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# Development of an Evidence-Based CRNA Preceptor Training Program

Emmanuel Mensah

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**Final Scholarly Project: Development of an Evidence-Based CRNA Preceptor Training  
Program**

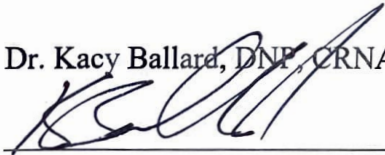
Emmanuel Mensah, BSN, RN, SRNA  
Department of Nursing, Otterbein University

2023

In Partial Fulfillment of the Requirements for the Degree  
Doctor of Nursing Practice

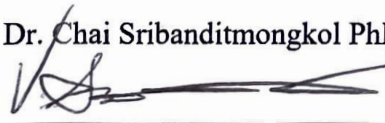
DNP Final Scholarly Project Team:

Dr. Kacy Ballard, DNP, CRNA, Team Leader



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Dr. Chai Sribanditmongkol PhD, RN, IBCLC, CNS – Project Member



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Dr. Amy Bishop DNP, AGCNS – Project Member



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### **Abstract**

A preceptor is an experienced clinician who is expected to facilitate a student's learning experience. Preceptorship is the relationship between a staff nurse and student, focusing on the development of clinical skills and knowledge. Initially introduced by Florence Nightingale in the 1800s, the concept was quickly adopted by nurse anesthetists and is a staple of the anesthesia practice today. As it stands, many Certified Registered Nurse Anesthetists (CRNA) preceptors do not receive formal training in their role, which may lead to a decrease in teaching ability and confidence to face broad teaching-learning issues. A lack of preparation hinders preceptor outcomes and can have detrimental effects on the student's learning experience. This doctoral project aims to develop an evidence-based preceptor training program utilizing the Rosswurm and Larrabee model for EBP change to analyze its impact on confidence, preparedness, and knowledge. The implementation of this project will take place at a level-1 urban trauma surgical center in the Midwest. Preceptor confidence, preparedness, and teaching knowledge will be measured utilizing a pre and post-training survey based on the Likert scale to assess for statistical significance before and after the training program.

*Keywords:* preceptorship, preceptor, training, workshop, education. anesthesia

### **Development of an Evidence-Based CRNA Preceptor Training Program**

Preceptorship is the relationship between a staff nurse and student, focusing on developing clinical skills and knowledge (Sanford and Tipton, 2016). Developing new learners using such a format is a staple of nursing practice). As skilled nurses with proficient knowledge in specific specialties, preceptors aid in developing clinical skills for new learners (Hong and Yoon, 2021). Along with teaching specific clinical skills, a preceptor is responsible for professional communication, showing support, providing effective feedback, and using evaluations to foster interpersonal and competency growth (Hong and Yoon, 2021).

Florence Nightingale first introduced the concept of preceptorship in the 1800s as an integral part of nursing education (Nightingale, 1860). Initially termed apprenticeship, Nightingale aimed to expand clinical knowledge and skills through hands-on training (Nightingale, 1860). Staff nurses originally served as preceptors and did their best to provide adequate teaching and feedback to students to augment their learning experience (Nightingale, 1860). The model of precepting students was quickly adopted by nurse anesthetists as leaders in the specialty believed the transition from the classroom to the OR was fundamental (Gunn, 1991). Charles Mayo and Alice Magaw, pioneers in nurse anesthesia, advanced the quality of preceptorship by highlighting the importance of adequately teaching clinical skills such as preoperative assessments and proper anesthetic administration techniques (Gunn, 1991).

In 1931, the American Association of Nurse Anesthesiology AANA, 2022 was founded in Cleveland, Ohio. The creation of the AANA, 2022 was significant in the history of nursing as before this organization; there were no educational guidelines or standards for nurse anesthetist. In 1935 the AANA introduced the first set of curriculum guidelines for anesthesia programs, which included:

1. “Length of course: six months, but with one year recommended.
2. Classroom instruction: 95 hours.
3. Hours of operating room instruction (class): 18 hours
4. Number of anesthetics administered: 325, of which 250 had to be general, 25 obstetrical, 25 dental and 25 regional, divided among spinal, locals, etc..” (Gunn, 1991, p.55).

The guidelines assisted in organizing and streamlining education provided to nurses in these programs (Gunn, 1991). Such policies are constantly revised to reflect the increasing need to improve students' competence as they transition to an anesthetist (Gunn, 1991). For example, the current guidelines require the completion of a minimum of 600 clinical cases and 2000 clinical hours (Council on Accreditation [COA], 2015). The significant increase in clinical hour requirements emphasizes the importance of developing clinical skills, which is heavily influenced by effective CRNA preceptorship.

### **Problem Statement**

According to Scott-Herring and Singh (2017), eighty-two percent of Certified Registered Nurse Anesthetists (CRNA) preceptors never received formal training before instructing Student Registered Nurse Anesthetists (SRNA). As it stands, CRNAs are not mandated to receive any educational training before precepting students at a Level 1 trauma center. The National Council of State Boards of Nursing [NCBSN], the nursing regulatory body, currently holds two requirements for an individual to qualify as an Advanced Practice Registered Nurse (APRN; NCBSN, 2021):

- 1) "Hold an active license or privilege to practice as an APRN or physician that is not encumbered and practices in a comparable practice focus."

- 2) "Function as a supervisor or teacher and evaluate the individual's performance in the clinical setting (p. 12)."

