Impact of 5-Minute Preceptor Training on the Senior Nursing Student Perception of Clinical Preceptor Feedback Effectiveness

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Impact of 5-Minute Preceptor Training on the Senior Nursing Student Perception of Clinical Preceptor Feedback Effectiveness

by

Darla Daylene Smith

DNP Project submitted to
American Sentinel University
August 14, 2020
AMERICAN SENTINEL UNIVERSITY

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Darla Daylene Smith

Impact of 5-Minute Preceptor Training on the Senior Nursing Student Perception of Clinical Preceptor Feedback Effectiveness

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Abstract

Feedback is a tool that is often not utilized effectively. Clinical preceptors, when utilized, are the primary oversight for nursing students and should be able to provide feedback that is constructive and timely. Clinical preceptor feedback directly impacts the nurse generalists’ transition to practice which can increase competency levels by providing timely and quality feedback (Phillips, Mathew, Aktan, & Catano, 2017; Duteau, 2012). The purpose of this study was to determine if training clinical preceptors in the 5-Minute Preceptor method providing feedback to senior nursing students had an impact on the clinical teaching effectiveness. The research design was a comparative, two-group study with quantitative analysis, which utilized retrospective data from an undergraduate diploma program in the Southern United States. Senior nursing students in the final clinical immersion program from September 2018 to February 2020 were used as a convenience sample with a total of N=164 included in this study (n=100 before group, n=64 after group). Mann-Whitney U was used to analyze the data with a \( p < .05 \). Direct statements relating to feedback did not show significant correlations; however, the overall teaching statements showed significant findings on the Clinical Teaching Effectiveness Inventory (CTEI). Training clinical preceptors in how and when to provide feedback has an impact on the overall teaching effectiveness, which could have a direct impact on the graduate nurse’s transition to practice by offering feedback in relation to decision making and critical thinking abilities.

Keywords: clinical preceptor, nursing, development, feedback, student
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SECTION I: INTRODUCTION

Nursing clinical preceptor immersion programs are threaded throughout various nursing school programs from diploma to associate and baccalaureate undergraduate practice. Schools of nursing continue to expand nursing programs despite limited clinical sites and expanding faculty shortages (Schaubhut & Gentry, 2010). Clinical preceptors are specialists in the scope of practice that facilitate transition into practice and role competency of nursing students (Roth, 2015). Clinical preceptors are utilized to reduce the graduate nurse clinical competency gaps that have been identified in seminal studies as key factors in graduate nurse deficiencies in clinical knowledge, skills, and attitudes (Diefenbeck, Plowfield, & Herrman, 2006).

Clinical preceptors are sought out for nursing practice oversight for their knowledge and receptiveness of working with others, and most are chosen based on unit availability (Paton, Thompson-Isherwood, & Thirsk, 2009). Clinical faculty from educational institutions seek out clinical preceptors to carry out the student learning outcomes for the clinical components which include support, guidance, and of nursing students (Paton et al., 2009). Clinical preceptors are essential in not only introducing the nursing student to the profession but also as a keeper of patient safety and quality care.

The major role of the clinical preceptor is to assess and verify the competency of the nursing student (Roth, Figueroa, & Swihart, 2014). Clinical preceptors are the key components who are able to identify issues with students and provide feedback that models best practices (Tanriverdi et al., 2017). Often clinical preceptors do not have formal education in clinical teaching especially in providing feedback (Duteau, 2012). Therefore, the clinical preceptors must be knowledgeable of student needs, identify student weaknesses, and provide feedback immediately (Paton et al., 2009).
Providing students with performance-related feedback has been identified as the least taught portion of preceptor training and is the most difficult aspect of feedback to grasp by preceptors (Wilkinson, Couldry, Phillips, & Buck, 2013). This hesitancy may be due to the preceptor’s reluctance of feeling responsible for the student’s shortcomings, but it may also be due to the preceptor doubting his or her ability to provide adequate feedback (Wilkinson et al., 2013). Training clinical preceptors in how to provide quality feedback may provide them with additional knowledge and skills they need to facilitate an optimal clinical experience for the nursing student.

The 5-Minute Preceptor (5MP) has been identified as a clinical preceptor feedback technique for use within the clinical setting (Bott, Mohide, & Lawlor, 2011). The 5MP is a process by which the clinical preceptor can assess the students’ knowledge and clinical application as it happens in order to provide the student with immediate feedback (Bott et al., 2011). The project was designed to identify the impact of the 5MP simulation education on students’ perceptions of the clinical preceptor ability to provide feedback.

**Background of the Problem**

The Institute of Medicine (IOM, 2010) concluded that nursing needed to improve the overall education system and found that training methods of the 20th century are not adequate to meet the needs of the 21st century. The IOM recommendations include the implementation of lifelong learning tactics and transition-to-practice programs (IOM, 2010). Nursing education for the profession is based on teaching clinical competencies to ensure that patient safety is the highest priority (IOM, 2010). Therefore, nursing practice reflects the training that nurses receive as undergraduate students. The use of professional nurses who serve as clinical preceptors have been utilized in the traditional clinical setting to decrease the transition to practice gaps and
familiarize the students with clinical practice (Duteau, 2012). The transition to practice can, therefore, be affected by the clinical preceptor’s ability to form an effective learning environment and facilitate a constructive clinical learning experience for students by providing immediate feedback as the learning occurs.

Due to the impending faculty shortage, nursing programs can benefit the nursing students by reforming clinical practice from direct faculty observation to a clinical preceptor model (Tanriverdi et al., 2017). The recommended IOM (2010) goals included aligning practice and academia with evidence-based practices to increase the learning culture, and to increase student accountability in learning. Clinical preceptors in undergraduate nursing programs have an obligation to support learners in their quest to develop competencies for safe practice (Duteau, 2012). The best way to accomplish this is to train clinical preceptors on how to give and receive feedback from nursing students.

Bennett, Grimsley, Grimsley, and Rodd (2017) literature review findings of clinical experiences found gaps in clinical and classroom education, specifically that “program curricula not linking workplace expectations” (p. 98). Their findings indicate that the clinical competencies are declining due to inconsistencies in nursing education preparation. In order to produce nurse generalists that are clinically competent, we need to evaluate the system that produces them and the mechanisms that will enhance their ability to do clinical application and analysis at the bedside. The clinical education that nurses receive is indicative of how they will perform in the clinical setting (Dadgaran, Parvizy, & Peyrovi, 2012).

Kavanagh and Szweda (2017) found that only 23% of nurse graduates can demonstrate nurse generalist level competencies. These findings were based on an assessment of entry-level competency and practice readiness of 5000 new graduate nurses, with additional results
revealing that new nurses were unable to analyze the information and prioritize patient care without guidance (Kavanagh & Szweda, 2017). Nurse generalists are often so overwhelmed by the stresses of the required job skills that approximately 50% are likely to leave the profession due to gaps between academia and clinical application (Bennett, Grimsley, Grimsley, & Rodd, 2017).

Student clinical experiences enhance their overall nursing competencies when there is an established learning environment in which they can attain the application level of skills and clinical decision-making subsets (Tanriverdi et al., 2017). Literature reviews of student perspectives of clinical education concluded that learning was supported in a positive teaching environment when clinical preceptors were actively involved, the clinical preceptor and student roles were understood, and feedback was timely and supportive (Phillips, Mathew, Aktan, & Catano, 2017; Duteau, 2012). Clinical preceptors are key components of the nursing program instrumental to the students gaining clinical knowledge, skills, and attitudes (KSAs), as well as evaluation of the student’s readiness to enter nurse generalist practice (Paton, 2010).

National Council of State Boards of Nursing (NCSBN, 2012) requires clinical preceptors to hold an active license, and be able to supervise, teach, and evaluate the student’s performance in the clinical setting. The Texas Board of Nursing (2017) requires participation in a clinical preceptor orientation, and recommends, but does not mandate, the training of clinical preceptors to acquire knowledge, skills, and attitudes to enhance the student learning outcomes. The recommendations vary among state boards of nursing and accrediting agencies based upon the location of the nursing program. Nurse faculty with clinical preceptor oversight are responsible for reviewing the qualifications of the clinical preceptors, but often collaboration about
expectations and continued support for clinical preceptors is lacking (Phuma-Ngaiyaye, Bvumbwe, & Chipeta, 2017).

Clinical preceptors may have difficulty in their role due to the minimal training and lack of resources (Duteau, 2012). The lack of formal clinical preceptor training can negatively affect the senior nursing student’s transition to practice, which ultimately leads to burnout, decreased work productivity and low job satisfaction (Duteau, 2012). Consequences for not having set standards for clinical preceptors include lack of role preparation and role ambiguity (Luhanga et al., 2010).

The research institution’s nursing student surveys relating to feedback from the clinical preceptors have shown that 41% of the clinical preceptors could benefit from further feedback training. The lack of training for the clinical preceptors impacts the nursing students’ ability to clarify, verify, and correct any clinical decision-making areas associated with patient care (Smedley, Morey, & Race, 2010). The timing of the feedback should be immediate so that the nursing student has time to apply and practice the KSAs that have been identified by the clinical preceptor (Wilkinson et al., 2013).

**Review and Summary of Relevant Literature**

The purpose of the review and summary of relevant literature is to provide historical data and research associated with nursing clinical preceptor competencies and their ability to provide effective feedback. Electronic databases utilized to generate literature reviews include the Cumulative Index of Nursing and Allied Health (CINAHL) and ProQuest. Initially searches within the literature were conducted with various terms including clinical preceptor, preceptor development, clinical preceptor training, clinical faculty, clinical learning experience, undergraduate student nurse, and nursing student perceptions of feedback effectiveness.
Findings were broad and returned 2,086 articles from CINAHL and 11,970 articles from ProQuest. Search terms were narrowed to *nursing clinical preceptors, and training, and senior nursing students*. As the search continued, it was identified that there were items that needed to be excluded including certain terms such as *new nurse graduates, breastfeeding, graduate nursing preceptor orientation, and inter-professional preceptors*. The results were narrowed to include only English articles, resulting in 30 articles that were identified as having met the criteria for the population, training, and standards for the purpose of conducting this project.

**Clinical Preceptor Professional Background**

Clinical preceptors are important in the development of clinical thinking and application of skills of senior nursing student as they transition to practice (Bennett et al., 2017; Tanriverdi et al., 2017). Clinical preceptors are often chosen based on their availability as a registered nurse; however, there are not any set standards for proficiency levels in clinical teaching for clinical staff (Paton et al., 2009). Clinical preceptors are not generally trained in formal educational methods required to facilitate learning or evaluate strategies that assess nursing student competencies (Paton, 2010). Generally, clinical preceptors are recruited for their clinical expertise and years of experience (Luhanga et al., 2010).

Clinical preceptors should be recruited based on expertise and practical nursing experience; however, highly experienced nurses are the least willing to mentor students (Luhanga et al., 2010). Conversely, registered nurses with fewer years of experience are more willing to precept students as they perceive that they are of greater benefit to the learning process for the student and they gain valuable experience for themselves (Luhanga et al., 2010). Despite the clinical experience among clinical preceptors, the challenge of being an effective clinical preceptor is the ability to accurately assess the student’s level of knowledge and competence
during the clinical program (Paton, 2010). In order to sustain professional nurses in a clinical preceptor role, there should be support and guidance to articulate the ongoing training and development of the clinical preceptor (Paton, 2010).

Clinical Preceptor Standards

Research indicates there is no standard way to ensure that clinical preceptors receive training within academic models of adult learning, or exposure to formative feedback that ensures alignment with student outcomes (Luhanga et al., 2010; Paton, 2010; Kamolo, Vernon & Toffoli, 2017). The lack of formal standards of training and current ongoing education models indicate that clinical preceptors generally will continue to teach and provide feedback in the same manner they were trained (Kamolo et al., 2017). The recommended scope of practice for clinical preceptors is to include training in how to prepare evidence-based learning activities (Roth et al., 2014). Clinical preceptors must have access to or be offered education and training to provide them with the content needed to perform their role and to practice within their scope.

