CLINICAL TOOLS USED FOR EVALUATION OF COMPETENCY LEVELS AND EXPECTATIONS OF STUDENT REGISTERED NURSE ANESTHETISTS BY CERTIFIED REGISTERED NURSE ANESTHETISTS & THE ANESTHESIA CARE TEAM MEMBERS

By

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Abstract

Student Registered Nurse Anesthetist (SRNA) evaluations are an important component of clinical competency and requirements set by the Council on Accreditation (COA). A literature search clearly identified a lack in the development and use of a standardized universal clinical evaluation tool for anesthesia programs throughout the country. The purpose of this study was to survey clinical preceptors on their views of the current Daily Progress Report Evaluation Tool (DPRET) used to assess SRNA clinical competency based on where they are in the anesthesia program, and identify whether improving the clinical evaluation tool by including a completed didactical breakdown would lead to increased preceptor ability to assess SRNA competency levels based on the semester they are in the anesthesia program and increase preceptor understanding of what material is covered in each semester in accordance to each course number listed on the DPRET leading to an improved didactical transference into the clinical setting.

Patricia Benner’s *Novice to Expert* Theory served as the theoretical framework for this project. A quantitative methods quasi experimental design utilizing a 4-part question survey was used for this project. Survey responses were assessed by grouping variables and analyzing them using a Pearson’s Chi Square ($X^2$) test. Additional, analyses looked at open ended responses for additional participant clarification & explanation. A future implication of this project is the use of a revised tool assessing student didactical transference ability while identifying areas of needed reinforcement and improvement.

*Keywords:* SRNA evaluations, clinical evaluation tool, didactical course breakdown, clinical competencies, didactical transference.
A graduate Student Registered Nurse Anesthetist (SRNA) faces many challenges. One of these important challenges is being able to perform in the clinical setting at a level in relation to the didactic information learned. SRNAs have been in situations where clinical preceptors, a Certified Registered Nurse Anesthetist (CRNA) may expect them to perform at a level which they have not been prepared for didactically. Students may be nervous about being unable to answer questions, the possibility of unintentionally harming patients, being embarrassed or humiliated by staff in the operating room, and not being able to work at a rapid efficient pace (Smith, Swain and Penprase, 2011). When a student is perceived as not being prepared, this can hinder his/her learning experience potentially creating an environment not conducive to learning or maximizing the knowledge and skill at hand. Preceptorship is an effective teaching and learning model that is the mainstay of undergraduate and graduate clinical education (Easton, Luts, Morrison, and O’Donnell, 2017). Having a great clinical experience can foster an excellent learning environment and best prepare an SRNA to work in the demanding field of healthcare. It is important that students feel comfortable in their learning environment while performing clinical skills to successfully enculturate into the healthcare environment (Penprase et al., 2011). Clinical experiences during nurse anesthesia education have a direct impact on student development in areas such as self-awareness, critical thinking, psychomotor proficiency, and professionalism (Elisha and Rutledge, 2011).

**Background & Significance**

Evaluation of SRNAs in the clinical setting is primarily the responsibility of CRNAs and anesthesiologists who are given a major and instrumental role in the clinical educational experience of SRNAs. Clinical evaluation instruments for nurse anesthesia (NA) programs are not standardized among programs (Collins and Callahan, 2014). The potential need for a more
comprehensive evaluation tool that is capable in improving SRNAs’ clinical experiences while utilizing clinical correlations that reinforce materials learned and covered didactically would potentially be useful in better assessing students clinically. As the main facilitators of clinical teaching, clinical preceptors serve vital roles in the preparation of SRNAs (Elisha and Rutledge, 2011). As SRNAs enter the clinical arena, many benefits can be attributed to educators differentiating between junior and senior level SRNAs. An inappropriate level of expectation by the CRNA of a SRNA can create a misconception of incompetence or unpreparedness on behalf of the SRNA. This mischaracterization can create a day of high anxiety which can lead to a lack of clinical skill retention by the SRNA.