The NCBSN has yet to address the inclusion of a training program to adequately train staff members with the necessary tools to educate learners effectively. Nurse anesthetists are not exposed to content regarding the different learning styles of students, nor are they taught how to engage with new learners in the clinical setting. Furthermore, a lack of educational material provided to preceptors may lead to unpreparedness and a loss of confidence (Sanford & Tipton, 2016). An unprepared preceptor could impair a student's learning experience and transition into a CRNA, negatively affecting the individual's proficiency with patient-related tasks.

### **Significance to the Profession**

Expanding clinical knowledge is essential to a nursing student's academic development and growth. The clinical environment provides an excellent opportunity for students to apply concepts learned in the classroom to the operating room. Such a learning environment promotes the development of knowledge, psychomotor, and cognitive skills (Bengtsson & Carlson, 2015). A vital aspect of a student flourishing and succeeding in such an atmosphere is influenced by a well-educated and prepared preceptor (Bengtsson & Carlson, 2015). Preceptors with effective teaching habits are paramount in nursing practice as they not only support new learners, but also provide constructive criticism and action plans when necessary (Sanford & Tipton, 2016). Also, preceptors constantly adapt their teaching approach and style to meet the needs of students in hopes of meeting preset benchmarks (Sanford & Tipton, 2016). The responsibilities of preceptors reflect the need for said individuals to be adequately prepared and trained to promote success in a student's clinical practice (Bengtsson & Carlson, 2015).

Current NCBSN guidelines require nurse preceptors to hold an active license that is unencumbered and function in a teaching role to learners in the clinical setting (NCSBN, 2019). The guidelines do not require formal education for nurses serving in a preceptor role (NCSBN, 2019). As a result, the responsibility of ensuring that nurses are prepared to assume the role of a preceptor falls on the shoulders of nurse managers and leadership (Bengtsson & Carlson, 2015). Furthermore, when offered such workshops and courses, nurses stated the educational content was inadequate and failed to meet their needs (Bengtsson & Carlson, 2015). A study by Kennedy, 2019 revealed nurses believe training should reflect current practice and include communication techniques, effective teaching strategies, and adult learning principles. The findings of both research articles reflect the necessity for preceptor education to be evidence-based and tailored to meet the needs of nurses (Bengtsson & Carlson, 2015; Kennedy, 2019). If not, individuals may lack the ability and confidence to face broad teaching-learning issues leading to poor outcomes for both the preceptor and student (Sanford & Tipton). To counter the problem, research must be conducted to develop a training workshop that teaches preceptors' best teaching practices; to strengthen the quality of education and proficiency in practice (Kennedy, 2019).

### **PICO(T) Question**

A PICO question is a well-defined clinical question that provides a structure to a specific clinical question (Melnik & Fineout-Overholt, 2005). The four components are "population of interest [P], intervention of interest [I], comparison of interest [C], and outcome of interest [O]." (Melnik & Fineout-Overholt, 2005, p. 25). The research question is as follows: For CRNAs precepting nurse anesthesia students, how does the utilization of an evidenced-based preceptor

training workshop, compared with no preceptor training effect CRNA confidence, preparedness, and preceptor teaching knowledge?

### **Project Objectives**

1) Perform a systematic review of the literature review to identify best practices in developing an evidence based CRNA preceptor workshop

2) Develop an in-person evidence-based preceptorship workshop for CRNAs at a level 1 trauma center

3) Develop a method to monitor CRNA confidence, preparedness, and preceptor teaching knowledge regarding preceptorship before and after preceptor workshop.

4) Develop a comprehensive plan to adjust the workshop if outcomes are undesirable or insufficient.

### **Literature Search**

A literature review was conducted utilizing multiple research databases and keywords derived from the PICO question. The databases included CINAHL (EBSCO), the AANA, and Publisher MEDLINE (PubMed). Search terms include: *preceptorship, preceptor, student registered nurse anesthetist, certified registered nurse anesthetist, training, workshop, education, and nurse*. The initial search on the different databases yielded thousands of articles. As a result, the research articles were filtered based on the following criteria: Peer reviewed journals, publication between 2016-2022, publication in English, and relevance to nurse anesthesia. In addition, the Boolean operator "and" was used to narrow the results further. This search method yielded three research articles that were relevant to the project topic. The limited amount of research articles regarding the topic led to the anesthesia term being dropped and the analysis of



studies regarding nurse preceptor education. After narrowing the search to 45 studies, eight articles (two qualitative studies, two quantitative studies, one quality improvement project and one systematic review) that emulated and provided profound results that could be repeated within the nurse anesthesia profession were selected. The literature search is divided into two subsections: perception of preceptorship and preceptor training benefits.

### **Perception of Preceptorship**

Elisha and Rutledge (2011) performed a quantitative study to analyze the perceptions and experiences of SRNAs in the clinical setting (Elisha & Rutledge, 2011). In the study 696 SRNAs filled out a questionnaire that included a variety of sections to determine common behaviors, teaching styles, constructive feedback, and preparedness amongst preceptors (Elisha & Rutledge, 2011). The questionnaire revealed that 69% of students reported facing some sort of verbal abuse during their clinical experience, 14% reported physical abuse, and 12% reported racial discrimination from their preceptor (Elisha & Rutledge, 2011). However, SRNAs also noted that most CRNA and anesthesiologist preceptors were positive role models (Elisha & Rutledge, 2011). The most influential behaviors observed by students throughout clinical rotations were calmness, clear communication, and encouragement of independent behavior (Elisha & Rutledge, 2011). Elisha & Rutledge (2011) summarized their findings by identifying the need to train anesthesia providers, as evident by the comments by the student participants. In doing so, the authors believe the learning experiences will significantly improve for SRNAs, while also improving teaching behaviors and approaches by both CRNAs and physicians (Elisha & Rutledge, 2011).