Clinical preceptors at the research institution are assigned to one senior nursing student at a time. This assignment allows for enhanced, individualized teaching with direct clinical application of skills and knowledge. The clinical preceptors’ availability to immediately answer the student’s questions and the student’s ability to work with the clinical preceptor from the beginning to the end of the shift allows for reflection and application of clinical concepts (Luhanga et al., 2010). Nursing student surveys of clinical preceptor teaching at the research institution indicate that feedback is lacking, and the students have requested training for the clinical preceptors that will enable them to provide immediate feedback during the clinical immersion program.
Modality and Preparation of Clinical Preceptors

A comprehensive literature review of qualitative, quantitative, and mixed methods studies revealed that the best way to enhance clinical preceptor knowledge, skills, and attitudes is to present information in various formats (Kamolo et al., 2017). Training and preparation programs for clinical preceptors varied from printed manuals, one-day workshops, computer-assisted modules, and self-paced instructional compact discs. There were noted differences in the use and application of the training materials; however, there was overall improved confidence in supervising the student learning environment reported by clinical preceptors after receiving some training (Kamolo et al., 2017).

In review of specific training programs or models related to clinical preceptors, Bott et al., (2011), found that there were no specific clinical preceptor teaching models in the literature related to clinical preceptors within the undergraduate nursing student population. They did note that there were teaching models used with other healthcare students, such as medical students and residents within the clinical setting. The most frequently reported model was the One Minute Preceptor (OMP) (Neher, Gordon, Meyer, & Stevens 1992). Bott et al., (2011) noted that the OMP did not meet the overall criteria of the nursing process and the patient scope was different.

The OMP was originally designed for medical diagnosis and treatment planning by medical students and residents (Neher et al., 1992). The OMP practice model incorporates feedback techniques that may be used by clinical preceptors to obtain patient information from the students and provide feedback that is directly related to the patient care situation (Neher et al., 1992). This technique allows the clinical preceptor to teach general practice, reinforce what was right, and correct mistakes (Neher et al., 1992). The OMP method was found to have
statistically significant improvements with clinical preceptor feedback that support the use of the OMP in clinical teaching (Bott et al., 2011).

The OMP model was adapted to nursing education and renamed the 5-Minute Preceptor (5MP) (Bott et al. 2011). The 5MP consists of components that are employed in a stepwise fashion to form one integrated strategy for instruction. The suggested 5MP steps include: step 1. get the student to take a stand; step 2. probe for supporting evidence; step 3. teach general rules; step 4. reinforce the positives; step 5. correct errors or misinterpretations (Bott et al., 2011). Step 1 initiated by the clinical preceptor to ask general questions or comments to have the student provide their interpretation of the specific clinical situation. This step allows the clinical preceptor insight into the student’s clinical decision making. In Step 2, the clinical preceptor asks questions that are specific to the clinical situation that can help guide the students. This step allows the clinical preceptor the ability to identify knowledge deficits. In Step 3, the clinical preceptor teaches the general rules of nursing with a maximum of three main points related to the clinical scenario. In this step, the clinical preceptor can share his or her expertise. Step 4 and Step 5 are feedback components related to reinforcing the student's competencies and strengths, correct errors and misinterpretations, and provide beneficial feedback to help the student increase their understanding and clinical performance.

One study was found that implemented the 5MP process and evaluated the satisfaction, work experience, and turnover intention of new nurse graduates following the implementation of the modified version of the 5MP renamed the 10-Minute Preceptor (10 MP) (Hu et al., 2015). The study utilized a repeated-measures design with an intervention and two-group comparison with a total of 107 new nurse graduates. The clinical preceptors attended a 4-hour educational workshop to train with the 10MP which entailed the clinical preceptor dedicating 10 minutes,
twice per day to discuss problems and issues, set goals and learning, and provide support and feedback. Data was collected at day 7, month 1, month 2, and month 3. The results indicate a statistically significant higher satisfaction with the clinical preceptors utilizing the 10MP model \((p=0.025)\) (Hu et al., 2015). In addition, participants in the 10MP group reported lower work stress levels and turnover intention than those in the traditional model clinical preceptor group.

**Student Learning Environment**

Literature indicates that the increased workload demands of the clinical preceptor position may limit their quality or quantity of time needed to adequately supervise or educate students (Phuma-Ngaiyaye et al., 2017; Bvumbwe, 2016). The clinical preceptor and nursing student relationship requires a collaborative clinical preceptor program which has mutual investment (Phuma-Ngaiyaye et al., 2017). Researchers found the clinical preceptors should provide adequate resources and create a positive learning environment (Kavanagh, & Szweda, 2017; Tanriverdi et al., 2017). Clinical preceptors must have adequate education and clinical experience to collaborate with the nursing student to ensure that the clinical experience meets the academic institution’s standards.

Students in clinical preceptor programs reported lack of continuity of the learning experience and lack of security when they were moved from one clinical preceptor to another during the same clinical rotation (Luhanga et al., 2010). The consistency of a clinical preceptor learning environment is a vital element for developing an effective relationship for the nursing student and the clinical preceptor (Luhanga et al., 2010). Clinical preceptors that are not in direct contact with the student consistently will not be able to evaluate the student’s overall clinical application and skills due to insufficient time spent with the student to become familiar with the student’s strengths and weaknesses.
Feedback

Providing nursing students with feedback is a crucial skill of clinical preceptors, as feedback is important to the success of each nursing student. Specifically, formative feedback helps a trainee (nursing student) to build upon the foundation of skills and behaviors related to patient care which allows them to progress and practice in a safe manner (Wilkinson et al., 2013). There are challenges to feedback, but overall training deficiencies or absences of feedback techniques with clinical preceptors are the most evident (Wilkinson et al., 2013).

To individualize the needs of the learner, in this case the nursing student, there are more opportunities for change if feedback is received immediately which allows for ongoing learning and clinical application (Luhanga et al., 2010). The overall process is designed to obtain, receive, and provide feedback immediately so that behavior changes can be made sooner rather than later. If clinical preceptors do not receive training in providing feedback, nursing students may lose the opportunity to learn from the clinical experience for future practice. The reflection and application from feedback is the cornerstone for a trainee to be able to progress effectively (Wilkinson et al., 2013).

Summary of Review of Relevant Literature

Nursing students perceive that feedback from clinical preceptors is a crucial component of the learning environment (Duteau, 2012). Nursing students at the research institution have identified that 41% of the clinical preceptors are not prepared to offer regular, specific, and constructive feedback. Literature supports clinical preceptor development through education and training, and shows that formal training impacts the clinical preceptor’s knowledge enhancement, skill set, and overall performance related to student outcomes (Kamolo et al., 2017; Duteau, 2012).
Nursing student perceptions indicate the need for clinical preceptors within the research institution to be trained in feedback techniques. Clinical preceptors who receive training on how to be effective clinical preceptors yield higher student satisfaction and self-efficacy scores on evaluations (Kamolo et al., 2017). There is no consensus on the best training programs, but studies indicate that workshops and interactive online training are the most effective (Kamolo et al., 2017). It is important to determine the impact of clinical preceptor education on the clinical preceptor efficacy as evidenced by the student’s perceptions of the clinical preceptors.

**Statement of the Problem**

Clinical preceptor programs have been acceptable alternatives to direct faculty clinical observation and are being utilized in many nursing programs. The flexibility and availability to use actively practicing registered nurses as a clinical preceptor increases the students’ clinical acclimation (Diefenbeck et al., 2006). Clinical preceptors are generally practicing Registered Nurses (RNs) who most often have no formal training with formative feedback practices (Luhanga et al., 2010). The lack of formal training may be a contributing factor to the clinical preceptors’ lack of knowledge or skill to provide effective feedback that students perceive as beneficial. Effective feedback is necessary to prepare nursing students to function as qualified practitioners upon completion of a nursing program. This lack of training may be why nursing student perceptions of the clinical preceptor’s ability to provide feedback have been reportedly low at the research institution.

Nurse generalist competencies were studied and found to be less than adequate and were not able to demonstrate sufficient skills which, consequently, affects patient safety and increases the potential for nursing burnout (Kavanagh & Szweda, 2017). Competency gaps between didactic and clinical application components in first-year nurses are also indicators of increased
turnover rates of up to 50% as new nurses feel inadequately prepared for the pace and challenges of high-acuity patients (Bennett et al., 2017). High nurse burnout and turnover have been correlated with adverse patient outcomes, such as decreased patient safety and quality of care (Lasater & McHugh, 2016). Nurse turnover is also costly to healthcare organizations with an average of up to $88,000 per nurse (Li & Jones, 2013).

Upon entering the nursing profession, nurses’ feelings of inadequacy may be due in part of the inability of the clinical preceptor to provide effective feedback that may advance student learning in the clinical area or improve their current clinical practices. At the research institution, clinical preceptors are providing inadequate and inconsistent feedback, as evidenced by the nursing student ratings of the clinical preceptors. This ineffective feedback fails to provide students with learning opportunities to improve their current clinical practice, which could potentially lead to the nursing students’ feeling inadequately prepared to enter the nursing profession upon graduation.

**Purpose of the Project**

The purpose of the quantitative, retrospective, comparative two-group study was to determine the impact of feedback training with clinical preceptors on nursing students’ perceptions of clinical preceptor feedback during the clinical immersion program. This was accomplished by providing clinical preceptors formal training utilizing the 5MP model. The impact of the training was determined by measuring the student’s perceptions of the clinical preceptors before and after the 5MP training. This project answered the research question: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?
The null hypothesis was: There was not an impact on the nursing student perceptions of the clinical preceptor feedback after the 5-Minute Preceptor training.

The alternative hypothesis was: There was an impact on the nursing student perceptions of the clinical preceptor feedback after the 5-Minute Preceptor training.

**Significance of the Project**

The challenges with adequate clinical preceptor models of clinical preceptor programs include “preceptor-student ratio; lack of time; work overload and role conflict; clinical expertise and clinical teaching experience of the preceptor” (Luhanga et al., 2010, p. 5). The comprehensive literature search by Kamolo et al., (2017) concluded that clinical preceptor development training programs are key to supporting clinical preceptors regarding workload management and enabling the clinical preceptors to acquire usable knowledge and skills when working with nursing students. The research institution’s nursing student surveys of clinical preceptor’s showed that 41% of the clinical preceptors were not able to recognize and provide formative feedback regularly. The lack of feedback may be due to the lack of training of the clinical preceptors about timely and constructive feedback. Clinical preceptors benefited from receiving training about identifying the need and appropriate timing to provide nursing students with immediate feedback related to clinical practice.

The only clinical preceptor training that was required was composed of one education module that is one-hour in length and completed via the electronic learning management system from the research institution. The training module was designed to meet the regulatory requirements of an orientation process which the Texas Board of Nursing has set forth (TBON, 2017). The module includes the regulatory overview of the academic standards of conduct regarding nursing students in the clinical immersion program and the expectations of the clinical
preceptor. The training offered no further review or application of giving and receiving feedback.

The projects simulation training with the 5MP, which was adapted to nursing education, was based on the Five-step Micro skills Model of Clinical Teaching which involves the following components: 1. get the student to take a stand (ask questions), 2. probe for supporting evidence, 3. teach general rules, 4. reinforce what was right, and 5. correct mistakes (Bott et al., 2011; Neher et al., 1992). The simulation included role-play activities to immerse the clinical preceptors in utilizing the feedback techniques with the 5MP model. After attending the simulation workshop, the clinical preceptors were able to quickly judge the actions and skills of a nursing student and provide immediate formative feedback by instituting the 5MP at the beginning and the end of the shift with the nursing students.

The significance of clinical preceptors providing effective and immediate feedback enabled nursing students to improve their current clinical practice before program completion. Upon graduation, the nursing students were better prepared to enter the nursing profession as well as had higher confidence in their clinical skills, which improved the quality of care they provide to patients. If nursing students can correct their practice immediately, they are better prepared to fill the role of the professional nurse when they graduate. If they feel more confident with their skills upon graduation, they are more likely to stay in their first job more than a year, thereby decreasing the first-year turnover rates. A reduction in turnover rates will not only reduce the nursing shortage but will reduce the institutional costs associated with replacing nurses and stabilizing patient quality outcomes.

