes and areas for improvement were kept separate.

**Participant responses related to preparedness for doing skills in clinical**

All students commented on the time it took for instructors to review the videotapes and give feedback.

“The semester was almost over and many still had not heard any feedback on the video and had been in clinicals; for all the student knew was performing the skill wrong.”

“Lack of prompt feedback. Prompt instructor feedback necessary.”

It is necessary to have “better instructor feedback.”

“The instructor feedback made it a delayed learning experience.”

The majority of the subjects appreciated the immediate peer feedback. But the instructors were not giving feedback in a timely fashion- within 48 hours. In a study by Harrison, Konings, Molyreux, Schuwirth, Wass, & van der Vleuten, observed the following, “Those arguably most in need engaged the least. We need to construct feedback after summative assessment in a way that will more effectively engage those students who need the most help. Those arguably most in need engage the least (rearranged for greater emphasis by this researcher).” (Harrison, Konings, Molyreux, Schuwirth, Wass, & van der Vleuten, 2013, p. 734). Also a study performed by Lu, Lin, and Li states, “Give prompt feedback: in this study, unlike with traditional classroom lectures, students did not have to wait for the next class to obtain feedback” (Lu, Lin, Li, 2009, p. 75).

The subjects all discussed the learning experience in terms of a good or bad experience.

“Videotaping skills check off was a different learning experience, taken seriously, and learning to be with peer partner.”
“I learn best by being shown, taught, and then do. This type of skills check off met my hands on learning style.”

“Learn to look at self and how well I did or did not do.”

“In a sense this learning tool gave you extra time to practice; able to run through right before taping.”

“I was not a big fan at first of this learning tool but learned to like it.”

“I did not like videotaping. I found it to be a bad learning experience.”

The majority of the comments were positive about the videotaping/peer review method. However, one subject who commented, “I did not like videotaping. I found it to be a bad learning experience.” The student may have made this comment because she felt more like she was acting and pretending than with live check off and the instructor being present. The student also commented that she disliked videotaping because she not only experienced difficulty with equipment function but also discussed having difficulty with finding a group of peers that she could trust and feel comfortable with. Smyth and Long (2012) stated in their conclusion, “some students in this study experienced the clinical environment with anxiety, stress and vulnerability, which prevent effective learning and is evident in the literature [Timmins & Kalizer, 2002; Suliman & Halabi, 2006; Moscaritolo, 2009] (Smyth and Long, 2012, p. 153).

Most comments about preparedness for doing skills in clinical were positive. One subject did not feel prepared for clinical.

“Confidence booster. More prepared for video check off. I felt better prepared for clinical.”

“Clinical preparation crucial.”
It is essential for nursing students to practice each skill prior to a skills check off to demonstrate that the student can competently and safely perform each skill in the clinical setting on a live patient. Clinical practice confirms King’s Theory of Adaptation. Applying the “transaction model, table 1” in this scenario the peer would substitute for the instructor in the feedback loop (Mishmash, March 26, 2012, p. 11). Upon completion of this feedback loop the student would have acquired the skill and confidence by adapting to the learning environment of video check offs. A nursing student’s confidence (self-confidence) in clinical is built not only on the ability to perform a skill in clinical but also on the support of one’s peers as well. This principle was discovered by Smyth & Long (2012) Understanding the influences on self-confidence among first-year undergraduate nursing students in Ireland, the authors discuss the negative experience that the subjects of their study had regarding peer review; “Peer support was a powerful influence in reaffirming students’ abilities in a supportive environment. (Smyth & Long, 2012, p.152).

**Participant responses related to level of stress**

All interviewees commented on their comfort level when videotaping skills and receiving peer feedback.

“Practiced until comfortable with skill.”

“Peer review effective because the peer is on same level.”

“Peers allowed classmate to re-do video; more comfortable with submission.”

“Helps confirm mistake.”

“Lack of comfort with peers was dependent on group dynamics.”

“Performed with chosen classmates increasing comfort with peers.”

“Felt more comfortable with live check off and with instructors than video and peers.”
“I did not receive peer feedback when videotaping. Only during practice did I get peer feedback.”