Kennedy (2019) conducted a quantitative study to analyze nurse preceptors' opinions and determine the usefulness of preceptor training. An online questionnaire was distributed to 88

nurses and included the following sections: "Commitment to the Preceptor Role Scale, Preceptor's Perceptions of Benefits and Rewards Scale, Preceptor's Perception of Support Scale, and a demographic information sheet" (Kennedy, 2019). The results confirmed that those nurses who received evidence-based preceptor teaching felt more confident and fully understood the role of a preceptor (Kennedy, 2019). Moreover, those with preceptor education believed that their education lessened the stress of the situation they were in and aided with meeting preceptor expectations (Kennedy, 2019). Kennedy (2019) concluded that hospital organizations should create a task force assigned explicitly to the development of a preceptor training program to improve preceptor preparation.

A qualitative study by Bengtsson and Carlson (2015) assessed the primary educational needs of nurse preceptors. Participants were asked what specific resources management can provide to help develop knowledge and skills in regards to precepting (Bengtsson & Carlson, 2015). The study reviewed two significant themes: "tools for effective precepting of students and in-depth knowledge and understanding of preceptorship in an academic setting (Bengtsson & Carlson, 2015, p. 3)". Another common theme amongst participants reflected a need for more education regarding the specific learning principles and strategies to maximize preceptor outcomes (Bengtsson & Carlson, 2015). Based on the findings, Bengtsson and Carlson (2015) concluded a preceptor training program is vital and should include four major components: teaching and learning strategies, reflective and critical reasoning, the role of the preceptor, preceptorship, and communication.

Hong and Yoon (2017) conducted a qualitative study to examine the impact of preceptor training programs on preceptors' teaching behavior and strategies. A descriptive online survey was distributed to 180 nurse preceptors to gather qualitative data (Hong & Yoon, 2017). The

results revealed many hospitals currently lack a structured training program which negatively impacts preceptors' behavior (Hong & Yoon, 2017). Furthermore, data revealed exposing a preceptor to adequate training improved their attitude, skills, and knowledge (Hong & Yoon, 2017). Researchers concluded that hospitals must offer more training programs to preceptors to improve teaching behaviors and reduce the teaching workload (Hong & Yoon, 2017).

### **Preceptor Training Benefits**

Easton et al. (2017) explored the concept of preceptorship in nurse anesthesia and the impact this teaching/learning model has on students and the preceptor. The study used surveys to gather data on precepting practices, behaviors, and overall perceptions of the training course (Easton et al., 2017). The study revealed a considerable discrepancy regarding teaching styles, behaviors, and overall structure from the perspective of SRNAs and CRNAs. The difference in perception emphasizes the need to educate both students and teachers to optimize clinical outcomes for both parties (Easton et al., 2017). Participants of the study then completed a preceptor training that included four phases: developing an Evidence-based CRNA preceptor training, presentation of the training program to 24 CRNAs and 20 SRNAs, a baseline survey of preceptor practice by CRNAs and SRNAs, and modification of the training program based on survey data (Easton et al., 2017). The study revealed that 62% of CRNAs and 94% of SRNAs benefited from the training offered by researchers (Easton et al., 2017).

Scott-Herring and Singh (2017) completed a study to determine if CRNA preceptor training would increase the confidence and comfort of clinical preceptors. From this study there were three knowledgeable CRNAs with over five years of clinical experience created a Preceptor Needs Assessment Survey; surveys which helped ID the needs of CRNA preceptors (Scott-Herring & Singh, 2017). The workshop training was then tailored to address the concerns

mentioned by the preceptors from the needs assessment. The actual preceptor workshop lasted 4 hours and included presentations, role-play, discussions, and presentations from CRNAs in the educational department (Scott-Herring & Singh, 2017). Participants completed pre- and post-workshop surveys to evaluate the effectiveness of the training program (Scott-Herring & Singh, 2017). Participants spoke highly of the training and mentioned that the course reminded them to "put themselves in the student's shoes and advocate for the student in high-stress situations" (Scott-Herring & Singh, 2017, p. 25). Participants also commented on the importance of setting clear, concise expectations for the student before the start of clinical (Scott-Herring & Singh, 2017). Scott-Herring and Singh (2017) concluded that a CRNA preceptor workshop would increase preceptor confidence, preparedness, and knowledge when instructing students in the clinical setting.

A study was completed by Nash & Flowers (2017) to determine elements that a nurse preceptorship training program should include. The authors created a survey with critical thinking, time management, and role modeling topics and asked preceptors to indicate the importance of each on a scale of one to five (Nash & Flowers, 2017). The top educational studies were critical thinking, communication, and prioritizing (Nash & Flowers, 2017). Lastly, sixty-four percent of preceptors felt that the material and an educational training program should be offered by leadership within the first year of precepting to yield optimal results (Nash & Flowers, 2017). The authors concluded that it is critical for every health facility and educational program to include some form of preceptor training to contribute to the success of future nurses (Nash & Flowers, 2017).

Sanford and Tipton (2016) conducted a study to evaluate the impact a four hour preceptor training course has on preceptor behaviors. The study required 27 individuals to attend a

preceptor course covering learning styles, critical thinking, growth and development, and competency assessment (Sanford & Tipton, 2016). Two months later, participants of the training course were asked to complete a follow-up questionnaire. The results revealed that 90% of participants had accomplished one or more personal goals which were established before attending the class (Sanford & Tipton, 2016). Goals included improved interpersonal skills, appreciation of body language when communication with preceptees, and developing a relationship with the preceptee that extends past orientation (Sanford & Tipton, 2016). The authors further concluded that the results indicated the necessity of training preceptors to improve teaching techniques, skills, and behavior (Sanford & Tipton, 2016).