**Nature, Scope and Limitations of the Project**

The project utilized a quantitative, retrospective, comparative two-group study to answer the question: What is the impact of 5MP training on the senior nursing student perception of
clinical preceptor feedback effectiveness? This was accomplished by comparing the Clinical Teaching Effectiveness Instrument (CTEI) scores completed by the nursing students before and after the clinical preceptors receive the 5MP training. The CTEI is an instrument used to measure clinical preceptor teaching effectiveness (Copeland & Hewson, 2000). This instrument was developed by Dr. Liesel Copeland and Dr. Mariana Hewson (2000) to provide feedback to the clinical preceptors about their overall teaching effectiveness. The CTEI is a psychometrically validated tool, and permission has been granted for its use within the research institution (Appendix D). The instrument will be used as it includes statements that evaluate the student’s perceptions of clinical preceptor feedback, as there are no tools that specifically measure feedback with clinical preceptors.

The CTEI was completed by the senior nursing students at the research institution to evaluate their assigned clinical preceptor’s performance at the end of the 120-hour clinical immersion program. The scores from the CTEI completed by nursing students from three graduating cohorts before the 5MP training and from three graduating cohorts after the 5MP training were compared. The comparison of nursing student’s perceptions of clinical preceptor feedback before and after the 5MP training allowed the primary investigator to identify the impact of the 5MP training on clinical preceptor feedback.

Scope

The population was a convenience sample of the nursing students from three graduating cohorts before and three graduating cohorts after the 5MP training. Data was collected from the September 2018, November 2018, and February 2019 senior nursing students who completed their clinical immersion program before the 5MP training, and was compared to the, November 2019, and February 2020 senior nursing students who completed their clinical immersion...
program after the implementation of the 5MP workshop. G*Power calculator was used to calculate the appropriate sample size.

The research institution includes a nursing diploma program in the southern United States. Nursing student population varies depending on levels of coursework but generally there are 260 students, with approximately 150 diploma students graduating annually. Senior nursing students participate in a clinical immersion program as their final clinical experience. The nursing students are paired with a clinical preceptor for 120-hours of direct clinical patient care. The nursing students are required to complete the CTEI as a summative evaluation of their assigned clinical preceptor at the completion of the 120-hour clinical experience.

**Limitations**

Convenience sampling could limit the generalizations of the project (Tappen, 2016). The convenience sample consisted of senior nursing students from various cohorts that completed the clinical immersion program from one southern diploma nursing program, and the perceptions of their clinical preceptors may not be the same as those from students enrolled in Associate Degree Nursing (ADN) or Baccalaureate of Science in Nursing (BSN) programs. The variations among the cohorts such as the group size, time of clinical placement, and demographics were further limitations. As the project was conducted at one institution, the results may not be generalizable to other institutions with different nursing programs or student demographics.

**Delimitations**

This project evaluated the senior nursing student surveys of the clinical preceptor regarding feedback effectiveness. The results may not necessarily be generalizable to other institutions; however, they may provide a representative sample from which future clinical immersion programs can be instituted. This project was not used to study new graduate nurses’
competencies as a nurse generalist, nor did it include additional or ongoing clinical preceptor training due to the time restraints of this project. The project did not evaluate whether the clinical preceptor had exposure to additional feedback training prior to the 5MP simulation which could bias the results. The assumptions were that the clinical preceptors did not have prior training in relation to feedback techniques.

**Theoretical Framework**

The Donabedian model was utilized as the theoretical framework for the project. The model has three components which include the structure, process, and outcome and how each component plays into the intended effect (Donabedian, 1966). Ayanian and Markel (2016) described the Donabedian model as a triad composed of the structure (environment, qualifications of the skilled personnel), the process (system in place), and the outcome which is affected by the structure and/or process. This theoretical framework model has been utilized to review system processes for efficacy and has been proven to be successful (Ayanian & Markel, 2016).

The Donabedian model was reviewed for nursing by Mitchell, Ferketich, and Jennings (1998) to show that the model could be utilized not only for treatment options, but also as a way to compare and improve care systems interventions and compare elements that have a perpetual effect on the outcome. Recognizing the knowledge and experiences of the nursing clinical preceptors, the proposed project was applied to the Donabedian model as the basis for training the clinical preceptor to engage with the nursing students in a formative feedback environment (system and process) so that they can effectively provide timely and appropriate feedback (outcome).
**Structure**

The structure for the project encompassed the clinical preceptors, senior nursing students, and clinical faculty oversight (See Figure 1 of Appendix A). The major components of the structure included the clinical preceptors (i.e., qualifications, including years of experience as a registered nurse and nursing degree), and senior nursing students (i.e., age and gender). The clinical faculty oversight served as advisors within the project to ensure consistency and continuity between the clinical preceptor and the senior nursing students. The clinical faculty oversight reviewed the CTEI surveys from the nursing students and adjusted accordingly for placements within the institution or with specific clinical preceptors. The clinical faculty oversight provided necessary feedback to the clinical preceptors regarding their overall teaching effectiveness and feedback performance.

**Process**

The process components for the project included the 120-hour clinical immersion program in which the clinical preceptor and the nursing student entered a 1:1 clinical rotation, and the clinical preceptors attended the 5MP training. During the clinical rotation, the nursing student assumed the role of the primary total patient care nurse with the clinical preceptor for ten shifts, which were 12-hours in length. Nursing students were exposed to the whole patient and nurse relationship by being actively engaged with the clinical preceptor during the entire shift daily. The second component was the 5MP training which included a one-hour simulation workshop focused on the 5MP model. The simulation included role-playing exercises with various nursing student encounters that clinical preceptors identified as difficult areas to provide feedback immediately. The training was based upon the 5MP model as described by Bott et al., (2011).
Outcome

The outcome of the project was directly affected by the perpetual variables from the structure and process. Clinical preceptors were evaluated by the nursing students on their teaching effectiveness focused on the formative feedback sessions. The focus of the outcome is that the nursing students would have a decreased transition to practice as they will have completed 120 hours of 1:1 formative feedback during the clinical immersion program. Essentially, the Donabedian model was applied to the project to compare how the clinical preceptors and senior nursing students maintained feedback before and after the 5MP training as identified through the quantifiable CTEI surveys submitted by the senior nursing students at the completion of the clinical immersion program.

Definition of Terms

Clinical preceptors: Practicing registered nurses that are engaged with student skill development within an acute care hospital setting (Tanriverdi et al., 2017; Patton, 2010).

Clinical Immersion Program: 120-hour clinical rotation in which the clinical preceptor was assigned to a senior nursing student in a 1:1 clinical relationship. The nursing student will spend ten shifts (12 hours in length each) with the clinical preceptor during an eight-week instructional course (Pia & Smith, Feb 2019).

Cohort: Senior nursing students from an assigned instructional course based upon graduation date. The cohorts for this project include September 2018, November 2018, February 2019, September 2019, November 2019, and February 2020.

Feedback: Communication utilizing open-ended questioning to ensure information is understood between two parties (Bott et al., 2011).
5-Minute Preceptor Training: Research institution clinical preceptor simulation training focused on adult learning and feedback techniques (Bott et al., 2011).

Senior Nursing Student: Student within the final clinical immersion program assigned to a clinical preceptor for a 120-hour clinical rotation as the final course of a diploma program (Pia & Smith, Feb 2019).

Summary

Currently, there are not any regulatory or accepted standardized orientation processes or ongoing training of clinical preceptors (Copeland & Hewson, 2000; Tanriverdi et al., 2017). Preceptors are generally selected based on their availability and willingness to precept nursing students and most do not have formal preceptor training (Duteau, 2012). At the research institution, senior nursing students identified the need for clinical preceptors to have additional education and training related to feedback. In response to the students’ feedback, the primary investigator implemented the 5MP training for the clinical preceptors to provide them with additional knowledge and tools on how to provide timely and adequate feedback. The proposed project focused on determining the impact of the 5MP training on the senior nursing student perceptions of clinical preceptor feedback effectiveness.
SECTION II: METHODS

Introduction

Clinical preceptor programs are integrated into nursing programs for the benefit of nursing students to be socialized to the clinical environment to apply the knowledge and skills taught in nursing school to clinical practice. Despite the frequent use of clinical preceptors in nursing programs, often the clinical preceptors do not have formal education in clinical teaching especially in providing feedback (Duteau, 2012). Based on the course surveys the nursing students completed prior to the graduating cohort of September 2018, which include an assessment of preceptor feedback, indicated that the clinical preceptors did not provide satisfactory feedback.

The purpose of the proposed quantitative, retrospective, comparative two-group study was to determine the impact of feedback training of clinical preceptors on nursing students’ perceptions of clinical preceptor feedback during the clinical immersion program. This was accomplished by providing clinical preceptors with formal feedback training utilizing the 5MP model. The effectiveness of the training was determined by comparing the nursing student’s perceptions of the clinical preceptor’s feedback before and after the 5MP training. This project answered the research question: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?

Section II of this paper outlines a detailed methods section including the project design, sample and setting, instrumentation, data collection, methods of data analyses, data management methods, ethical considerations, and internal and external validity of the project.
Project Design

This project utilized a quantitative, retrospective, comparative two-group study design to determine the impact of feedback training of clinical preceptors on nursing students’ perceptions of clinical preceptor feedback during the clinical immersion program. A quantitative method, as opposed to a qualitative method, was considered for this project because the focus is to objectively determine if there was a difference in the nursing student’s perceptions of clinical preceptor feedback. The comparative design, due to its flexibility, provided cause and effect by measuring the potential causes that preceded the outcome (USC, 2018). A comparative design of before and after allowed for examination of a variable at two points in time (Lodico, Spaulding, & Voegtle 2010). For this DNP project, the senior nursing student’s perceptions of clinical preceptor feedback, was measured by the Clinical Teaching Effectiveness Instrument (CTEI), and was reviewed retrospectively before and after the implementation of the 5MP training. The data was subjective, but it is quantifiable for a quantitative study. This design was appropriate to answer the research question: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?

Ho: The 5MP training had no significant impact on the senior nursing student perception of clinical preceptor feedback effectiveness.

Ha: The 5MP training had a significant impact on the senior nursing student perception of clinical preceptor feedback effectiveness.

The dependent variable was the senior nursing student’s perception of clinical feedback. The independent variable was the 5MP training. The nursing student’s perceptions (dependent variable) was compared before and after the clinical preceptors received the 5MP training (independent variable).
Sample and Setting

Population

A population within a research study consists of a group of individuals that possess similar characteristics (Creswell, 2012). The population for this capstone project comprised of diploma senior nursing students participating in the clinical immersion program at the research institution. Convenience sampling technique was utilized due to the accessibility of the population to the primary investigator. A random probability sampling technique is considered more rigorous for the generalization of populations; however, a convenience or nonprobability sampling technique provided the data needed to answer the research question (Creswell, 2012).

The senior nursing students were assigned to one clinical preceptor to complete 120-hours of a clinical immersion program as the exit clinical course for the diploma nursing program. As part of the course requirements, the senior nursing students completed the Clinical Teaching Effectiveness Instrument (CTEI) relating to the clinical preceptor’s teaching preparedness and ability to provide effective feedback at the conclusion of the clinical immersion program. Clinical preceptors were contracted to teach and evaluate the nursing students in the 120-hour clinical immersion program. Clinical preceptors, once contracted for a specific area, remained under contract and were not reassigned to a different area of the institution.

Inclusion and Exclusion Criteria

Included in the project were: 1) diploma senior nursing students in the clinical immersion program, 2) who completed the 120-hour clinical immersion program, 3) with one clinical preceptor, and 4) were in the cohorts between September 2018 and February 2020. Excluded from the project were: 1) senior nursing students who utilized more than one clinical preceptor to
complete the 120-hour clinical, or 2) senior nursing students who did not complete the 120-hour clinical immersion program.

**Sample Size**

An a priori power analysis utilizing G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was conducted with a two-tailed t-test. A two-tailed t-test examines significant differences in both directions (Kim & Mallory, 2017). The assumptions for the two-tailed hypothesis with a medium effect size (Cohen’s d = .5), level of significance (α=.05), and power of 80% (β=.8), estimated that the total sample size needed for the project was N=134, with 67 nursing students for each group. The final sample size based on the senior nursing student surveys that were eligible based on the inclusion criteria was: N=100 for the before group, and N=64 for the after group. The after group had a potential of 106 participants; however, the clinical preceptor’s were not all trained prior to the September 2019 cohort graduation, which left only the November 2019 and the February 2020 cohorts available for comparison.