A comprehensive search for current articles pertaining to student clinical evaluation tools was conducted and proved challenging. Articles found were not as current as expected implying that a closer look at potentially evaluating different style tools and resources would serve to benefit all stakeholders involved. Continual evaluation of all aspects of nurse anesthesia programs, including those during clinical learning, is necessary to help educate high-quality anesthesia practitioners (Elisha and Rutledge, 2011). The material effect of a revised evaluation tool for stakeholders is threefold. First, being able to potentially serve and provide CRNAs and anesthesia care team members with the most up-to-date tools to better prepare SRNAs to work in the field of anesthesia safely and proficiently. Second, a revised clinical tool promoting increased preceptor understanding of what material is covered didactically per semester leading to better reinforcement of evidence based topics learned in lecture. Finally, an improved revised tool that fosters a rewarding clinical experience for the SRNA while increasing preceptor recognition and ability to assess SRNA clinical competence based on the semester they are in the
anesthesia program. Support and recognition from management are crucial for the success of preceptor programs (Greene and Puetzer, 2002).

In the nationally recognized University at Buffalo’s doctoral nursing program for nurse anesthesia, the daily clinical tool currently in use for clinical coordinators and preceptors in the greater Buffalo and surrounding area clinical sites aims to guide and assist the CRNA in gauging the SRNAs level of performance. The clinical tool was designed and based on the outlined requirements by the Council on Accreditation (COA) for all nurse anesthesia schools in the United States. The tool is depicted to list the clinical course numbers of the students along with a list of the clinical facilities a student rotates through. The tool also requires the preceptor to list their name, title, surgical procedure performed, American Society of Anesthesiologist (ASA) surgical classification and type of anesthetic used. The clinical tool is delineated to assess SRNA performance in five main category objectives: patient safety, perianesthesia care, critical thinking, communication, and professional attributes (UB’s Daily Progress Report, 2018, See Appendix D). These five category objectives are evaluated using six competency level descriptors, which aim to identify whether the student performed 0-unsatisfactory, 1-below expectations, 2-met expectations, 3-exceeded expectations, 4-exemplary, 5-not observed by the preceptor.

Given the enormity of the task that is placed on clinical preceptors to foster the next generation of safe and competent anesthesia providers, it is important that clinical preceptors are provided with the proper tools and formal instructions on how to accurately evaluate students in the clinical setting. Easton et al. (2017) found that,
Certified Registered Nurse Anesthetists (CRNAs) who serve as clinical preceptors have the critical job of transferring high-quality patient care and patient safety skills to the student registered nurse anesthetists (SRNAs) they precept. The education of CRNAs in best precepting practices has the potential to enhance this transfer. However, most CRNAs do not receive formal instruction in how to precept SRNAs. This has the potential to limit the CRNA preceptors’ effectiveness in this critical educational role.

Clinical preceptors are faced with the important role of precepting students at different educational levels. This task may be benefited from creating a revised and improved comprehensive clinical evaluation tool that can be used for students in each clinical year while potentially reinforcing didactical transference. This has been further displayed in a study by Collins and Callahan (2014) which found a strong correlation between National Certification Examinations (NCE) scores and didactic transference.

**Purpose, Objectives, Aims & Outcomes**

The purpose of this Doctoral Nursing Project (DNP) project was to survey clinical preceptors on their views of the current Daily Progress Report Evaluation Tool (DPRET) used to assess SRNA clinical competency based on where they are in the anesthesia program. Identifying whether including a completed didactical breakdown in the evaluation tool would lead to increased preceptor ability to assess SRNA competency level based on semester they are in the anesthesia program and increase preceptor understanding of what material is covered in each semester in accordance to each course number listed on the DPRET leading to an improved didactical transference into the clinical setting. As previously stated, a comprehensive search for
articles in relation to this topic proved challenging implying an evaluation of the tool would serve to benefit CRNAs, SRNAs and the entire anesthesia care team. The results from the study by Collins and Callahan, (2014) were statistically significant with a (p .05 or less) indicating that student confidence during clinical learning requires an environment that will further improve the SRNAs ability to build on his or her didactic knowledge.

The objectives and measureable goals from this study can be summarized by utilizing the following research question: Will improving the clinical evaluation tool for SRNAs by including a completed didactical breakdown lead to increased preceptor ability to assess SRNA competency level based on the semester they are in the anesthesia program and increase understanding of what material is covered in each semester in accordance to each course number listed on the Daily Progress Report Evaluation Tool (DPRET)?

The primary aims and objectives of this study were to potentially improve preceptor ability to assess SRNA clinical competency based on what semester they are in the anesthesia program. To potentially improve assessment and reinforcement of didactical transference into the clinical setting, along with reinforcing evidence based concepts learned from the classroom setting. In addition, the primary objective was to afford the CRNAs and the anesthesia care team members a better understanding of what didactical information has been covered in the classroom to better tailor questions that can be posed to the student to gauge their understand of a particular topic along with providing reinforcement by the preceptor of a topic as deemed necessary.