Wu et al. (2017) performed a systematic review to examine the effectiveness of implementing online learning programs for nurse preceptors. The authors reviewed a total of nine studies and identified five common themes, "development of the online learning programs for nurse preceptors, major contents of the programs, uniqueness of each program, modes of delivery, and outcomes of the programs" (Wu et al., 2017, p. 13). Researchers concluded that integrating a continual educational program for preceptors enhances nursing knowledge and skill (Wu et al., 2017). Online learning also provides an alternative for nurses with limited time due to work and family commitments (Wu et al., 2017).

### **Summary of Evidence**

CRNA preceptors are tasked with teaching SRNAs critical skills and lessons in the clinical setting in a manner that is conducive to learning (Easton et al., 2017). Expecting an individual to balance the role of a CRNA and a preceptor can be a significant challenge (Kennedy, 2019; Elisha, 2011). Four research studies included a survey or questionnaire to

understand preceptors' thoughts, perceptions, or opinions regarding their role in the clinical setting. The studies concluded that the combination of workload, lack of support, and preceptor education led to preceptors feeling unprepared (Hong & Yoon, 2017; Kennedy, 2019; Scott-Herring & Singh, 2017). A lack of preparedness negatively affects the preceptor and hinders the preceptees learning experience (Elisha, 2011; Bengtsson & Carlton, 2015). When asked about areas of dissatisfaction regarding CRNA preceptors, SRNAS reported inconsistent feedback, poor teaching skills, and verbal abuse from their preceptor (Elisha, 2011; Scott-Herring & Singh, 2017). To combat the problems stated, study participants suggested providing a form of training to preceptors in order to improve confidence, preparedness, and knowledge (Kennedy, 2019; Bengtsson & Carlton, 2017; Easton et al., 2017; Hong & Yoon, 2021; Scott-Herring & Singh, 2017).

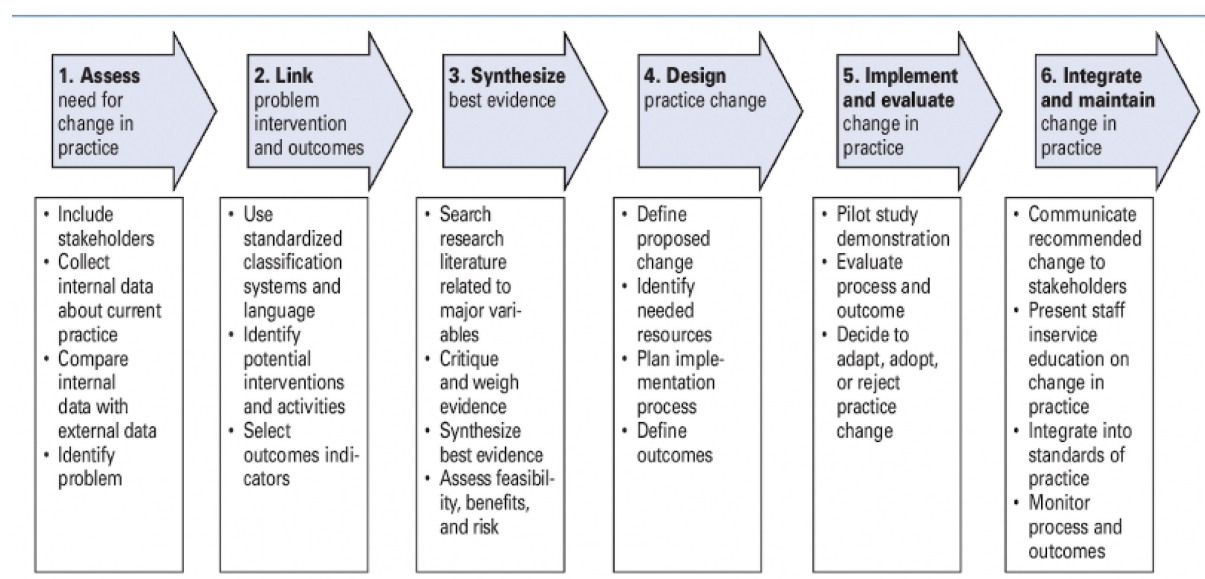
Four studies reviewed for this project implemented a form of preceptorship training and utilized pre and post-intervention surveys or questionnaires to evaluate the effectiveness of the program (Easton et al., 2017; Nash & Flowers, 2017; Sanford & Tipton, 2016; Scott-Herring & Singh, 2017). Although the studies utilize different implementation and evaluation methods, they all concluded that the integration of a training course improves outcomes for the preceptee but more importantly the preceptor (Easton et al., 2017; Nash & Flowers, 2017; Sanford & Tipton, 2016; Scott-Herring & Singh, 2017). Before developing a preceptor program, a needs assessment was distributed by researchers to determine potential topics to include in the training curriculum (Bengtsson & Carlton, 2017; Easton et al., 2017; Nash & Flowers, 2017). Obtaining this data allows those developing the educational program to tailor the topics taught to the needs of preceptors (Nash & Flowers, 2017, Easton et al., 2017). Common themes included in the training programs were effective communication, preceptor responsibilities, conflict management,

challenging situations, and learning and teaching styles (Easton et al.,2017; Nash & Flowers, 2017; Sanford & Tipton, 2016).