The majority of responses reveal that the students were comfortable with videotaping of the skill and peer feedback. The responses that differed, i.e. “lack of comfort with peers was dependent on group dynamics” was made by an interviewee who attempted to give peer feedback. The student receiving the feedback from the interviewee was observed to “blow off the feedback: leaving her to surmise that it was dependent on the group dynamic. This statement can be linked in the study by Smyth and Long (2012) “…Conversely, negative experiences were also reported and an instant reduction in self-confidence resulted from a lack of inclusion as a valued member of the team, participants felt submissive such as experiencing exclusion, isolation, and humiliation” This adverse effect is supported in the study by Fortsch, Henning, and Nielsen (2009) found the following, “And if you’re not liked, it’s really hard. It’s a lot harder for some people to get by than other people. These students also felt that they would not receive the best clinical experiences if they were not well liked.” The findings from this study, “recognized the importance of interpersonal relationships to their learning” (Fortsch, Henning, and Nielsen, 2009, p.118). The student who received no peer feedback when videotaping seemed to have also experienced the lack of peer support.

The other differing response, “felt more comfortable with live check off and with instructors than video and peers,” was because the interviewee “values human connections more than simulated taping”.

A study by Dunnington (2011) talked about nature of reality represented in high fidelity human patient simulation: philosophical perspectives and implications for nursing education. Although this study deals with non-high fidelity simulation mannequins, the following statement
applies; “the representation of reality in health-care simulation is worthy of analysis for the potential transformative impact of simulation on the development of healthcare professionals and on health care in general. (Dunnington, 2011, p. 14).

Acting or pretending during check off was commented on by three of the six subjects.

“I felt I was acting.”

“I felt more like I was acting and pretending than with live check off and the instructor being present.”

“It felt more like pretending. The mannequin does not talk back.”

“It felt weird at first.”

In most nursing skills labs with practice and performance of the skill either by videotaping or live check off there is a scripted manner to these proficiency requirements in order to prepare students for the actual performance in clinical. The interviewees who felt it that videotaping was more like acting and pretending may have thought so because feelings of awkwardness with being in front of a camera with non-talking mannequin “patient”.

Lack of orientation to the equipment used for videotaping was a universal complaint. Only one subject did not desire an orientation to the equipment as the student was very familiar with the technology. Most of the subjects lacked technology savvy and voiced a need for a brief orientation to the equipment.

Equipment needs to be “more user friendly.”

Needs “more compatibility with all laptops and USB devices.”

“Ate up time causing students to rush, increasing anxiety.”

“Increased anxiety due to mechanical issues increased chances for making mistakes.”
“Lack of orientation to equipment, system and accessory equipment increased time for videotaping.”

“Peer orientation to equipment by second year student, otherwise no orientation.”

“Posted examples on computer in the lab, snap shots of some items on how to” would be helpful.

Since the students were focused on not being able to run the video equipment or having the equipment not work properly, taping time was longer than it was supposed to be causing delays in other groups starting and finishing.

In a study by Blake (2010) a study, Computer-based learning objects in healthcare: the student experience. Although this study is discussing e-learning materials it was found that the subjects of Blake’s study felt that “e-learning materials need to be easily accessible” and that the “barriers to the use of” these e-learning materials not only accessing and using these materials is also “dependent on IT confidence and… was identified as a barrier among nursing students” (Blake, 2010, p. 9).

**Participant responses related to time taken to learn skills**

Most of the interviewees felt no time pressure for scheduling the videotaping.

“Saves the teachers’ time” (as opposed to arranging time for live check off).

“I felt lack of any pressure. It forced my group to have time management.”

“Time barrier not a problem for my group.”

“I felt a little less pressure. We were able to choose our own time.”

Similar comments were noted in a study by Stables (2009) the study was regarding observed clinical structural exams. Stables noted “setting observed clinical structural exams can improve the quality of student learning and enable the development of autonomous learners
Clinical skills checks offs are themselves a structured clinical exam of skills. Stables further discovered that a “variety of learning, feedback and assessment of experiences for all students, in line with Chickering and Gamson’s (1987) Seven Principles for Good Practice in Undergraduate Education,” were essential (Stables, 2009, p. 17).

The following were negative comments made regarding either time or pressure:

“My group found it to be time consuming.”

“My group always felt that there was a time constraint. My group felt like we could use more practice time.”

“My group felt it would be more effective if we had more time for the taping of the skill. We felt rushed with each video skill needed to be turned in.”

Some students felt that the time constraint was due in part to the equipment issues. Some felt that scheduling was a problem because of the need to accommodate all members of the group, as well as, balancing didactic schedule and lab schedule, study time and family constraints.

In a study of medical students by Cook, Dupras, Thompson, and Pankratz (2005). The researchers found that a web-based learning model had similar negative comments and experiences regarding time constraints on their participants “perceptions of technical problems had a significant effect on course preference as well” (Cook, Dupras, Thompson, and Pankratz, 2005, p. 95).

**Likes**

The subjects freely discussed what they liked about the videotaping of the skills for check offs:
“When we had enough time for peer review, peer assistance, and to back and repeat the taping.”

“Picking our own group to work with and time to record the video for submission.”