The outcome of this study was designed to include the following: 1 a better understanding by CRNAs and anesthesia care team members of what each didactical semester
breakdown entails leading to better reinforcement of learned evidence based concepts in the clinical setting, 2 Better assessment of the student’s knowledge base on topics that have been reviewed and covered didactically, 3 A potentially improved ability for the students to transfer didactical material learned into the clinical setting, 4 Improved ability of preceptors to assess SRNA competency level based on the semester they are in the anesthesia program. 5 An improvement in the overall understanding of concepts learned in the classroom and the ability to apply them in real life clinical situation, leading to an overall increase in preceptor and student satisfaction rates.

**Advance Practice Nurse (APN) Contribution to Scholarship & Practice**

The contribution to scholarship and practice via this project implementation for the stakeholders involved was threefold. The first contribution is to provide preceptors with the most current and up-to-date revised tool to better assess and prepare SRNAs to work in the field of anesthesia safely and proficiently. Continual evaluation of all aspects of nurse anesthesia programs, including those during clinical learning, is necessary to help educate high-quality anesthesia practitioners (Elisha and Rutledge 2011). Based on these results in this study, the school of anesthesia may choose to make changes to the evaluation tool allowing for a more accurate assessment of students skills in the clinical setting. The second contribution was to provide preceptors with a comprehensive clinical tool for evaluation that will promote patient safety, and better preceptor understanding of didactical breakdown per semester in the anesthesia program. Lastly, accomplish having an efficient and effective tool that will allow preceptors the ability to better posed questions based on where the student is didactically reinforcing evidence based concepts’ learned in the classroom and improving didactical transference into the clinical setting.
Review of Literature

A review of the literature was performed utilizing: CINAHL, MEDLINE, PubMed, and Cochrane Databases. Multiple Boolean phrases were used in the search which also included AND/OR: anesthesia, preceptors, students, clinical evaluation tool, programmatic requirements, student satisfaction, evaluation instruments, didactical training, didactical transference and graduate nursing students. To further expand the search the American Association of Nurse Anesthetist (AANA) website was also utilized. The literature review helped strengthen the potential need for an improved daily progress evaluation report incorporating didactical breakdown that can be used, inherently leading a preceptor to prospectively better assess, reinforce and gauge the knowledge base the SRNA possesses.

Collins and Callahan (2014) conducted a cross-sectional study design that discussed the need for a standardized evaluation tool that assesses the clinical competencies of SRNAs. The results found with statistical significance of a (p .05 or less) that student confidence during clinical learning requires an environment that will further improve the SRNAs ability to build on his or her didactic knowledge. In the same study the clinical evaluation of student registered nurse anesthetists showed a positive correlation with a statistically significance of (p < .001, r = 0.192) between predicting National Certification Examination (NCE) scores and the SRNA ability to transfer didactical knowledge into the clinical setting.

A mixed methods study by Elisha (2008) described the need for an educational course for CRNAs to develop the skills needed to be more effective at precepting SRNAs. The quality of clinical education had a significant impact on the development of adult learners. It was determined that the behavioral characteristics of clinical educators (CEs) strongly influenced the
quality of the learning environment (Elisha, 2008). Preceptors have a very powerful impact on
the students they precept. Knowing more about the student’s foundational knowledge base and
what level they are at didactically will only help foster a more effective learning environment for
the student and reinforce the clinical skill with the didactical information learned.

Elisha and Rutledge (2011) performed a cross-sectional survey study randomly selecting
Student Registered Nurse Anesthetists (SRNAs) on their clinical experiences during their nurse
anesthesia education. The researchers found that clinical preceptors’ behaviors during the clinical
training had a significant impact on student learning experiences. Instilling confidence during
clinical learning requires an appropriate learning environment that enhances SRNA ability to
acquire new knowledge, comprehend and integrate information, and apply learned principals to
practice (Elisha and Rutledge 2011). Although, this article also focused on other factors that
SRNAs experienced in the clinical setting such as verbal, physical abuse, racial discrimination
and sexual harassment, the authors noted that developing confidence stems from a productive
relationship with their clinical preceptor.