**Setting**

The research institution is an undergraduate diploma nursing program within the southern United States. The program was started in 1918 as a nurse training program associated with a hospital setting. The program graduates approximately 160 nursing students per academic year. There are eight courses that nursing students must complete as part of the overall program. The last course is the clinical immersion course where senior nursing students are required to participate in and must complete a 120-hour clinical immersion program as their final clinical experience. Nursing students completed the hours of direct clinical patient care under the guidance of an assigned clinical preceptor. The senior nursing students are assigned to a clinical area based on their preference and scores on the Medical-Surgical Proctored examination from
Assessment Technologies Institute (ATI). This examination is taken in the course prior to the clinical immersion program. Senior nursing students that scored a level two or three on the ATI proctored examination were allowed to choose up to two areas to complete their clinical immersion practicum in including the critical care or specialty areas and then the area was assigned by the clinical faculty oversight based on the student’s input. Senior nursing students that scored less than a level 2 were assigned to the Medical-Surgical areas for the clinical immersion practicum. At the time of the project, the clinical immersion program had 88 contracted clinical preceptors that were utilized on a rotating basis.

**Instrumentation**

The instrument that was used to measure the nursing student’s perception of the clinical preceptor’s feedback is the CTEI developed by The Cleveland Clinic (Appendix D). Approval was obtained from the Dr. Hewson to use the instrument at the research institution (Appendix E). The instrument is composed of 15 items designed to assess the clinical preceptor’s ability to provide feedback, establish a learning environment, observe and coach on clinical/technical skills, teach concepts, and encourage independent learning (Copeland & Hewson, 2000). The surveys were de-identified by the clinical immersion course faculty coordinator so there was not any identifiable data about the nursing students or clinical preceptors associated with the surveys.

Nursing students were asked to rate each item on a Likert scale from 1 to 5 wherein 1 is *Never/Poor*, 2 is *Seldom/Mediocre*, 3 is *Sometimes/Good*, 4 is *Often/Very Good*, and 5 is *Always/Superb*. The scores provided by nursing students on the items were averaged to determine the overall score for the clinical preceptor which the clinical faculty oversight provided to each clinical preceptor. The statements within the instrument focused on the learning environment, how the clinical preceptor encouraged learning through addressing the students’
needs, providing feedback, and the identifying and applying the different skill sets necessary for each student (Copeland & Hewson, 2000).

The results from the psychometric testing of the instrument reported a Cronbach’s alpha of .97; therefore, the instrument was reliable in measuring clinical preceptors coaching and teaching abilities (Copeland & Hewson, 2000). As there are not any specific tools available that focus solely on clinical preceptor feedback, the CTEI was used as it includes statements relating to the student’s perceptions of how the clinical preceptor provided feedback. The statements relating to feedback were identified as: 5, 6, 8, 9, and 11. The instrument was determined to be reliable and valid in measuring the effectiveness of the clinical preceptor including feedback which was the focus of this project (Copeland & Hewson, 2000).

**Intervention**

The project included the 5MP training which was provided to the clinical preceptors for the senior nursing students in the November 2019 and February 2020 cohorts. After the assigned clinical preceptors were trained, the remaining clinical preceptors received the same training as part of the clinical immersion program at the research institution. Clinical preceptors were notified of the dates to attend the training class. This ensured that the clinical preceptors received the same simulation training with the 5MP model for the November 2019 and February 2020 clinical immersion program senior nursing students. The intervention was conducted within the research institution’s classrooms.

Simulation was the teaching method for the 5MP which included a pre-briefing, the role-play simulation, and a post debriefing session. The total time for the simulation was planned for one hour and was offered at various times to allow faculty that worked different shifts flexibility...
in the scheduling. There was a total of 92 clinical preceptors that received the 5MP training, with 3-6 clinical preceptors per simulation session.

The pre-briefing was done after introductions and clinical areas were reviewed along with the student expectations and outcomes and results from previous nursing student surveys indicating the need for additional feedback training. Pre-briefing was done over 15 minutes. Included in the pre-brief presentation was the research and findings to support clinical preceptor training. Pocket sized handouts with the 5MP steps were handed out during the pre-brief section. Overview of the 5MP model five-step feedback process included (Bott et al., 2011):

- Step 1: Getting the student to take a stand
- Step 2: Searching for supporting evidence in practice
- Step 3: Teaching general rules of nursing
- Step 4: Support and reinforce the positive practice
- Step 5: Guide the student when a potential error or misinterpretation is present

The expectation of the 5MP usage by the clinical preceptor was determined to be done at the beginning and the end of the shift as set times and could be utilized any time during the clinical day. The reason for inclusion at the beginning of the shift was to encourage the clinical preceptor to identify prioritization by the student according to the evidence-based practices. The role play started with the beginning of the shift report and had 3 parts: 1) nursing student, 2) clinical preceptor, and 3) off going or oncoming nurse. There was also a scenario during the clinical day which included an admission so that the nursing student had the opportunity to be immersed into the role and the clinical preceptor to provide feedback. The last scenario was the end of the shift report with the same 3 roles as the beginning shift report. Role-play lasted from 10-25 minutes depending on the group size. Clinical preceptors were encouraged to talk about
some of their past experiences with nursing students in areas they had difficulty providing feedback. This led into the debriefing session very easily.

Debriefing lasted 10-20 minutes following the simulation again depending upon the group size. Debriefing is a well-recognized unit of learning where the learner self-reflects on the scenario at hand and composes a mental judgment for future reference (INACSL, 2016). During the debriefing session, the clinical preceptors lead discussions relating to how they planned to utilize the 5MP method and that the steps were very easy to incorporate. Most of the clinical preceptors reported that they previously only allowed feedback at the end of the shift. Reports to the clinical faculty oversight after the training was that there were more discussions between the clinical preceptors and the nursing students as they implemented it at the beginning and end of the shift. By identifying specific times for use of the 5MP, the clinical preceptors used it more when there were set times than only at the end of the shift or other non-assigned times. This practice was identified by Hu et al., (2015) in study of clinical preceptors for nurse graduates that found there was increased feedback and usage when it was done at the beginning and end of the shift.

Data Collection

Institutional Review Board (IRB) approval was requested and received from American Sentinel University (Appendix F) and the research institution (Appendix G). Initiation of the 5MP training was conducted after receiving approval from the IRB from both entities. Due to the IRB approval in September 2019, the 5MP training was completed during September 2019 for the November 2019 and February 2020 cohorts. Senior nursing students that completed the clinical immersion program submitted the CTEI survey to the clinical faculty oversight. The surveys were collected in written format by the clinical faculty oversight who de-identified the
surveys and coded them with a number based on the clinical area, graduation cohort, and a randomly assigned digit number for each survey. The number assignments provided anonymity of the nursing students and the clinical preceptors. The data did not look at specific clinical preceptors, but rather compared data of the overall surveys for clinical preceptors in the three areas.

The clinical setting data is included as to the clinical site of the clinical immersion program as either: Medical-Surgical floors were coded as 1 that identified the general acute medical-surgical areas (Palliative Medicine, Oncology, Cardiac Step-Down, Orthopedic, Bariatric, Neurologic Step Down, and General Medical Surgical); Specialty Areas were coded as 2 which identified the areas which were not included in the critical care or medical-surgical areas (Pediatrics, Long Term Acute Care, Mom/Baby, Nursery, PACU, and Day Surgery); and Critical Care areas were coded as 3 which identified the areas of higher acuity areas such as the intensive care setting or trauma unit (Pediatric Emergency Department, Adult Emergency Department, Neonatal Intensive Care Unit, Pediatric Intensive Care Unit, Surgical Intensive Care Unit, Medical Intensive Care Unit, and Cardiac Intensive Care Unit). Clinical preceptors in each assigned area remained in that area and were not assigned to different areas of care; however, the clinical preceptors were not specifically identified, only the clinical setting. The graduation cohorts were coded with the month and year (mm/yy) format to identify the results each group. The final code was a random numerical digit from 01-45. An example of a number assigned to a de-identified survey for a nursing student that was assigned to the medical-surgical area, graduated in February 2019, and was assigned a random number looked like 1021903.

The clinical faculty oversight excluded nursing student surveys in which the student: 1) senior nursing student had more than one clinical preceptor, or 2) the senior nursing student did
not complete the 120-hour clinical immersion program. The results of the surveys and the de-identified data were entered into an Excel file by the clinical faculty oversight who emailed the dataset to the primary investigator. The data was exported from Excel to SPSS v26.0 to run statistical analyses. Data was reviewed for missing or erroneous values, was excluded from the final data analyses.

**Data Analysis Methods**

The focus of the data analyses was to determine whether there was a difference in nursing students' perceptions of clinical preceptor feedback effectiveness before and after the 5MP feedback training. Descriptive statistics as well as inferential statistics were used to test the hypotheses posed in this project. Descriptive statistics are used to review the mean, standard deviation, and skewness of the data and to look for any violation of the assumptions when checking the variables (Pallant, 2016). Inferential statistics was used to test the hypotheses posed in this project which was used to analyze data and determined whether a significant difference existed between the dependent variables before and after the clinical preceptor 5MP feedback training (independent variable). Inferential statistical methods are used to test differences between two conditions by utilizing the independent samples t-test (Field, 2018).

To answer the project’s question of whether there is an impact on a nursing student’s perception of clinical preceptor feedback effectiveness before and after the 5MP, the before and after data was analyzed with an independent samples t-test. To determine whether a parametric or a non-parametric test is necessary for the project, the data gathered was also tested for normality. A Kolmogorov-Smirnov test was used to test whether the data followed a normal distribution. Parametric testing is conducted when there is a normal distribution among the data and non-parametric testing is conducted when reviewing medians and frequencies (Pallant,
As the independent samples t-test assumptions were not met, the non-parametric test Mann-Whitney U Test was used. The Mann-Whitney U Test is used when comparing the differences between two groups to rank them on the difference to identify statistical significance (Pallant, 2016).

**Data Management Methods**

The clinical faculty oversight obtained the handwritten CTEI surveys from the senior nursing students at the completion of the clinical immersion program. The handwritten CTEI surveys contained identifiable information and are part of the nursing student’s official records. The clinical faculty oversight was responsible for entering the CTEI survey results into an Excel file and de-identifying the data with the described coding in the data management section. The de-identified dataset was emailed by the clinical faculty oversight to the primary investigator via the secure research institution email system.

Recommended storage of the data to ensure the anonymity of the individuals is to keep identifying information confidential in a password protected data collection tool (Tappen, 2016). Electronic data is stored on a secure research institution desktop and hard drive that includes password protection assigned only to the primary investigator. The electronic dataset will remain at the research institution for five years after the completion of this project. Following the five-year period, all emails relating to the project and electronic data files will be deleted from the primary investigator’s assigned email, desktop computer, and hard drive.

**Ethical Considerations**

Appropriate IRB approval was obtained from American Sentinel University (Appendix F) and the research institution (Appendix G). This project presented minimal to no risks to senior nursing students and the probability and magnitude of harm or discomfort anticipated during this
project was not be greater than any ordinarily encountered in daily life, or during the
performance of routine physical or psychological examinations or tests as the data will be
collected retrospectively. There are no personal identifiers for the senior nursing students or
clinical preceptors included in the electronic dataset. The clinical preceptors assigned to the
nursing students will not be personally identified but will be categorized according to the
assigned clinical setting which included Medical-Surgical, Specialty, and Critical Care areas.

**Internal and External Validity**

**Internal Validity**

Creswell (2012) described potential threats to internal validity as history, maturation, and
testing. To manage the threat of historical validity, only senior nursing students who have
completed the 120-hour clinical immersion program with one assigned clinical preceptor were
included in the data analyses. There was a potential maturation risk because before and after data
was collected in the DNP project over a period of 17 months. There was a testing risk that the
senior nursing students completing the surveys as part of their transition paperwork would rate
the clinical preceptors higher if they felt there may be prejudice or bias from the clinical faculty
oversight. There were two different groups that were not equal, which was also an internal threat.

**External Validity**

Potential threats to external validity include the timing of the intervention and setting of
the intervention which can potentially affect the outcome (Creswell, 2012). The ability to make
inferential generalizations about all clinical preceptor populations is the portion of the
information that the external validity is concerned with (Creswell, 2012). This project was
focused on information gathered from senior nursing students from one research institution.
Therefore, the results may not be generalizable to other institutions with different programs or student demographics.