“Helps to look at yourself and ability to watch it again.”

“Forces you to learn.”

“Getting extra input that you might not have seen (regarding mistakes made while videotaping).

In Stables’, (2012) pilot study regarding a new teaching model using peer learning, the researcher discovered the following, “the students said their understanding and confidence had been enhanced… Feedback and support during the session was seen as timely and effective. …Active learning methods involve students being guided in their learning rather than simply taught. When these methods are adopted, students usually retain more of what they have learned, develop more positive attitudes, and acquire superior problem-solving skills and more motivation to take up further learning opportunities [Snyder, 2003] (Stables, 2012, p. 15, 16).

Dislikes

The length in time it took instructors to give feedback was the major dislike. Other dislikes were related to non-working equipment which has already been discussed.

“I felt like some of my classmates were lazy and commenting, ‘it’s just a video.’”

“The lack of my classmates’ professionalism while I was recording; making inappropriate comments or faces.”

“Less professional behavior due to no instructor, student(s) guilty of this behavior should have a point deduction for unprofessional behavior.”
Fortsch et al, (2009) states, “… Students learn by trying to make sense of their experiences” (Fortsch et al, 2009, p. 112). In the case of the students verbalizing their dislike of the videotaping it is this researcher’s opinion that there are indeed “trying to make sense of their experiences.” Walker, Clendon, & Walton (2015) found, “Being able to deliver professionally appropriate care was seen as essential to job satisfaction and a decision to remain in nursing also depends on this. Being able to deliver professionally appropriate care is, therefore, crucial to general nursing workforce morale (Walker, Clendon, & Walton, 2015, p. 12).

**Ideas for improving videotaping/peer review**

“If protocol was followed, it would be more effective since instructor feedback would then be sooner.”

“Camera set to visualize more angles in order to fully see if student is making a mistake.”

“Videotaping should be for the less crucial skills; bed bath, enema, and nasogastric tube insertion. The more crucial skills, sterile wound dressing and Foley, should be live check offs.”

The students were more than happy to give their suggestions for creating a more effective and more productive videotaping skills check off and peer review. Fortsch et al (2009) described the underlying motivation for students as follows; “first, motivation can be enhanced when students perceive their learning as relevant to their professional success. Students who are more deeply engaged in their field experiences tend to benefit from them more fully. Second, the process of learning how to formulate questions, pose problems and think through complex tasks enables students to develop their reasoning skills, acquire self-directed learning strategies and integrate their theoretical knowledge with practical decision-making processes” (Fortsch et al, 2009, p. 112).
Limitations

The limitations of the study were:

- Small sample size. A small size limits generalizability to a larger population.

- Not every participant followed the protocol that had been developed for videotaping and peer review. The protocol put in place in 2009 was designed for two students in NUR 109 to videotape together— one student performing the skill while being recorded by the other. The peer reviewer had the skills evaluation sheet to make notes (if any) mistakes were made. The student being recorded in turn was to perform the same function for the reviewer. (Pueblo Community College-Fremont Campus, 2009).

- Self-reporting. With an interview method, the researcher cannot know how truthfully respondents have been. “Wanting to please” and “wanting to seem professional” may affect the ways interviewees respond to the questions.

The following Table 2 identifies all the themes with the participants’ complete quotes.

<table>
<thead>
<tr>
<th>THEMES FROM INTERVIEWS WITH COMPLETE QUOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2</td>
</tr>
<tr>
<td>Comfortable with Skill or Peers</td>
</tr>
<tr>
<td>6 positive responses; 3 negatives</td>
</tr>
<tr>
<td>“Practiced until comfortable with skill.”</td>
</tr>
<tr>
<td>“More comfortable with human, helped more than critique.”</td>
</tr>
<tr>
<td>“Peer review effective because the peer is on same level.”</td>
</tr>
<tr>
<td>“Peers allowed classmate to re-do video, more comfortable with submission.”</td>
</tr>
<tr>
<td>“Helps confirm mistake.”</td>
</tr>
<tr>
<td>“Lack of comfort with peers was dependent on group dynamics.”</td>
</tr>
<tr>
<td>“Performed with same chosen classmates increasing comfortability with peers.”</td>
</tr>
<tr>
<td>“Felt more comfortable with live check off and with instructors than video and peers.”</td>
</tr>
<tr>
<td>“I did not receive peer feedback when videotaping. Only during practice did I get peer feedback.”</td>
</tr>
<tr>
<td>Lack of Orientation</td>
</tr>
<tr>
<td>6 negatives; 1 positive</td>
</tr>
<tr>
<td>“More user friendly.”</td>
</tr>
<tr>
<td>“More compatibility with all laptops and USB devices.”</td>
</tr>
<tr>
<td>Prepared</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Learning experience</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Acting or pretending</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Schedule or pressure</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Instructor feedback</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
“Lack of prompt feedback. Prompt instructor feedback necessary.”
“Better instructor feedback.”
“Delay of instructor feedback.”
“Length of instructor feedback annoying.”
“The instructor feedback made it a delayed learning experience.”