Hautala, Saylor, and O’Leary-Kelly (2007) performed a descriptive exploratory study
utilizing a stress and support questionnaire to gauge stress and support in the preceptor role. The
authors sampled 65 registered nurses who worked in an acute care setting at two large acute care
hospitals in California. The researchers found that most of the respondents in the study (n = 54,
83%) reported mild or moderate stress as a result of their preceptor role. Only seven (11%)
reported no stress (Hautala et al. 2007). Additionally, the authors found that many of the
respondents commented that precepting requires increased time, energy and responsibility that
added to stress of the preceptor role. Other sources of stress were related to the skill or
competency level of the preceptee, support from coworkers and management, and the preceptors’ self perceptions of competency and confidence in their roles (Hautala et al. 2007).

Woeber (2018) found that the use of Midwifery Competency Assessment Tool (MCAT) with competency-based clinical education may facilitate a more standardized approach to clinical evaluation. The author found that the MCAT evaluation tool used in the clinical setting proved to be useful in accurately gauging where a student needed to be based where they were in the program. The author discussed that content mapping of the MCAT serves as a helpful organizational tool for faculty who are tasked with course design and content delivery, especially when curricular adjustments are necessary. A major strength of this study is the summative points that support the notion that didactic coverage inclusion in an evaluation tool can lead to a more practical expectation by the clinical preceptor. In a program that intersperses clinical rotations with didactic blocks; inclusion of a column indicating the timing of didactic coverage allows for more realistic expectations of students by preceptors, who may be unfamiliar with the details of the curriculum (Woeber 2018).

Oktay, Senol, Rinnert, and Cete (2017) conducted a mixed methods design study using a competency framework developed by the American Accreditation Council for Graduate Medical Education. This framework consisted of a 57 item containing assessment tool which was based on different exposure aspects of the involved evaluator groups. The items were integrated into seven different evaluation forms known as the 360-degree assessment tool. This study was designed to test the 360-degree assessment tool for four of the emergency resident competencies as outlined by the Council of Residency Directors in Emergency Medicine. These competencies were patient care, communication skills, professionalism and system based practice (Oktay et al., 2017). The evaluators in this study were faculty members, resident peer evaluators, nurse
evaluators, ancillary staff evaluators, administrative assistant evaluators, patient evaluators and self evaluators. The faculty members’ evaluation form which consisted of the 57 items also included the competencies of patient care, communication skills, professionalism and system based practice. Residents-peer evaluation forms contained 38 items, nurse evaluator forms contained 33 items, ancillary staff evaluator forms contained 7 items, administrative assistant evaluator forms contained 15 items, patient evaluator forms contained 9 items, and self evaluation forms contained 38 items (Oktay et al. 2017). Evaluators were asked to give items a Likert scale score of 1 (never) to 5 (always). Open-ended question were added to the end of the assessment forms. The evaluators were asked to write down their general opinion about the resident, comment on positive aspects as well as to point out areas for improvement. All evaluators were also asked to comment on applicability and usefulness of the 360-degree assessment tool in emergency medicine (Oktay et al. 2017). A total of 16 postgraduate year (PGY) 2 to 4 year residents were included and evaluated by the 360-degree assessment tool. 68 questionnaire forms were completed for each resident and a total of 1088 questionnaire forms were collected with a reply ratio of 100%. The reliability coefficient for faculty members was 0.99 while for ancillary staff it was 0.60. A coefficient above 0.80 indicated adequate internal consistency and reliability (Oktay et al. 2017). Fifty-six percent (n = 32) of study participants felt that the 360-degree assessment contributed positively to the operation of the emergency department (ED). Whereas 36.2% (n = 21) were impartial to its impact and 8.6% (p < 0.049) thought that it would have no effect on ED operations (Oktay et al. 2017).

Easton et al. (2017) conducted a qualitative study introducing the concept of having online training tutorials to assist CRNAs on how to more effectively precept SRNAs in the clinical setting. The author found that preceptorship is an effective teaching and learning model
that serves as a backbone for undergraduate and graduate clinical training. Modules were made available to the clinical preceptors via an online university course system. These modules consisted of specific evidenced-based techniques that were geared to enhancing a preceptor CRNAs ability to effectively transfer his/her high quality patient care and patient safety skills to the SRNA. Of particular notice was the first module which was designed to individualize the clinical training experience for the SRNA by correlating the didactic knowledge learned into real-life clinical management of patients (Easton et al., 2017, pg. 336).