**Summary**

Section II detailed the overall project design, sample and setting, instrumentation utilized data collection, data analyses, data management, ethical concerns, and internal and external validity. This project was evaluating the nursing student perceptions of clinical teaching effectiveness of the clinical preceptor before and after the 5MP training. The project design that best fit the proposed research question concerns was a quantitative, retrospective, comparative two-group study. Data was collected retrospectively from the senior nursing student CTEI survey information presented to the assigned clinical faculty oversight and placed into an Excel format that was de-identified in a random numerical ordering system for statistical analyses purposes. Data was compared using the non-parametric testing utilizing the SPSS v26.0. The data is currently stored on a secure hard drive that is only accessible by the primary investigator and will be destroyed or deleted at the end of five years so as to maintain the confidentiality of the senior nursing students and clinical preceptors.
SECTION III: RESULTS AND DISCUSSION OF FINDINGS

Introduction

Clinical preceptor programs are integrated into nursing programs for the benefit of nursing students to be socialized to the clinical environment and apply the knowledge and skills taught in school to clinical practice. Despite the frequent use of clinical preceptors in nursing programs, often the clinical preceptors do not have formal education in clinical teaching especially in providing feedback (Duteau, 2012). Based on the course surveys the nursing students completed at the research institution, which include an assessment of preceptor feedback, the clinical preceptors do not provide satisfactory feedback and would benefit from additional training. The purpose of the proposed quantitative, retrospective, comparative two-group study was to determine the impact of feedback training of clinical preceptors on nursing students’ perceptions of clinical preceptor feedback during a clinical immersion program.

Summary of Methods and Procedures

A quantitative, retrospective, comparative two-group study design was used to determine whether there was a difference in nursing students' perceptions of clinical preceptor feedback effectiveness before and after the feedback training. Following IRB approval from American Sentinel University (ASU) and the research institution, the investigator obtained a list of the clinical preceptors to be included in the 5MP workshops and contacted the clinical preceptors through text messages and email to let them know of the training sessions. The 5MP workshops are part of annual training that will be ongoing after implementation. As IRB approval was obtained after the September 2019 cohort was already in session, this class was not included in the data collection. The clinical preceptor 5MP workshops were offered in October and December 2019 with various dates and times for the clinical preceptors to choose, and a total of
69 clinical preceptors were trained during the sessions. There were 10 clinical preceptors that were new to the program and 59 that had been clinical preceptors at least one time.

The Clinical Teaching Effectiveness Instrument (CTEI) survey was used at the research institution with permission from Dr. Hewson (Appendix E). The primary investigator could not locate literature on a validated survey or tool relating singularly to feedback, thus, the CTEI was utilized as it has components of feedback incorporated into the survey. The CTEI consists of 15 statements with the following Likert rating scale: N/A=Not Applicable, 1=Never, 2=Seldom, 3=Sometimes/Good, 4=Often/Very Good, or 5=Always/Superb that were included in the data. There are five concepts within the survey: 1. Offers feedback, 2. Establishes a good learning environment, 3. Coaches student, 4. Teaches medical knowledge, and 5. Stimulates independent learning (Copeland & Hewson, 2000). There were five statements related directly to feedback which the primary investigator used within the data analysis. The five statements (5, 6, 8, 9, and 11) that pertained specifically to feedback include (Appendix D):

Statement 5: Offers regular feedback (both positive and negative)
Statement 6: Clearly specifies what I am expected to know and do during the training period
Statement 8: Asks questions that promote learning (clarifications, probes, Socratic questions, reflective questions, etc.)
Statement 9: Gives clear explanations/reasons for opinions, advice, or actions
Statement 11: Coaches me on my clinical/technical skills (patient history, assessment, procedural, charting)

The clinical faculty oversight collected the Clinical Teaching Effectiveness Instruments (CTEI) from the senior nursing students upon completion of the 120-hour clinical immersion
program for the September 2018, November 2018, February 2019, November 2019 and the February 2020 graduating cohorts. The surveys are required as part of the course completion and consent was not required. The surveys do not have any demographic information. The clinical faculty oversight acted as the proxy for this project and de-identified the surveys prior to extracting the data to an Excel file to protect the senior nursing students and the clinical preceptors. There was a potential of 223 (N=223) from the total surveys with 110 (n=110) in the before group and 70 (n=70) in the after group. After exclusions, the total inclusion was 164 (N=164) including 100 (n=100) in the before group (GB) and 64 (n=64) in the after group (GA).

The final cohort in this project completed the clinical immersion program on February 14, 2020, at which time an email was sent from the primary investigator to the clinical faculty oversight requesting the retrospective data be sent in the requested Excel format via the secure email system at the research institution. Data was collected retrospectively for the before group (September 2018, November 2018, and February 2019) and the after group (November 2019 and February 2020). The coding process for the de-identified data included three parts: 1. Area of clinical (medical-surgical=1, specialty=2, or critical care=3); 2. Graduation cohort in mm/year format (September 2018=0918, November 2018=1118, February 2019=0219, November 2019=1119, and February 2020=0220); and 3. Random number from 01-45.

The clinical faculty oversight sent an email to the primary investigator with the Microsoft Excel workbook that included the requested information via the secure email system at the research institution. Data included in the Microsoft Excel workbook were the CTEI surveys from September 2018, November 2018, February 2019, November 2019, and February 2020. The Microsoft Excel workbook is kept in a secure, password protected electronic file that is accessible only to the primary investigator.
Descriptive statistics were used to review the frequency and skewness of the data and to look for any violation of the assumptions when checking the variables (Pallant, 2016). The primary investigator planned to utilize the independent samples t-test to compare the mean scores of two different groups of people to determine the difference in the mean scores of the two groups (Pallant, 2016). Based upon the G* Power Analysis 3.1 with a medium effect size (Cohen’s $d=.5$), level of significance ($\alpha=.05$), and power of 80% ($\beta=.8$), the sample size needed for the project is $N=134$, or 67 nursing students for each group, with a final sample of $N=164$, the before group ($GB \ n=100$) and the after group ($GA \ n=64$). After determining if sample size was adequate, statistical analysis was performed with SPSS v26.0. A codebook was created in Excel by the primary investigator to describe the variables and prepare for statistical analysis (Appendix H).

**Summary of Sample and Setting Characteristics**

The population for this project included only diploma senior nursing students participating in the clinical immersion program at the research institution. Convenience sampling technique was utilized due to the accessibility of the population to the primary investigator. The senior nursing students used in this project were assigned to one clinical preceptor to complete 120-hours of the clinical immersion program as the exit course for the diploma nursing program. Clinical preceptors were contracted to teach clinical application and evaluate the senior nursing students in the 120-hour clinical immersion program.

Included in the project were: 1) diploma senior nursing students, 2) who completed the 120-hour clinical immersion program, 3) with one clinical preceptor, and 4) were in the graduating cohorts for September 2018, November 2018, February 2019, November 2019 and February 2020. Excluded from the project were: 1) senior nursing students who do not complete
the 120-hour clinical immersion program, 2) senior nursing students who utilized more than one clinical preceptor to complete the 120-hour clinical immersion program requirements, and 3) the September 2019 graduating class as the clinical preceptors were not trained prior to the course.

An a priori power analysis utilizing G*Power 3.1 (Faul et al., 2009) was conducted with a two-tailed t-test. The assumptions for the two-tailed hypothesis with a medium effect size (Cohen’s d = .5), level of significance (α=.05), and power of 80% (β=.8), estimated that the total sample size needed for the project was N=134, with 67 nursing students for each group. Based on the records of the research institution, there were a total of 164 (before group n=100, after group n=64) diploma senior nursing students who completed the 120-hour clinical immersion program and met the inclusion criteria.

Demographic information was not part of the CTEI surveys and was obtained from the research institutions student tracking system, Empower. The demographic data was based on the graduating cohort and were described as percentages for the before group (GB) and the after group (GA) for age, gender, and race (see Figures 4, 5, and 6). Demographics were only used for the senior nursing students that were included in the project as follows:

- September 2018 cohort (N=40): There were 36 nursing student clinical preceptor surveys for the inclusion group (n=36). Gender for the inclusion group was 31 (86%) females and 5 (14%) males. The age range for the inclusion group was from 21 to 42 years of age with a median age of 25.44 years. Ethnicity for the inclusion group was 20 (55%) Caucasian, 15 (42%) Hispanic, 1 (2.7%) Black/African American, 0 Asian/Other. There were four nursing students excluded (n=4) from this cohort that had more than one clinical preceptor during the clinical immersion course.
• November 2018 cohort (N=38): There were 34 nursing student’s clinical preceptor surveys for the inclusion group (n=34). Gender for the inclusion group was 30 (88%) females and 4 (12%) males. The age range for the inclusion group was 21 to 50 years old with a median age of 26.5 years. Ethnicity for the inclusion group was 21 (62%) Caucasian, 13 (38%) Hispanic, 0 Black/African American, 0 Asian/Other. There were four nursing students excluded (n=4) from this cohort that had more than one clinical preceptor during the clinical immersion course.

• February 2019 cohort (N=32): There were 30 nursing student’s clinical preceptor surveys for the inclusion group (n=30). Gender for the inclusion group was 26 (87%) females and 4 (13%) males. The age range for the inclusion group was from 22 to 48 years old with a median age of 26.09 years. Ethnicity for the inclusion group was 17 (57%) Caucasian, 13 (43%) Hispanic, 0 Black/African American, 0 Asian/Other. There were two nursing students excluded (n=2) from this cohort that had more than one clinical preceptor during the clinical immersion course.

• September 2019 cohort was not included in the data analysis. The clinical preceptor training and initiation had not been completed before the nursing students were paired with the clinical preceptors and had begun the clinical immersion required practicum hours before all of the training was complete.

• November 2019 cohort (N=36): There were 32 nursing student’s clinical preceptor surveys for the inclusion group (n=32). Gender for the inclusion group was 28 (87.5%) females and 4 (12.5%) males. The age range for the inclusion group was from 21 to 41 years old with a median age of 26.35 years. Ethnicity for the inclusion group was 18 (56%) Caucasian, 12 (37.5%) Hispanic, 2 (6.25%) Black/African American, 0 Asian/Other. There were four
nursing students excluded (n=4) from this cohort that had more than one clinical preceptor during the clinical immersion course.

- February 2020 cohort (N=34): There were 32 nursing student’s clinical preceptor surveys for the inclusion group (n=32). Gender for the inclusion group was 28 (87.5%) females, 4 (12.5%) males. The age range for the inclusion group was from 21 to 51 years old with a median age of 26.35 years. Ethnicity for the inclusion group was 21 (65.6%) Caucasian, 9 (28%) Hispanic, 2 (6.25%) Black/African American; 0 Asian/Other. There were two nursing students excluded (n=2) from this cohort that had more than one clinical preceptor during the clinical immersion course.

Figure 4. Gender Demographics for All Groups

Note. Gender demographics for the before group (N=100) were 88 (88%) females and 12 (12%) males. Gender demographics for the after group (N=64) were 56 (87.5%) females and 8 (12.5%) males. Both groups were comparative in gender demographics.
Figure 5. Age Demographics for All Groups

Note. Age demographics for the before group (N=100) ranged from 21 to 50 years old with a median age of 26.07 years. Age demographics for the after group (N=64) ranged from 21 to 51 years old with a median age of 25.67 years. Both groups were comparative in age demographics.

Figure 6. Racial Demographics for All Groups

Note. Racial demographics for the before group (N=100) were 58 (58%) Caucasian, 41 (41%) Hispanic, 1 (1%) Black/African American, 0 (0%) for Asian/Other. Racial demographics for the after group were 39 (61%) Caucasian, 21 (33%) Hispanic, 4 (6%) Black/African American, and 0 (0%) Asian/Other. The after group had a higher Caucasian and Black/African American demographic than the before group. Overall, there was a similar racial profile for the before and after groups.
The setting was an undergraduate diploma nursing program within the southern United States that graduates approximately 160 nursing students per academic year. The program has eight courses that nursing students must complete as part of the program. The last course includes the clinical immersion program where senior nursing students are required to participate in and must complete a 120-hour clinical immersion program as their final clinical experience. Senior nursing students completed the hours of direct clinical patient care under the guidance of an assigned clinical preceptor. The senior nursing students were assigned to a clinical area based on their level of competencies from the Assessment Technologies Institute (ATI) proctored Medical-Surgical examination that is completed in the course just prior to the clinical immersion course. Students with higher levels of achievement on the proctored exam were allowed to choose their preferred area for clinical practice, while students with lower levels of achievement were placed in the medical-surgical areas. The clinical sites at the acute care facility included medical-surgical, specialty, and critical care areas to which the nursing students were assigned. There were 58 clinical preceptors that were included in the project as they served as a clinical preceptor on a rotational basis for the senior nursing students from September 2018 through February 2020.