### Theoretical Framework

The theoretical framework utilized for the project is the Russwurm and Larrabee conceptual model. The model utilizes a systematic approach to aid healthcare professionals in developing and implementing guidelines (Russwurm & Larrabee, 1999). The conceptual model follows a six-step method that will be thoroughly explained below in Figure 1.

Figure 1



*Note. Russwurm and Larrabee Model for Evidence-Based Practice* (Russwurm & Larrabee, 1999)

#### Step 1: Assess the need for a change

Step one of the model includes the identification and assembly of stakeholders, the comparison of internal data with external data, and the identification of the clinical problem. The use of stakeholders (individuals with an interest in the practice) in the initial phase provides the

foundation for the development of implementing a change in practice (Rosswurm & Larrabee, 1999). Once stakeholders are identified, the EBP team analyzes internal data to determine specific guidelines, outcomes, and benchmarks utilized by the facility. The information gathered will be compared to external data to assess the need for a change in practice. Once this step is complete, the project team can develop the PICOT question, which provides the structure and direction for data collection and literature synthesis.

### **Step 2: Link the problem with interventions and outcomes**

According to Rosswurm and Larrabee (1999), step two involves the refinement of the clinical problem. Defining the clinical problem establishes the basis from which the clinical outcomes and interventions may result. The clinical problem will follow the format of the PICOT question to allow for the identification of the proposed interventions and outcomes.

### **Step 3: Synthesize the best evidence**

Step three includes the review of evidence following a rapid critical appraisal of the current and relevant literature. Research articles would be analyzed and appraised to develop an evidence-based implementation for the project. The use of rapid critical appraisal of the literature allows for the determination of the risk and benefits associated with conducting the project.

### **Step 4: Design a change in practice**

Conducting an in-depth literature search provides the foundation for the recognition of evidence-based changes to clinical practice. Establishing change to clinical practice involves the identification of necessary resources to implement a practice project. The selection of project outcomes following the implementation of the project will be periodically assessed for trend analysis.

### **Step 5: Implement and evaluate the practice change**



The fifth step is the implementation phase of the project. The implementation phase involves the systematic integration of the change to clinical practice incorporating interventions supported by literature. Following project implementation, data collection and analysis will begin.

#### **Step 6: Integrate and maintain the practice change**

The final step of the theoretical framework incorporates the summarization and presentation of data and results to stakeholders and staff members. Following the educational meeting on the discussion of changes to clinical practice, the new practice changes will be integrated into the standards of clinical practice. Continual evaluations of outcomes and interventions will provide assessment of trends to determine additional necessary changes to interventions.

### **Implementation**

#### **Step 1: Assess the need for a change**

The first step is identifying stakeholders and assessing the need for change by comparing internal and external data. The primary stakeholders for this project are anesthesia EBP leaders (anesthesia quality improvement personnel), chief CRNAs (manager of anesthesia staff), and anesthesia clinical educators (staff educators). Once key stakeholders are gathered the team will compare internal CRNA preceptor practices to evidence-based practices as supported by literature to identify areas of improvement.

#### **Step 2: Link the Problem**

Following the comparison of internal practices to external data, the EBP team will define the clinical problem and develop interventions and outcomes. The identified clinical problem is a

lack of an evidence-based training program for CRNA preceptors. To combat this problem an evidence-based preceptor workshop will be designed and implemented to address the clinical problem. The proposed project will evaluate three clinical outcomes: CRNA confidence, preparedness, and preceptor teaching knowledge.

### **Step 3: Synthesize the Best Evidence**

A literature search was conducted based on the PICOT question to identify data supporting the evidence-based practice for preceptor training. Currently, the literature supports the development and use of a preceptor workshop program to improve preceptor knowledge, preparedness, and teaching techniques. Analysis of the articles identified four effective educational themes in preceptor training resulting in positive educational outcomes: defined role and responsibilities of the preceptor, conflict resolution, learning and teaching techniques, and communication styles (Easton et al., 2017; Nash & Flowers, 2017; Sanford & Tipton, 2016).

### **Step 4: Design a change in practice**

The evidence suggests the implementation of a preceptor workshop with a pre-workshop survey to assess current needs in the clinical setting (Easton et al., 2017; Nash & Flowers, 2017; Sanford & Tipton, 2016). The pre-workshop survey will be provided to CRNA preceptors and include a 5-point Likert scale to provide a baseline assessment on preceptors and an open-ended question (Appendix B). A pre-workshop survey allows the project team to gather baseline data about current precepting behaviors, skills and knowledge. Once all pre-workshop surveys are collected, educational content in the workshop will be tailored to meet the preceptors' needs based on their responses. The workshop will be presented during a staff meeting requiring the attendance of all CRNAs in the department. CRNAs typically attend monthly meetings requiring attendance of all staff; it is during one of these predesignated staff meetings where the preceptor

workshop will be offered to all CRNAS. The workshop will take approximately an hour and take place outside of scheduled OR time to avoid conflict with other departments.

Clinical educators and the chief CRNA will lead the preceptor workshop training. The program will cover four overarching themes, utilizing PowerPoint format while incorporating discussions among lecturers and attendees to foster a learning environment. The first topic to be discussed in the workshop is the role and responsibilities of CRNA preceptors in the clinical setting. Job expectations and duties will be highlighted and reviewed with staff. Included in this section are the clinical expectations for all SRNAS from novice to more senior students. Explicitly stating expectations may limit confusion and frustration between preceptor and student, as CRNAs will better understand how to approach novice learners as opposed to those with operating room experience. Once this content has been covered, participants will be given 15 minutes for questions or comments regarding the presented content.