<table>
<thead>
<tr>
<th>Likes</th>
<th>Dislikes</th>
<th>Ideas for improving videotaping/peer review</th>
</tr>
</thead>
</table>
| “When we had enough time to peer review, peer assistance, and go back to repeat the taping.”
“Picking our own group to work with and time to record the video for submission.”
“Helps to look at yourself and ability to watch it again.”
“Forces you to learn.”
“Getting extra input that you might not have seen (regarding mistakes made while videotaping).” | “The amount allotted time for the overall taping, felt a like a time constraint… especially when equipment not working and ate up most of the allotted time for taping.”
“Time crunch occurring in relation to when we would get the USB drives back before the next videotaped skill was due. I also felt like some of my classmates were lazy and commenting, ‘it’s just a video.'”
“The lack of my classmates’ professionalism while I was recording, making inappropriate comments or faces (when performing the bed bath).”
“Less professional behavior due to no instructor, student(s) guilty of this behavior should have a point deduction for unprofessional behavior.” | “If protocol followed would be more effective as instructor feedback would then be sooner.”
“Camera to have more angles in order to see student from different angles to fully see if a student is making a mistake.”
“Videotapping should be for the less crucial skills; bed bath, enema, and NG. The more crucial skills, sterile wound dressing and Foley catheter, should be live check offs.” |

Table 2 Continued
Chapter V

Conclusions and Recommendation

Conclusions

The purpose of this study was to determine student perceptions of the effectiveness of videotaping and peer review for nursing skills check offs in an associate degree laboratory setting, as determined by preparedness for doing skills in clinical, level of stress and time taken to learn the skills. Based on this limited study, it can be said that interviewees were comfortable doing videotaped check offs with peer review; that the students felt prepared for clinical and that it was a positive experience with no pressure on their schedule. It can also be said that students were dissatisfied with the orientation to the equipment and the lack of functionality of the equipment; felt that they were ‘acting/pretending; and that instructor feedback was not provided in a timely way.

Therefore, it can be concluded that videotaping of skills with peer review as a method of checking off on required nursing skills can be a positive experience when the following conditions are met:

1. If the check off was more realistic, reducing the sense of acting or pretending. Use of a high fidelity mannequin may be helpful.
2. If the equipment was working well and there was an orientation to that equipment.
3. If there was timely (within 48 hours) instructor feedback. Making sure instructors are oriented to the protocol to be used and getting commitment to providing within 48 hours feedback is essential.

Recommendations
Further studies need to be done related to this topic using a larger sample size. More specific questions related to student perceptions could be developed. Exploring the suggested idea by the interviewees to videotape less critical skills such as bed bath, enema, and nasogastric tube insertion. Any sterile procedures, such as sterile wound dressing with adding to a sterile field and Foley catheter placement, would be performed live with the instructor present. Exploring other methods for checking off required skills could be studied. According to Dunnington, in the summary of High Fidelity-Human Patient Simulation, “to answer the important question regarding realism and representation is with further research” (Dunnington, 2011, p. 21).

Summary

Videotaped assessment of skills in a simulated environment is a useful tool for determining a student’s readiness for clinical practice. Brimble (2006) “…showed that students regard the use of video cameras in the clinical skills laboratory as a useful tool for assessing competency.” Brimble’s study further discovered, “Fewer students expressed concerns about this approach after they had experienced it and even those who had experienced concerns recognized the benefits (Brimble, 2006, p. 26). Clinical practice ties together classroom theory to hands on application. Fortsch et al (2009) discovered, “participants appreciated the value of integrating their course work with their course work with their clinical experience, supervision that allowed freedom while providing support, frequent and honest feedback (emphasis by this researcher), recognition for their efforts (especially from patients) and the importance of interpersonal relationships for establishing trust (emphasis also from this researcher) (Fortsch et al, 2009, p. 112).
References


Dictionary.com @ http://dictionary.reference.com/browse/


Appendices
Appendix A

Consent Form

Colorado State University-Pueblo
College of Engineering, Education and Professional Studies
And
The Department of Nursing Consent to Take Part in a Research Study

Subject’s Last Four Digits of Student Number:

____________________________________

Title of Research: Comparison of Evaluation Methods in an Associate Degree Nursing Skills Laboratory

Investigator’s Name: Barbara “Laurie” Mishmash, BSN, RN

Consent for the Research Study: This is an important document. If you sign it, you will be authorizing Colorado State University-Pueblo to perform a research study using you as a subject. Please take your time and read it carefully. Do not sign it unless you are comfortable with participating in this study.