**Major Findings**

The purpose of the retrospective project was to determine if training clinical preceptors in how and when to provide feedback had an impact on senior nursing student’s perception of feedback effectiveness. Prior to the project, senior nursing student’s reported that feedback was not consistently provided which could potentially be lost learning opportunities for the nursing students in the clinical immersion program. At the research institution, the clinical preceptors had previously not had any training in formative feedback techniques and had only completed
the required regulatory orientation through a passive learning system. Changing the behavior of nurse generalists begins with the feedback process in their formative learning time in direct clinical care (Kavanagh & Szweda, 2017). Thus, the research question for this project was: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?

Ho: The 5MP training had no significant impact on the senior nursing student perception of clinical preceptor feedback effectiveness.

Ha: The 5MP training had a significant impact on the senior nursing student perception of clinical preceptor feedback effectiveness.

Descriptive statistics as well as inferential statistics were used to test the hypotheses posed in this project. Reliability of the CTEI survey was conducted using Cronbach alpha for the 15 items on the CTEI survey and the results showed an average \( \alpha \) of .906, ranging from \( \alpha = .894 \) to \( \alpha = .906 \). As the instrument was deemed valid and reliable, the primary investigator followed the guidelines for statistical analysis to verify if the components met the assumptions of normality. Tests for normality concluded that the data was skewed and suggested that there was a violation of the assumption of normality (Kurtosis=5.154; Kolmogorov-Smirnov=.000) (See Table 1 of Appendix I) (See also Figure 2 of Appendix B, and Figure 3 of Appendix C) (Pallant, 2016). Hence the non-parametric statistical analysis using the Mann-Whitney U test was used. The Mann-Whitney U test is used to detect differences between two independent groups on a continuous measure (Pallant, 2016). The Mann-Whitney U Test for the total feedback statements (5, 6, 8, 9, and 11) revealed no statistically significant difference in the nursing student perception of clinical preceptor teaching effectiveness for total feedback scores for the before.
group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2958, z = -1.63, p = .364, r = .07\).

Individual testing for statements 5, 6, 8, 9, and 11 with the Mann-Whitney U Test was performed with SPSS v26.0 (See Table 2 of Appendix I):

- The Mann-Whitney U Test for statement 5 \((O\text{ffers regular feedback})\) revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of GB \((Md = 5.00, n = 100)\) and GA \((Md = 5.00, n = 64)\), \(U = 3033, z = - .93, p = .35, r = .07\). Retain the null hypothesis.

- The Mann-Whitney U Test for statement 6 \((C\text{learly specifies what I am expected to know and do during the training period})\) relating to feedback revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of GB \((Md = 5.00, n = 100)\) and GA \((Md = 5.00, n = 64)\), \(U = 2881, z = -1.54, p = .12, r = .12\). Retain the null hypothesis.

- The Mann-Whitney U Test for statement 8 \((A\text{sk questions that promote learning})\) relating to feedback revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of GB \((Md = 5.00, n = 100)\) and GA \((Md = 5.00, n = 64)\), \(U = 2964, z = -1.08, p = .28, r = .08\). Retain the null hypothesis.

- The Mann-Whitney U Test for statement 9 \((g\text{ives clear explanations/reasons for opinions, advice, or actions})\) relating to feedback revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of GB \((Md = 5.00, n = 100)\) and GA \((Md = 5.00, n = 64)\), \(U = 2921, z = -1.38, p = .17, r = .11\). Retain the null hypothesis.
The Mann-Whitney U Test for statement 11 (Coaches me on my clinical/technical skills) relating to feedback revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of GB ($Md = 5.00, n = 100$) and GA ($Md = 5.00, n = 64$), $U = 2855, z = -1.63, p = .10, r = .13$. Retain the null hypothesis.

After initial statistics were gathered on the statements specific to feedback on the CTEI survey, statistical analysis of the remaining statements was analyzed with the Mann-Whitney U test. Results indicated that there were five statements, related to teaching, which had statistically significant changes ($p < .05$) (See Table 3 of Appendix I):

- Statement 4: Organizes time to allow for both teaching and caregiving
- Statement 10: Adjusts teaching to diverse settings
- Statement 13: Teaches diagnostic skills
- Statement 14: Teaches effective patient and/or family communication skills
- Statement 15: Teaches principles of cost-appropriate care

The Mann-Whitney U Test results for the total teaching medical knowledge statements (4, 10, 13, 14, and 15) indicate statistically significant differences in the nursing student evaluation of clinical preceptor teaching effectiveness between the before group ($Md = 5.00, n = 100$) and the after group ($Md = 5.00, n = 64$), $U = 2576, z = -2.420, p = .016, r = .190$. Even though there was statistically significant differences between the before and after groups, the overall effect size was small ($r = .190$).

The Mann-Whitney U Test for statement 4 (Organizes time to allow for both teaching and caregiving) relating to teaching effectiveness revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before
group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2727, z = -2.647, p = .008\). The effect size was .207.

- The Mann-Whitney U Test for statement 10 (Adjusts teaching to diverse settings) relating to teaching effectiveness revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2806, z = -2.031, p = .042\), with an effect size of .158.

- The Mann-Whitney U Test for statement 13 (Teaches diagnostic skills, relating to teaching effectiveness) revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2638, z = -2.714, p = .007\), with an effect size of .211.

- The Mann-Whitney U Test for statement 14 (Teaches effective patient and/or family communication skills) relating to teaching effectiveness revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2703, z = -2.950, p = .003\), with an effect size of .230.

- The Mann-Whitney U Test for statement 15 (Teaches principles of cost-appropriate care) relating to teaching effectiveness revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group \((Md = 5.00, n = 100)\) and the after group \((Md = 5.00, n = 64)\), \(U = 2598, z = -2.707, p = .007\), with an effect size of .211.
Data was requested to be coded for each clinical area so that the primary investigator could identify if the clinical environment made a difference among feedback. The coding process included the clinical preceptor area which was identified numerically as: 1=Medical Surgical; 2=Specialty; or 3=Critical Care, which was placed at the beginning of the assigned number by the clinical faculty oversight during data transcription. Demographics of each area were reviewed for number of clinical preceptors utilized and if the areas were utilized equally. The before group had proportionately more Medical-Surgical and Specialty areas than the after group, and the after group were more evenly spaced except for a higher number of clinical preceptors utilized in the critical care area (See Table 4 of Appendix I). Medical-Surgical had 41 clinical preceptors in the before group and 17 in the after group; Specialty areas had 39 clinical preceptors in the before group and 18 in the after group; and Critical Care areas had 20 in the before group and 29 in the after group (Figure 7).

*Figure 7. Frequency of Clinical Preceptor Area Assignments*

![Clinical Preceptor Areas](image)

*Note:* The assigned areas for the nursing students were based on the senior nursing students’ competency levels from the ATI Medical-Surgical Proctored examination completed in the course prior to the clinical immersion program. Nursing students that score a level 2 or 3 are allowed to choose two areas including critical care to conduct the clinical immersion practicum, and are assigned based on clinical preceptor availability.
Nursing students that score less than a level 2 are assigned with a medical-surgical clinical preceptor for the clinical immersion practicum. The variances in nursing student placement are based on the ATI scoring system.

A chi-square test for homogeneity indicates that there was no significant difference in the nursing student perception of clinical preceptor feedback technique scores between the clinical areas (Medical-Surgical, Specialty, or Critical Care) or the groups (before and after), $X^2(8, n = 164) = 8.08, p = .426$. Statistical analysis of the feedback statements (5, 6, 8, 9, and 11) was conducted with the Mann-Whitney U Test to identify if there was a statistically significant difference in individual clinical preceptor areas as compared in the before and after groups in relation to the projects question: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?

- The Mann-Whitney U Test for the medical-surgical clinical preceptor areas for the total feedback statements (5, 6, 8, 9, and 11) revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group ($Md = 5.00, n = 41$) and the after group ($Md = 5.00, n = 17$), $U = 328.50, z = -.376, p = .70, r = .050$ (see Table 5 of Appendix J).

- The Mann-Whitney U Test for the specialty clinical preceptor areas for the total feedback statements (5, 8, 9, and 11) revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group ($Md = 5.00, n = 39$) and the after group ($Md = 5.00, n = 18$), $U = 328.50, z = -.397, p = .691, r = .053$ (see Table 6 of Appendix J).

- The Mann-Whitney U Test for the critical care clinical preceptor areas for the total feedback statements (5, 6, 8, 9, and 11) revealed no significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group
\[(Md = 5.00, n = 20) \text{ and the after group} (Md = 5.00, n = 29), U = 272.50, z = -0.447, p = .655, r = .064 \text{ (see Table 7 of Appendix J).} \]

The overall total feedback statements for each clinical preceptor area did not reveal any statistically significant findings or differences between the areas. Review of each statement individually from each clinical preceptor area compared between the before and after groups had one statement which met the parameters for statistical significance (see Table 6 of Appendix J).

- The Mann-Whitney U Test for the specialty clinical preceptor area statement 6 (Clearly specifies what I am expected to know and do during the training period) relating to feedback effectiveness revealed a significant difference in the nursing student perception of clinical preceptor training with feedback technique scores of the before group \((Md = 5.00, n = 39)\) and the after group \((Md = 5.00, n = 18)\), \(U = 231.00, z = -2.69, p = .007, r = .360.\) This specific statement had a medium effect size .360.

In order to determine if there was a differences among the clinical areas, the Kruskal-Wallis Test was conducted. This specific test is used to compare scores on a continuous variable for three or more groups (Pallant, 2016). A Kruskal-Wallis Test revealed that there was a statistically significant difference in the nursing student perception of clinical preceptor training with feedback technique across the clinical areas, \(X^2 (5, n = 164) = 14.90, p = .011.\) The Medical-Surgical and Critical Care clinical areas recorded a higher median score \((Md = 5.00)\) than the Specialty clinical area for both the before group \((Md = 4.60)\) and the after group \((Md = 4.80)\).

Responsiveness through feedback to the senior nursing students in a timely and efficient manner was the basis of this project. The clinical preceptors used the 5MP at the beginning and the end of the shift following the training workshop which allowed for feedback from the nursing
students immediately as a guide to teaching nursing concepts and clinical decision making. Feedback allows for the recipient to adapt or improve teaching performances (Van der Leeuw, Slootweg, Heineman, & Lombarts, 2013). According to the Quality and Safety Education for Nurses, constructive feedback is an opportunity for improvement in many areas of patient care including Quality Improvement, Safety, and Teamwork and Collaboration (QSEN, 2020).

Feedback is a broad teaching tool which provides information through a communication loop that is an essential component used throughout the learning process (Groves et al., 2015). Teaching strategies include providing feedback in a manner that encourages adaption or change in behavior in a timely manner. Altmiller et al., (2018) found that feedback is an opportunity for improvement, and that feedback is a learned skill that can improve or adapt changes in behavior when conducted in a positive manner. The 5MP workshop provided training in the specific feedback technique to allow the clinical preceptor time to evaluate the senior nursing student’s thought process, and teach based on the clinical reasoning for patient care. However, the results of this project did not have a significant effect on the nursing student’s perception of feedback effectiveness. Verbal reports from the clinical preceptors to the clinical faculty oversight indicated that they felt more confident in providing feedback and that the 5MP has improved their interaction with the nursing students in the clinical environment (J. Pia, personal communication, February 21, 2020).

The Donabedian Model was used as the theoretical framework for this project as it required 3 components: 1) structure – clinical preceptors, senior nursing students, and the faculty oversight; 2) process – the clinical immersion course and the clinical preceptor 5MP workshop, and 3) outcome – measured by the comparison data from the CTEI surveys to determine the effectiveness of the training and feedback with the clinical preceptors. The theoretical framework
supported the direct effect of the clinical preceptor’s feedback, as it relates to teaching, on the senior nursing student’s knowledge, skills, and attitudes in the nursing profession. As feedback effectiveness was the focus of this project and the results were not statistically significant, there was indication that the outcome for overall teaching effectiveness was impacted by the process of training the clinical preceptors in how and when to provide feedback. Hence, the Donabedian Model was appropriate to gauge which part to change or adjust in future studies.