The second topic will address handling conflict in the clinical setting and require active participation from the preceptors. This section will outline effective methods and interventions regarding disagreements with students. The lecturer will review practical steps in mitigating misinterpretations while promoting learning and understanding for the student. After the lecture portion, the floor will again be open for preceptors to share specific conflict-related experiences.

The third section introduces preceptors to different learning and teaching styles that CRNAs can incorporate into their practice to yield positive student outcomes. This section reviews how one can effectively integrate educational concepts to facilitate the transition of SRNA didactical knowledge to the clinical setting. This portion of the workshop aims to briefly familiarize preceptors with different teaching and learning styles to improve learning outcomes. A significant learning concept introduced during this segment is Bloom's taxonomy. This

classification system categorizes learning into three main domains: cognitive (knowledge), psychomotor (skills), and affective (attitudes) (Hoque, 2020). The second model taught during this section is the Ask-Tell-Ask Feedback Model (ATA) (French et al., 2015). The ATA model focuses on the student and promotes accountability while encouraging the learner to self-reflect on their clinical performance (French et al., 2015). Similar to the previous sections, the third segment of the preceptor workshop will end with 15 minutes for questions and discussions regarding the topic.

The fourth section of the workshop will introduce preceptors to Educational Time-Out (ETO) and the Gather Analyze Summarize (GAS) debriefing tool. The ETO occurs at the beginning of each clinical day and incorporates three steps (assess, plan and implement), ensuring that both the preceptor and student are on the same page before engaging in clinical activities (Easton et al., 2017). On the other hand, the GAS tool is utilized at the end to promote constructive criticism regarding the student's performance while also allowing for the creation of a plan to improve outcomes moving forward (Easton et al., 2017).

After the presentation on effective communication, the workshop will shift to a role-play/act segment requiring CRNA preceptors to act out different clinical scenarios utilizing the new concepts learned. Participants will be divided into groups of two, and one person will play the preceptor role while the other pretends to be an SRNA. The goal of this portion of the workshop is to give preceptors a new perspective when it comes to the clinical setting, as well as get first-hand experience with the application of the topics covered in the clinical setting. Following the role-play segment, time will be allotted for CRNAs to debrief and discuss their experiences with this exercise. Handouts of SRNA expectations in the OR based on clinical experience will be provided to preceptors to assist with setting expectations. Lastly, the project

team will address any final questions or concerns that participants may have before dismissing the group.

#### **Step 5: Implement and evaluate the practice change**

The fifth step of the implementation section is the evaluation of the preceptor workshop. The outcome analysis plan will begin with distributing pre-workshop surveys to CRNA preceptors. The survey provides the EBP team with valuable data on prior preceptor training experiences, current comfort level with precepting SRNAs, and overall knowledge regarding effective teaching strategies. After the implementation phase of the project, a post-workshop survey will be distributed and assessed for change in preceptor confidence, preparedness, and knowledge level to educate new nurse anesthesia learners. A post-workshop survey will be used to assess the outcomes identified for the project. Data from the post-workshop survey will be compared to the pre-workshop survey to assess for change in CRNA comfort, confidence and knowledge (Appendix C). Based on survey results, the decision will be made on whether or not to integrate the preceptor workshop into practice permanently.

#### **Step 6: Integrate and maintain the practice change**

The final step of the implementation phase is integrating the preceptor workshop into practice. The workshop will be integrated into new employee orientation to promote consistency in preceptor behaviors with the employment of new CRNAs. The workshop will also be incorporated into the SRNA clinical orientation to provide students with the latest tools and preceptor behaviors they may encounter once in the clinical setting.

### **Outcome Analysis Plan**

To evaluate the workshop's effectiveness, the project team will compare pre-workshop survey scores to post-workshop survey scores to assess for an increase or decrease in Likert scale items. The workshop will be incorporated into practice if there is a change in preceptor confidence, preparedness, and teaching knowledge, as evidenced by statistical significance in post-workshop results compared to pre-workshop data.

Quantitative data from both surveys will be analyzed by comparing mean scores to assess trends in the pre-identified outcomes. Qualitative data analyzing patterns and themes will provide topic suggestions for future workshops and valuable feedback about the training. The survey results will be saved to a private shared encrypted one drive in the anesthesia department and stored on the private laptop of the chief CRNA. Once the de-identified data is finalized, results will be made available to all CRNAs and SRNAs.

### **Barriers**

A lack of buy-in by CRNA preceptors in the training workshop is the most significant barrier this project may face. CRNAs may be resistant to incorporating new teaching strategies into their preceptor behaviors. This point may be more evident in CRNAs who have been precepting for years and consider their experience superior to the teaching offered in the workshop. Secondly, using surveys may lead to CRNAs not giving accurate or honest answers, which can skew the overall results of the project. Barriers will be overcome through effective and direct communication with the stakeholders and all CRNAs participating in the workshop.

### **Timeline**

The project timeline is outlined in Appendix D. This project will be initiated with problem identification and assessment of internal practices. Once internal practices are identified, a thorough review of the literature will be conducted to determine the best approach to improving the quality of CRNA precepting. After this data has been gathered, it will be presented to key stakeholders. The previous phases described will occur over two months. The following month will be dedicated to developing the preceptor workshop and conclude with the project's implementation phase during a pre-selected staff meeting. The developmental stage will also include distributing pre-workshop surveys to CRNA preceptors. After the workshop, project team leaders will collect and analyze data, which will take one month. Lastly, outcomes will be re-evaluated yearly by the project team to identify areas for improvement to enhance future preceptor workshops.