Penprase et al. (2011) conducted a descriptive quantitative research to assess 22 effective clinical teaching characteristics and the congruence between students and preceptor perceptions previously identified in a study by Katz (1984). The current study showed that all 22 of Katz’s characteristics were perceived to be important by both clinical instructors’ and students (Penprase et al. 2011). Clinical instructors viewed positive learning experiences as stemming from student motivation and enthusiasm for learning as well as the ability to correlate and apply didactic material to the clinical situation (Penprase et al. 2011). Most adult learners are hands-on learners, and being able to act independently in the clinical setting helps them build and retain the skills necessary for success as future CRNAs (Penprase et al. 2011). The analysis of variance demonstrated a high level of consistency within each of the groups (Friedman test, 289.21; at p < .001) (Penprase et al. 2011). When the Kendall coefficient analysis was used to determine the congruence of 2 sets of ranking, the results did not support high agreement between the CRNA and SRNA groups, with an overall ranking of characteristics (Kendall coefficient, 0.145) (Penprase et al. 2011). The study found little congruence between the teaching characteristics perceived as most effective by SRNAs and clinical preceptors (Penprase et al. 2011).

Theoretical Framework
The bases of this project is centered on assessing whether preceptors have the tools they need to accurately evaluate SRNAs along with assessing their understanding of the didactical material covered in the nurse anesthesia program in each semester. The goal of this project was to allow for better reinforcement of concepts learned in theory while potentially assisting in the transition of the student from a novice to a proficient provider. An appropriate theoretical framework model that reinforces this transition in a student from a novice to proficient provider and ultimately leading some providers to be experts in their practice after years of experience and training is Benner’s “Novice to Expert” theory. In 1984, Patricia Benner, using the Dreyfus Model of Skill Acquisition as a foundation for her work, developed a model consisting of five stages of clinical competence known as the “Novice to Expert” theory. Benner detailed the acquisition of nursing expertise and proposed five possible expertise levels: novice, advanced beginner, competent, proficient, and expert (McHugh and Lake, 2010). This theory of growth in practice is the theoretical application for introducing a more comprehensive daily evaluation form along with a potential for added training on effective ways to precept. This may assist preceptors with techniques to better precept and gauge students’ abilities leading to a potential for greater growth in their clinical competence. According to McHugh and Lake (2010), Benner believed that a strong educational foundation can accelerate the gain of skills though clinical experience and without sound background knowledge, the risk of using poor clinical judgment and lacking the tools necessary to learn from those experiences is greater.

Benner’s initial stage in the transition period of clinical competence is known as the *novice stage*. This stage consists of beginners who have had no experience of the situation in which they are expected to perform (Drumm, 2013). In the nurse anesthesia program this would be similar to the first year clinical student exposed to the clinical setting of anesthesia for the first
time. This stage would require much guidance and reinforcement of principals learned to assist the student through this clinical learning.

Benner’s second stage in the process is known as the *advanced beginner*. This stage is for those who can demonstrate marginally acceptable performance, ones who have coped with enough real situations to note the recurring meaningful situational components that are termed “aspects of the situation” in the Dreyfus model (Drumm, 2013). In the nurse anesthesia program this would be similar to the first year clinical student who is potentially at their second or third clinical site rotation and has experienced some hands on clinical training in anesthesia. This stage would still require guidance and reinforcement of principals learned however, the student would have been exposed to more clinical situations to note a flow in practice.

Benner’s third stage in the process is known as *competent*. This stage is typified by the nurse who has been on the job in the same or similar situation for 2 to 3 years and develops when the nurse begins to see his or her actions in terms of long-range goals or plans of which he or she is consciously aware (Drumm, 2013). In the nurse anesthesia program this would be similar to a third year or senior student that has had experienced many clinical training hours and cases and has successfully demonstrated the ability to bridge class room content into clinical practice. At this stage, a clinical preceptor would be able to deem the student as competent and able to practice safely in the clinical setting. This also would require successfully graduating from an accredited program and passing the national certifying board examination.

Benner’s fourth stage in the process is known as *proficient*. The provider in this stage perceives situations as wholes rather than in terms of aspects, and performance is guided by maxims. Proficient nurses understand a situation as a whole because they perceived its meaning
in terms of long-term goals (Drumm, 2013). This stage would be similar to a Student Registered Nurse Anesthetist (SRNA) that is at a proficient senior level of practice and is about to graduate from an accredited program and sit for a national certifying board examination.

Benner’s final and fifth stage in the process is known as expert. In this stage, the expert nurse, with an enormous background of experience, now has an intuitive grasp of each situation and zeros in on the accurate region of the problem without wasteful consideration of a large range of unfruitful, alternative diagnoses and solutions (Drumm, 2013). This stage would be reminiscent of a CRNA that has been in practice for many years and is able to incorporate past experiences to principles, rules, and guidelines to connect situations and determine actions. The progression though these stages displays the transition from a novice who utilizes abstract principals heavily to an expert who is able to also draw on a wealth of clinical experiences and situations to guide his or her care.