**Implications for Nursing Practice**

While the results of this project did not yield statistically significant results, there are still many ways that these findings can add to the body of knowledge of nursing, especially in undergraduate education. There is literature supporting the need for clinical preceptors to be provided ongoing professional development; however, there is not a standard for clinical preceptors especially in the undergraduate setting (Kamolo et al., 2017; Luhanga, et al., 2010). There are studies showing correlations between nursing preceptor training and nurse generalist transition to practice, and recommend support for preceptor development (Hu et al., 2015; Kennedy, 2019; Cochran, 2017). With the results of the latter in greater quantity, there should be continued efforts to provide clinical preceptor development within undergraduate nursing student programs.

Although the 5MP did not result in improvement in the feedback provide to students by the preceptor, there was a significant impact on the preceptors’ ability to provide medical knowledge. Despite the small effect size, the 5MP should be provided to the preceptors given the time and cost effectiveness of this training. When evaluating the effectiveness of an intervention, there should also be considerations for cost effectiveness and return on investments done by faculty as to what the impact of professional development of clinical preceptors in an
undergraduate nursing program has on future nurses. Nurse turnover is costly to healthcare organizations with an average of up to $88,000 per nurse, and studies show that nurse generalists tend to leave the profession at a rate of almost 50% in the first year (Li & Jones, 2013; Bennett et al., 2017; Kavanagh & Szweda, 2017). Societal costs as nurses leave the profession which takes away a body of knowledge and may impact patient outcomes. The implications for nursing should focus on the time and cost-effective proactive approach of professional development of clinical preceptors within the undergraduate curricula, and the 5MP fits this criteria.

In addition, there was a statistical difference in the students’ perceptions of preceptor feedback among the three different clinical settings, with the Specialty setting preceptors having lower ratings in the before and after groups than the Medical-Surgical or Critical Care setting. Improvements in their feedback, but remained lower than the other clinical preceptor areas. This may be in part due to students selecting the Medical-Surgical areas or Critical Care areas as these are steady in the types of patients which the nursing students have been trained in. In addition, the results may be indicative of the need to evaluate the way preceptors in specialty areas, such as Pediatrics, Long Term Acute Care, Mom/Baby, Nursery, PACU, and Day Surgery, provide student feedback. Students selecting Specialty settings may have higher expectations of their preceptors, including the way they provide feedback, and these expectations have to be met by the preceptors in order to train future nurses to start in their specialty upon graduation.

There should also be more studies done in the undergraduate setting on clinical immersion programs and the development of the clinical preceptors related to: cost of retention of clinical preceptors within an undergraduate program; and transition to practice when for nurse generalists that were under the direct supervision of a trained clinical preceptor. Other items to consider for future studies would be to identify if the gap between didactic and clinical have
decreased by the IOM standards. Overall, have we saved nurses from leaving the field within the first year by supporting clinical preceptor development to be a safety net for nursing students and allow them to begin making clinical decisions while under their provision and safety?

This project will be presented to the research institution locally and nationally as portions of the findings relate to communication and professional development opportunities to the nurse residency program. Within the same geographic location as this research institution, there are additional undergraduate nursing programs with clinical immersion type programs. This project will be disseminated to them at one of the local meetings of nurse educator leaders in order to encourage additional studies to come out of this project with our local area clinical preceptors in the undergraduate setting and well as considerations for implementing this the 5MP training in other nursing programs. Publications of the findings of this project are being considered to make recommendations for future studies to look at clinical preceptor development and extensions to support a standardization of clinical preceptors specifically in undergraduate programs.

Recommendations

This capstone project explored the impact of feedback training provided to clinical preceptors on senior nursing students’ perceptions of feedback effectiveness. The results indicated that there was not a statistically significant correlation with providing clinical preceptors with feedback training. This may have been in part due to the limited ability of the CTEI in appropriately measuring feedback. Given that training clinical preceptors has been identified as a direct influence on the senior nursing student’s transition to practice (Luhanga et al., 2010), future studies should be focused on seeking out a valid and reliable tool that evaluates feedback specifically, identify what actions the clinical preceptors in the specialty areas did as
compared to the medical-surgical and critical care areas regarding feedback, and change the clinical preceptor training to online courses.

Review of literature within nursing, clinical preceptor roles, and healthcare did not reveal any specific evaluation tools that assess feedback effectiveness. As there was not any identified instruments designed to specifically gauge clinical preceptor feedback, the CTEI surveys were used only for the statements that focused on feedback. Clinical preceptors are generally not provided training in how and when to provide feedback, and this lack of feedback was identified previously by senior nursing students as an inhibitor to their learning time in the clinical immersion program. Further recommendation would be to identify a feedback evaluation tool which includes both quantitative and qualitative data with feedback as the sole focus.

The clinical preceptor role directly affects the senior nursing students transition to practice to have defined goals (role clarity), support from clinical preceptors (social acceptance), and nursing care satisfaction (task mastery) which decrease burnout within the first year of practice (Frogeli, Rudman, Lovgren, & Gustavsson, 2019). Even though this project did not show a significant difference in training the clinical preceptors in how and when to provide feedback, the verbal report from the clinical preceptors did identify that the training clarified their role and provided a structure for them to identify the nursing student’s clinical decision making. Future recommendations would be to evaluate the clinical preceptors’ perception of the training and how they feel that the training might be improved (whether by online webinars, traditional classroom setting, or handouts).

**Discussion**

As we move toward using more and more clinical preceptors in undergraduate nursing programs with the faculty nursing shortages, there needs to be standard processes for items to be
included in a clinical preceptor for traditional registered nursing students. Clinical preceptors are being used frequently as role models for clinical practice; however, many clinical preceptors do not possess the skills of evaluation and feedback which can limit the role transition of the nursing students. Although the results of this capstone project did not show a significant impact of the 5MP on the students’ perceptions of clinical preceptor feedback, these results should be interpreted with caution due to the project’s limitations.

The clinical preceptors and the nursing students in this project were from one diploma nurse training program in the southern United States and may not be equivalent to the traditional nursing students in an associate or baccalaureate nursing program. In addition, the two groups were not equivalent and the results could be attributed to the differences among the groups rather than the 5MP training.

There is limited research about clinical preceptors in traditional undergraduate nursing programs, which did limit the literature search for this project. There was also limited information about feedback models and how to specifically train clinical preceptors in feedback aside from the 5MP model. The 5MP model has only been tested in one nurse preceptor program which modified it to a 10-Minute Preceptor (10MP) which is based on the 5MP, and the results proved significant results as well (Hu et al., 2015). Based on the limited research and literature on clinical preceptor training in traditional nurse generalist programs, there is a need to develop standards and processes so that the feedback and teaching methods encourage clinical reasoning.

The results of this project suggest that there is a correlation between training clinical preceptors in how to provide feedback with the 5MP model and the overall teaching they provide to nursing students. As the Hu et al., (2015) study focused on the 5MP training with nursing preceptors, the results also showed that there was statistical significance among feedback
provided to nurse generalists which increased retention of nurses. Literature also supports training clinical preceptors to provide feedback immediately allows the nursing student to reflect and impacts their clinical practice (Luhanga et al., 2010; Wilkinson et al., 2013).

By training the clinical preceptors in how and when to provide feedback to nursing students, increases retention of bedside practitioners to continue as clinical preceptors in the clinical immersion program. Feedback from to the faculty oversight from the clinical preceptors three months following the initial 5MP training, found that the majority of them are now preceptors in the organizational nurse residency program. There is now a request from the nurse residency program to conduct 5MP trainings with all of the preceptors within the hospital organization as they heard the results from the clinical preceptors. This trend reflects what other studies have found is that preceptors with training have higher ratings of support from the organization as reflected by additional benefits, rewards, retention and commitment to the role of the preceptor than those who have not previously had training or education relating to preceptors (Kennedy, 2019).

Transition to practice is one piece of a retention probability equation that many organizations rely upon when looking at the hiring needs and onboarding resources such as nurse residency programs. At the current institution, the cost of retention is approximately $88,000 per graduate nurse. The nursing students in this project reported that the clinical preceptors teaching effectiveness had an impact on several areas including: communication, clinical reasoning, and cost-appropriate care. Nurse residency programs have been linked to increased entry level knowledge base when the preceptors were supported and trained (Cochran, 2017). Traditional nursing schools can be attractive to stakeholders by offering clinically competent graduate
nurses. Combinations of programs and clinical preceptor professional development may offer answers to decreased transition to practice issues with graduate nurses.

**Conclusions and Contributions to the Profession of Nursing**

Clinical preceptors have been growing alternatives to direct faculty clinical observations and are being utilized in most nursing programs due to faculty shortages. The flexibility and availability to use actively practicing registered nurses as a clinical preceptor increases the students’ clinical acclimation (Diefenbeck et al., 2006). Clinical preceptors are generally practicing Registered Nurses (RNs) who most often have no formal training with formative feedback practices (Luhanga et al., 2010). Enhancing the overall knowledge, skills and attitudes of the clinical preceptors are key indicators of future success of nurse generalists (Smedley, Morey, & Race, 2010).

The purpose of the proposed quantitative, retrospective, comparative study was to determine the impact of feedback training with clinical preceptors on nursing students’ perceptions of clinical preceptor feedback during a clinical immersion program. This was accomplished by providing clinical preceptors formal training utilizing the 5MP model (Bott et al., 2011). The impact of the training was determined by measuring the nursing student’s perceptions of the clinical preceptor’s feedback effectiveness before and after the 5MP training. This project answered the research question: What is the impact of 5MP training on the senior nursing student perception of clinical preceptor feedback effectiveness?

Interpretation for schools of nursing and the recommendations of the IOM (2010) have increased the awareness that there needs to be change in how transition to practice occurs. Instead of aligning the curriculum with test concepts and clinical strategies, we need to focus on increasing the clinical competency level of the senior nursing students. Senior undergraduate
nursing students will be working in the nursing profession within the next four to six months, and we should prepare them accordingly. The results of this project did not reveal any significant impact relating to feedback directly; however, teaching the technique of the 5MP model for feedback can be adapted as part of any role in nursing to encourage immediate and effective feedback. Feedback is one of the most crucial roles we have in the nursing profession and we should begin to role model this for all of our future nursing professionals.
References


Appendix A

Figure 1. Donabedian Model

**STRUCTURE**
- Clinical Preceptor qualifications
- Senior Nursing Students
- Faculty oversight

**PROCESS**
- 120 hour 1:1 clinical preceptor and student clinical immersion
- Clinical Preceptor training

**OUTCOME**
- Clinical Preceptors with increased teaching effectiveness ratings on student evaluations
- Competency in clinical preceptor feedback
Appendix B

Figure 2. Test of Normality Histogram

Note. The shape of the histogram shows that the frequency of the total scores were more to the right side and were not evenly distributed. The majority of the scores for the CTEI were located between 4.0 and 5.0, which skews the numbers as there is not a normal bell curve.
Note. The Normal Q-Q Plot (Figure 2) for this study reveals that there is a wide variation of the scores on both sides that do not follow a reasonably straight line; therefore, the tests for normality indicate there is not normality in distribution and would require the utilization of non-parametric testing.
# Appendix D

Please rate your preceptor on each question

<table>
<thead>
<tr>
<th>N/A = Not Applicable</th>
<th>1 = Never</th>
<th>2 = Seldom</th>
<th>3 = Sometimes/Good</th>
<th>4 = Often/Very Good</th>
<th>5 = Always/Superb</th>
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</thead>
<tbody>
<tr>
<td>Establishes a good learning environment (approachable, nonthreatening, enthusiastic, etc.)</td>
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<tr>
<td>Stimulates me to learn independently</td>
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<tr>
<td>Allows me autonomy appropriate to my level/ experience/ competence</td>
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<tr>
<td>Organizes time to allow for both teaching and care giving</td>
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<td>Offers regular feedback (both positive and negative)</td>
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<tr>
<td>Clearly specifies what I am expected to know and do during the training period</td>
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</tr>
<tr>
<td>Adjusts teaching to my needs (experience, competence, interest, etc.)</td>
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<tr>
<td>Asks questions that promote learning (clarifications, probes, Socratic questions, reflective questions, etc.)</td>
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<tr>
<td>Gives clear explanations/reasons for opinions, advice, or actions</td>
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<tr>
<td>Adjusts teaching to diverse settings (bedside, charting, nurses’ station, etc.)</td>
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<tr>
<td>Coaches me on my clinical/ technical skills (patient history, assessment, procedural, charting)</td>
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<td>Incorporates research data and/or practice guidelines into teaching</td>
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<tr>
<td>Teaches diagnostic skills (clinical reasoning, selection/interpretation of tests, etc.)</td>
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<tr>
<td>Teaches effective patient and/or family communication skills</td>
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</tr>
<tr>
<td>Teaches principles of cost-appropriate care (resource utilization, etc.)</td>
<td></td>
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</tbody>
</table>
Appendix E

Clinical Teaching Effectiveness Instrument

Dr. Hanson,

I am a CHP student at American Sentinel working on a capstone project related to clinical nurse preceptor training.