Purpose of Research: You are being asked to participate in a research study to determine the effectiveness of videotaping and peer review versus traditional skills check offs in an associate degree laboratory setting. This research project is being competed in partial fulfillment to obtain a master’s degree in science with a major in nursing in the educator track at Colorado State University-Pueblo.

Procedures and Duration: The following procedures will be performed:

- After you sign the consent form, you will be asked to complete one eleven question survey.
- This will take about ten minutes.

Risks and Discomforts/Constraints: None

Benefits: Your participation in this project will provide information about the effectiveness of videotaping nursing skills with peer review.

Alternative Procedures: The alternative is not to participate in this study.

Reasons for Removal from Study: This is a one-time survey. You may be required to stop before
4.27.13
IRB Review
Proposal Title: Student perceptions of an innovative evaluation method in a nursing skills laboratory
Principal Investigator: Barbara L. Mishmash
New application

Dear Barbara,
Thank you for submitting your application “Student perceptions of an innovative evaluation method in a nursing skills laboratory”. Your application has been reviewed according to the policies of this institution and applicable federal regulations. The review category for your application is Exempt. This letter serves as notification that you now have IRB approval for a period of 12 months from the date of this letter. The expiration date for your approval is 4.27.14. Once human research has been approved, it is the Principal Investigator’s responsibility to report any changes in research activity related to the project, including revisions or amendments, serious adverse consequences, renewal or completion. If you have any question, please contact me at barbara.brettgreen@colostate-pueblo.edu. Thank you for your concern regarding the protection of human subjects, and good luck with your research.

Best Regards,
Barbara Brett-Green
IRB Chair

Sincerely,

[Signature]

Barbara Brett-Green, Ph.D.
IRB Chair
07/20/2013
IRB Review
Title of Research Project: “Student Perceptions of an Innovative Evaluation Method in a Nursing Skills Laboratory”
Principal Investigator: Barbara L. Mishmash

Barbara,

Thank you for submitting your application for “Student Perceptions of an Innovative Evaluation Method in a Nursing Skills Laboratory.” I have reviewed your application in accordance with the policies of this institution and the Colorado Community College System. This letter serves as notification that you have been granted IRB approval for the above named research project. It is your responsibility to report any changes in research activity related to the project, including but not limited to revisions, amendments, unforeseen need for renewal, or completion. If you have any questions, please contact me at the address provided above, corey.shilling@pueblocc.edu.

Good luck with your research,

Corey M. Shilling
Director of Institutional Effectiveness
IRB Chair
Appendix D

CURRICULUM VITAE FORMAT

Laurie Mishmash,
RN, BSN

Colorado State University - Pueblo

Business Address: 694 Desert Flower
Pueblo, Colorado 81001
(719) 545-5321

Home Address: 3832 Sheffield Lane
Pueblo, Colorado 81005
(719) 250-3668

Laurie_szoo4@hotmail.com

EDUCATION

Colorado State University-Pueblo, Pueblo, Colorado
Master of Science in Nursing Education (anticipated completion date) 2015
Thesis: “Student Perceptions of an Innovative Evaluation Method in a Nursing Skills Laboratory

Colorado State University-Pueblo, Pueblo, Colorado
Register Nurse to Bachelor of Science in Nursing 2011

Trinidad State Community College, La Junta, Colorado
Associates Degree of Applied Science in Nursing 1990

TEACHING EXPERIENCE

Colorado State University- Pueblo, Pueblo, Colorado 2014-Present
Adjunct Faculty, Fundamentals of Nursing Lab

Adjunct Faculty, Caring for the Childbearing Lab

Colorado State University- Pueblo, Pueblo, Colorado 2011
Clinical Instructor/Practicum, Caring for Adults 1

Pueblo Community College, Pueblo, Colorado 2013-2014
Clinical Lab Coordinator
Pueblo Community College, Pueblo, Colorado
Adjunct Faculty, Med-Surge Clinical, Fundamentals lab/Clinical 2010-2014

RESEARCH EXPERIENCE / SCHOLARLY OR CREATIVE ACTIVITIES

Nursing Theory Poster 2012
Graduate Research Poster 2013

SERVICE / PROFESSIONAL ACTIVITIES [organized chronologically with most recent year first]

Sigma Theta Tau, Iota Pi Chapter