### **Budget**

The projected budget for implementing a CRNA preceptor workshop is estimated to be \$100 due to the cost of paper surveys. The project team of educators will volunteer their time to work and develop the workshop resulting in no additional pay for the educational team. However, if this project is to be implemented at a facility where members of the project team are paid for their work, the total budget would be \$23,000 (this is a cost that is not above and beyond their salary because they're doing this during their work hours). Five CRNAs make up the project team, and these individuals are expected to spend 5 hours a week for three months on the development and implementation of the workshop. According to Zip Recruiter (2022), the average CRNA makes \$108 an hour. Five CRNAs being paid \$108 for 60 hours equals \$6,480. Adding the cost of paper surveys will result in a total budget of \$6,480. CRNAs will not be

additionally compensated for attending the workshop due to the training scheduled during a mandatory staff meeting or New CRNA onboarding training.

### **Conclusion**

Insufficient education and preparation impairs a CRNA preceptors' ability to effectively teach new learners in the clinical setting. The literature suggests providing preceptors formal training improves outcomes for all involved, especially the preceptor (Easton et al., 2017; Nash & Flowers, 2017; Sanford & Tipton, 2016; Scott-Herring & Singh, 2017). The purpose of this project is to thoroughly describe an evidence-based approach to implementing a CRNA preceptor workshop utilizing the Russwurm and Larrabee conceptual model. Integrating this form of education into nurse anesthesia units promotes the use of literature supporting teaching techniques to further the clinical experience for SRNAs.



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## Appendix A:

### Literature Summary Table

Citation (Author, Year, Title)	Conceptual Framework	Design /Method	Sample/Setting (Number, Characteristics, Exclusions, Criteria, Attrition, etc.)	Major Variables; definitions  (Independent variables; Dependent variables)	Outcome Measurement  (What scales used – reliability information – alphas)	Data Analysis	Findings (Statistical findings or qualitative findings)	Level of Evidence	Quality of evidence  Strength Limits Risks Feasibility
<b>Article I: Knowledge and skills needed to improve as preceptor: Development of a continuous professional development course - a qualitative study part I</b>									
Bengtsson, M., & Carlson, E. (2015). Knowledge and Skills Needed to Improve as Preceptor: Development of a Continuous Professional Development Course - a Qualitative Study Part I. <i>BMC Nursing</i> , 14, 1–7. <a href="https://doi.org/10.1186/s12912-015-0103-9">https://doi.org/10.1186/s12912-015-0103-9</a>	N/A	Qualitative study	64 preceptors (62 women and two men) answered one single written, the self-administered global question online.	N/A	Burnard method of data collection	Data was gathered using a single written question that was provided to preceptors.	The study revealed that preceptorship training should be offered to nurse preceptors and include themes such as the preceptor's role, reflective and critical reasoning and teaching, and learning strategies.	Level-4	The participants only consisted of preceptors in Sweden, limiting the study's findings. The results suggested five essential components for preceptor training which are feasible themes to include in this project.

**Article 2: Nurse preceptors and preceptor education: implications for preceptor programs, retention strategies, and managerial support**

Kennedy, A. (2019). Nurse preceptors and preceptor education: implications for preceptor programs, retention strategies, and managerial support. <i>Medsurg Nursing</i> , 28(2), 107–113	N/A	Quantitative study	A descriptive study of 88 nurse preceptors who had some form of formal preceptor education and RNs who had no formal preceptor education	N/A	Likert scale	A questionnaire that was adapted from Dibert and Goldenberg (1995)	$p > 0.05$ reflecting a weak level of significance	Level-4	Results were not statistically significant ( $p > 0.05$ ), and the study results are limited due to the participants being medical-surgical nurses who solely precept other RNs and not students. Researchers concluded a training program aids preceptors in understanding their role and how to apply essential teaching principles.
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**Article 3: Is nursing preceptor behavior changed by attending a preceptor class**

Sanford, P. G., & Tipton, P. H. (2016). Is nursing preceptor behavior changed by attending a preceptor class? <i>Proceedings (Baylor University. Medical Center)</i> , 29(3), 277–279. <a href="https://doi.org/10.1080/08998280.2016.11929434">https://doi.org/10.1080/08998280.2016.11929434</a>	N/A	Quantitative study	Twenty-seven nurses participated in a 4-hour preceptor class to change preceptor behavior. 18/27 nurses completed a follow-up survey two months later.	N/A	Not stated	Data gathered using surveys	90% of the participants accomplished one of their goals. Feedback on the surveys indicated a beneficial experience with the training that positively impacted clinical behavior.	Level-4	The study used a relatively small sample size (27 participants), which challenges generalizing the findings. The positive feedback via questionnaires reflects the positive impact training may have on preceptor performance.
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**Article 4: Development of an Online, Evidence-Based CRNA Preceptor Training Tutorial (CPiTT): A Quality Improvement Project**



**Teaching Behavior**

Hong, K. J., & Yoon, H. J. (2021) Effect of Nurses' Preceptorship Experience in Educating New Graduate Nurses and Preceptor Training Courses on Clinical Teaching Behavior. <i>International Journal of Environmental Research and Public Health</i> , 18(975), 975. <a href="https://doi.org/10.3390/ijerph18030975">https://doi.org/10.3390/ijerph18030975</a>	N/A	Qualitative Study	180 nurse preceptors from multiple hospitals	N/A	Outcomes were analyzed using the SPSS version 23.0, one-way ANOVA, and Pearson's correlations coefficient.	Data was collected using the Clinical Teaching Behavior Inventory (CTBI-23)	The overall mean score of the clinical teaching behavior was 89.30. Those with preceptor training had more positive perceptions and behaviors towards precepting.	Level-4	The quantitative findings in the study reveal the benefits of a preceptor training program. However, the study used bedside nurses instead of CRNA, possibly limiting the findings.
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**Article 8: A Systematic Review of Online Learning Programs for Nurse Preceptors**