I am requesting permission to receive and use the tool that you and Dr. Copeland tested. If you would grant me permission, I will gladly give credit to you, Dr. Copeland, and the Cleveland Clinic.

Please let me know if you have further questions regarding the use of this tool with my project.

Thank you,

Diana Smith

Sent

Read messages

Archive

Message

Marlena Houston 18 days ago

Yes, you may use the instrument with appropriate acknowledgment.

Best wishes,

Marlena Houston

Diana Smith 7 minutes ago

Thank you Dr. Hanson.

Do you have a copy of the tool?
Appendix F

August 30, 2019

Darla Smith
DNP Student
American Sentinel University

Re: Impact of a 5-Minute Preceptor Training on the Senior Nursing Student Perception of Clinical Preceptor Feedback Effectiveness

Dear Ms. Smith,

On August 30, the Institutional Review Board (IRB) of American Sentinel University has approved the above-referenced submission and has deemed it as an expedited study. The contingencies have been addressed and the IRB approves the protocol. Work on this project may begin. This approval is for a period of one year from the dates of this letter and will require continuation approval if the research extends beyond one year. If you make changes to the protocol during the period of this approval, you must submit a revised protocol to the American Sentinel University IRB for approval before implementing the changes.

If you have any questions regarding the IRB’s decision, please contact me through irb@americansentinel.edu.

Sincerely,

Karen Whitham, EdD, MSN, MS, RN, CNE
Chair
American Sentinel University IRB

C. Dr. Bourdeanu
CERTIFICATE OF HRPP DETERMINATION

September 28, 2019

SJH Reference # 19-064 Protocol Title: Impact of 5-Minute Preceptor Training on the Senior Nursing Student Perception of Clinical Preceptor Feedback Effectiveness

Dear Darla Smith:

This is to advise you that the above referenced research project has been presented to the St. Joseph Health System Human Research Protection Program (HRPP) Office for review, and the following action was taken with the explanation provided below:

Study Status: Exemption Determination: 9/28/2019
Description: The SJH HRPP Office reviewed the above-referenced submission and determined that the study qualifies for Exemption from 45 CFR 46 regulations governing human subjects research in accordance with 45 CFR 46.104 under Category 1.

The following documents were reviewed:
Research Intake Form
CV- Darla Smith, MSN, RN-BC
Attestation for Scientific Review (JoAnn Long, PhD, RN)
Exemption from IRB Review Application dated 12Sept2019
Protocol dated 12Sept2019
Data Collection Measurement Tool
CTEI Tool CSON (Evaluation of Preceptor)
CHRI- Research Request Form signed 12Sept2019
CSON Site Approval Letter dated 11122018

As a Reminder:
Although this study is exempt from Human Subjects Regulations found at 45 CFR 46, this project must be conducted in accordance with the Ethical Principles outlined in the Belmont Report.

If the study design or procedures change, please submit an amendment to the HRPP Office at HRPP@stjoe.org. Please be aware that significant study changes may nullify the exemption and require IRB review and approval. Submit a Closure Report to the HRPP Office when you have completed your study.

This approval verifies the IRB operates in accordance with applicable ICH, federal, state, local and institutional regulations, and with all GCP guidelines governing institutional IRB operations.
### Appendix H

<table>
<thead>
<tr>
<th>VARIABLE NAME</th>
<th>VALUES</th>
<th>VARIABLE TYPE</th>
<th>LABEL</th>
<th>LEVEL OF MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>8 Variables (2 CP, 4 Cohort, 2 Random Number)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>CP Area</td>
<td>1= Med Surg Floors - PM E7, HC4, HC5, S4, S5, S6, S7, S8, S9; 2= Specialty Areas - PEDI, LTAC, MB, NSY, PEDI, DAY SX; 3= Critical Care areas - PED, AED, NICU, PICU, SICU, MICU, CICU 0916=Nov 2018, 1118=Nov 2018, 219=Feb 2019, 1119=Nov 2019;</td>
<td>Numeric-Categorical</td>
<td>CP</td>
<td>Ordinal</td>
</tr>
<tr>
<td>Cohort</td>
<td>220=Feb 2020</td>
<td>Numeric-Categorical</td>
<td>Cohort</td>
<td>Nominal</td>
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<tr>
<td>Groups</td>
<td>1=Before Group (0918, 1118, 219); 2=After Group (1119, 220)</td>
<td>Numeric-Categorical</td>
<td>Groups Establishes a good learning environment (approachable, nonthreatening, enthusiastic, etc.)</td>
<td>Nominal</td>
</tr>
<tr>
<td>Statement 1</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Stimulates me to learn independently</td>
</tr>
<tr>
<td>Statement 2</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Allows me autonomy appropriate to my level/ experience/ competence</td>
</tr>
<tr>
<td>Statement 3</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Organizes time to allow for both teaching and care giving</td>
</tr>
<tr>
<td>Statement 4</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Offers regular feedback (both positive and negative)</td>
</tr>
<tr>
<td>Statement 5</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Clearly specifies what I am expected to know and do during the training period</td>
</tr>
<tr>
<td>Statement 6</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Adjusts teaching to my needs (experience, competence, interest, etc.)</td>
</tr>
<tr>
<td>Statement 7</td>
<td>1=Never/Poor; 2=Seldom/Mediocre; 3=Sometimes/Good; 4=Often/Very good; 5=Always/Superb</td>
<td>Numeric-Categorical</td>
<td>Scale</td>
<td>Asks questions that promote learning (clarifications, probes, Socratic questions, reflective questions, etc.)</td>
</tr>
<tr>
<td>Statement</td>
<td>Scale</td>
<td>Description</td>
<td></td>
<td></td>
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<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Statement 9</td>
<td>Numeric-Categorical</td>
<td>Gives clear explanations/reasons for opinions, advice, or actions</td>
<td></td>
<td></td>
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<tr>
<td>Statement 10</td>
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<td>Adjusts teaching to diverse settings (bedside, charting, nurses station, etc.)</td>
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<tr>
<td>Statement 11</td>
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<td>Coaches me on my clinical/technical skills (patient history, assessment, procedural, charting)</td>
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<tr>
<td>Statement 12</td>
<td>Numeric-Categorical</td>
<td>Incorporates research data and/or practice guidelines into teaching</td>
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<tr>
<td>Statement 13</td>
<td>Numeric-Categorical</td>
<td>Teaches diagnostic skills (clinical reasoning, selection/interpretation of tests, etc.)</td>
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<td>Statement 14</td>
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<td>Teaches effective patient and/or family communication skills</td>
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<tr>
<td>Statement 15</td>
<td>Numeric-Categorical</td>
<td>Teaches principles of cost-appropriate care (resource utilization, etc.)</td>
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<td>Total Scores</td>
<td>Variable – Total of Scores</td>
<td>Total individual scores for all statements</td>
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<td>TotFBQ</td>
<td>Numeric-Continuous</td>
<td>Total Feedback Statements</td>
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<td>TotCP1</td>
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<td>Total Med Surg</td>
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<tr>
<td>TotCP2</td>
<td>Numeric-Continuous</td>
<td>Total Specialty</td>
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<td>TotCP3</td>
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<td>Total Critical Care</td>
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<td>TotTeach</td>
<td>Numeric-Continuous</td>
<td>Total Teaching Statements</td>
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### Appendix I

#### Table 1
*Tests of Normality*

<table>
<thead>
<tr>
<th>Test</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
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<tbody>
<tr>
<td>Kolmogorov-Smirnov</td>
<td>.256</td>
<td>164</td>
<td>.000</td>
</tr>
<tr>
<td>Shapiro-Wilk</td>
<td>.691</td>
<td>164</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Total Scores*

a. Lilliefors Significance Correction

#### Table 2
*Statistical Results of Feedback Statements from CTEI*

<table>
<thead>
<tr>
<th>Test</th>
<th>Statistic</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>3033.00</td>
<td>2880.50</td>
<td>2964.00</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>5113.00</td>
<td>4960.50</td>
<td>5044.00</td>
</tr>
<tr>
<td>Z</td>
<td>-.934</td>
<td>-1.544</td>
<td>-1.080</td>
</tr>
<tr>
<td>Asymp. Sig (2-Tailed)</td>
<td>.350</td>
<td>.123</td>
<td>.280</td>
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</table>

Statistical significance was conducted with p<.05, two-tailed

#### Table 3
*Statistical Results of Remaining Statements from CTEI*

<table>
<thead>
<tr>
<th>Test</th>
<th>Statistic</th>
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<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>3088.5</td>
<td>3040.50</td>
<td>3155</td>
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<tr>
<td>Wilcoxon W</td>
<td>8138.5</td>
<td>5120.50</td>
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<tr>
<td>Z</td>
<td>-.389</td>
<td>-.848</td>
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<tr>
<td>Asymp. Sig (2-tailed)</td>
<td>.697</td>
<td>.396</td>
<td>.822</td>
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Statistical significance was conducted with p<.05, two-tailed; * p<.05

#### Table 4
*Frequency for Clinical Area*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Group</th>
<th>After Group</th>
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<tr>
<td></td>
<td>n</td>
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<tr>
<td>Medical Surgical</td>
<td>41</td>
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<tr>
<td>Specialty</td>
<td>39</td>
<td>39.00%</td>
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<tr>
<td>Critical Care</td>
<td>20</td>
<td>20.00%</td>
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<tr>
<td>Total</td>
<td>100</td>
<td>100.00%</td>
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</table>
Appendix J

Table 5

<table>
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<tr>
<th></th>
<th>5</th>
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<th>8</th>
<th>9</th>
<th>11</th>
<th>Total Scores</th>
</tr>
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<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>292.500</td>
<td>341.500</td>
<td>336.000</td>
<td>289.000</td>
<td>329.000</td>
<td>328.500</td>
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<tr>
<td>Wilcoxon W</td>
<td>445.500</td>
<td>1202.500</td>
<td>1197.000</td>
<td>1150.000</td>
<td>1190.000</td>
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<tr>
<td>Z</td>
<td>-1.692</td>
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<tr>
<td>Asymp. Sig (2-Tailed)</td>
<td>.091</td>
<td>.861</td>
<td>.754</td>
<td>.122</td>
<td>.596</td>
<td>.707</td>
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Statistical significance was conducted with \( p < .05 \), two-tailed; * \( p < .05 \)

Table 6

<table>
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<th>9</th>
<th>11</th>
<th>Total Scores</th>
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<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>304.500</td>
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<tr>
<td>Wilcoxon W</td>
<td>475.500</td>
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<td>519.500</td>
<td>1104.500</td>
<td>499.500</td>
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<tr>
<td>Z</td>
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<td>-.056</td>
<td>-.525</td>
<td>-.397</td>
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<tr>
<td>Asymp. Sig (2-Tailed)</td>
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<td>.007*</td>
<td>.183</td>
<td>.956</td>
<td>.600</td>
<td>.691</td>
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</table>

Statistical significance was conducted with \( p < .05 \), two-tailed; * \( p < .05 \)

Table 7

<table>
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<th>9</th>
<th>11</th>
<th>Total Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
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<td>247.000</td>
<td>278.000</td>
<td>266.500</td>
<td>272.500</td>
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<td>Wilcoxon W</td>
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<td>682.000</td>
<td>488.000</td>
<td>476.500</td>
<td>707.500</td>
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<tr>
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<td>-.429</td>
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<td>.150</td>
<td>.668</td>
<td>.362</td>
<td>.655</td>
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Statistical significance was conducted with \( p < .05 \), two-tailed; * \( p < .05 \)