Wu, X. V., Chan, Y. S., Tan, K. H. S., & Wang, W. (2018). A Systematic Review of Online Learning Programs for Nurse Preceptors. <i>Nurse Education Today</i> , 60, 11–22. <a href="https://doi.org/10.1016/j.nedt.2017.09.010">https://doi.org/10.1016/j.nedt.2017.09.010</a>	Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist and the Cochrane Handbook for Systematic Reviews of Programs	Systematic Review	The systematic review included a total of nine studies (six quantitative, two qualitative, and one mixed method studies)	N/A	The outcomes were gathered using a narrative summary that integrates qualitative and quantitative evidence.	Quantitative and qualitative data were gathered from multiple research articles and displayed using a narrative summary.	The results revealed five themes in an online learning program for preceptors: development of the online learning programs for nurse preceptors, major contents of the programs, uniqueness of each program, modes of delivery, and outcomes of the programs.	Level-1	The study reflects the positive impact a preceptorship program has on preceptors. The ability to convert training to an online format provides more flexibility for those unable to attend in person.
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**Article 9: Clinical Education Experiences: Perceptions of Student Registered Nurse Anesthetists**

Elisha, S., & Rutledge, D. N. (2011). Clinical Education Experiences: Perceptions of Student Registered Nurse Anesthetists. <i>AANA Journal</i> , 79(4), S35–S42.	N/A	Quantitative Study	696 SRNAs participated in a questionnaire regarding their perceptions of CRNA preceptors.	N/A	Outcomes were measured using descriptive statistics and statistical software (SPSS version 17)	The study's results revealed that most SRNAs were happy with their clinical experience. However, 69% experienced verbal abuse, and 10% experienced sexual abuse, physical abuse, or racial discrimination	The data was collected via an online survey provided to SRNAs	Level-4	Limitations of the study include relevance due to the article being published in 2011. Furthermore, the survey was not tested for stability. Strengths of the study include the sample size and random selection of the sample to allow for generalization of the findings. The study provides valuable data on areas SRNAs believe CRNAs can improve.
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## Appendix B:

### CRNA Pre-Workshop Survey

	Not at all	Slightly	Somewhat	Mostly	Very much
	1	2	3	4	5
1. How satisfied are you with your previous preparation regarding the education of SRNAs?					
2. How confident are you with your ability to precept a SRNA?					
3. How comfortable are you in actively coaching critical thinking with your SRNA?					
4. How comfortable are you in working with a SRNA who has a different personality or learning style than yours?					
5. How confident are you in working with a SRNA of a different ethnic background than yours?					
6. Do you understand the role and responsibilities of a preceptor?					
7. How confident are you in providing both positive and constructive feedback to a SRNA?					

8. List different preceptor related teaching techniques

### Appendix C:

#### CRNA Post-Workshop Survey

	Not at all	Slightly	Somewhat	Mostly	Very much
	1	2	3	4	5
1. How satisfied are you with today's preparation regarding education of a SRNA?					
2. How confident are you with your ability to precept a SRNA?					
3. How comfortable are you in actively coaching critical thinking with a SRNA?					
4. How comfortable are you in working with a SRNA who has a different personality or learning style than yours?					
5. How confident are you in working with a SRNA of a different ethnic background than yours?					
6. Do you understand the role and responsibilities of a preceptor?					

7. How confident are you in providing both positive and constructive feedback to a SRNA?					
8. List different teaching techniques that you can incorporate into your preceptor practice					
9. Any topic suggestions for future workshops?					



## Appendix E:

### Permission to Utilize Workshop Surveys

**From:** Mensah, Emmanuel <emmanuel.mensah@otterbein.edu> **Sent:** Thursday, September 8, 2022 10:18 AM

**To:** Scott-Herring, Mary <mherring@som.umaryland.edu> **Subject:** Permission to use article content for DNP Project

Good Morning Dr. Herring,

My name is Emmanuel Mensah, and I am currently a second-year SRNA at Otterbein University. I am working on a DNP project titled: Development of an evidence based CRNA preceptor training program. While researching evidence, I came across your article which outlined the importance of providing an educational course to CRNA preceptors. The content was eye-opening and insightful; with that in mind, I wondered if you would be ok with me citing some of your content in my project including utilization of your pre and postworkshop survey. I would also project including utilization of your pre and postworkshop survey. I would also appreciate any articles, research, or information related to preceptorship that you want to send.

Thanks, Emmanuel Mensah

**From:** Scott-Herring, Mary <mherring@som.umaryland.edu>

**Subject:** [External Email] Re: Permission to use article content for DNP Project

**Date:** September 12, 2022 at 10:29 AM

**To:** Mensah, Emmanuel <emmanuel.mensah@otterbein.edu>

Hi Emmanuel,

You are welcome to use my tool. I wish you the best of luck on your project! Sincerely,  
Mary

**Mary Scott-Herring, DNP, MS, CRNA (she/her)**

Per diem CRNA

University of Maryland Medical Center R Adams Cowley Shock Trauma Center  
mherring@som.umaryland.edu

Assistant Professor, Georgetown University Doctor of Nurse Anesthesia Practice Program  
Washington, D.C.

mary.scottherring@georgetown.edu