**Design and Methods**

A quantitative method quasi experimental design approach was utilized for this evaluation to determine the perceptions and opinions of preceptors regarding the current Daily Progress Report Evaluation Tool’s ability in assessing student’s clinical training level and ability for didactical transference. This quantitative methods approach also assessed preceptors’ perceptions of stress and support in their role as a preceptor. This assessment of anesthesia providers took place in the month November 2019. The anesthesia providers’ were quarried on their perspectives with regards to evaluating SRNAs. Current preceptors were asked to complete either a 4-part, web-based or paper form survey (See Appendix C the actual survey) that consisted of 25 questions based on a Likert Scale, 9 questions based on “Yes” or “No” answer
choices and 5 open ended questions affording the preceptors the ability to further explain or

Setting

The setting took place at two approved University at Buffalo clinical teaching site
locations. The first approved teaching clinical site location was a 265-bed suburban hospital in
Buffalo, NY. This hospital’s department of anesthesia consisted of a subcontracted private
anesthesia group which operates on an Anesthesia Care Team (ACT) model made up of
Anesthesiologists and Certified Registered Nurse Anesthetists (CRNAs). The second approved
teaching clinical site location was a 467-bed city hospital in Buffalo, NY. This hospital’s
department of anesthesia is also subcontracted by a private anesthesia group which also operates
on an ACT model consisting of Anesthesiologists and CRNA. Data collection took place at both
hospitals’ department of anesthesia, while research, data analytics and dissemination took place
at the University at Buffalo School of Nursing.

Sample

The study sample size was a total of 32 preceptors that consisted of CRNAs and
anesthesiologists at the university teaching clinical site location. To obtain this sample, clinical
coordinators at each respective clinical site were contacted via email & text for their approval on
conducting the study at their respective sites. Once approval was obtained, an email with detailed
survey instructions was sent to each clinical coordinator containing a web link to the survey and
consent document (Appendix C). Clinical coordinators were instructed in the email to please
forward the email to all anesthesia personally at their respective sites. The consent document that
was included at the start of the survey offered implied consent to participate in the project. After
the survey questions were answered, the participant clicked “enter” to submit the responses. Paper surveys were also hand delivered by the DNP project student to the participating site allowing preceptors the ability to fill out a paper form as opposed to an electronic form and submit them directly to the DNP project student.

**Data Collection**

Data collection for this evaluation consisted of a 4-part survey via Survey Monkey in electronic and paper form (Appendix C). The first part contained basic demographic questions about the preceptors and their clinical and training experiences. These demographics were answered using categorical ranges where possible, so that the data responses were non-identifiable. Second, the questionnaire, based on the survey by (Hautala et al. 2007), assessed perceptions of stress and support in their role as a preceptor see (Appendix B). This measure utilized a combination of “yes” or “no” and Likert scale response “excellent/strongly agree”, “good/agree”, “neutral”, “not good/disagree”, “poor/strongly disagree” as answer choices. Third, the survey examined the clinical preceptors’ familiarity with the existing Daily Progress Report Evaluation Tool also utilizing a Likert scale response “excellent/strongly agree”, “good/agree”, “neutral”, “not good/disagree”, “poor/strongly disagree” as answer choices see (Appendix C). This examined whether preceptors felt an improved tool including didactical break would be needed to better assess students in the clinical setting. This part also examined whether an improved tool would be needed to more accurately assess SRNAs clinical competency based on where they are in the program and improve the ability of the preceptor to better correlate what material is covered per semester in accordance to each course number listed on the DPRET. Fourth, a series of five open ended questions were posed to the preceptors allowing them the
opportunity to further explain and clarify their thoughts on the use of the Daily Progress Report Evaluation Tool.

Based on the available literature researched, the information suggests that clinical preceptors that are better informed on students’ level of preparation are better prepared in educating future SRNAs in providing safe and competent anesthesia care. The ability to integrate theory with practice is integral to a student’s success (Collins and Callahan, 2014).

Data Analysis

Data collected via Survey Monkey paper and electronic forms were downloaded to an excel file, and then transferred to Statistical Package for Social Sciences (SPSS) 26 for analysis. Data was cleaned, examined for errors, and prepared for analyses. Thirty-two surveys were downloaded and retrieved with their responses from the 4-part survey provided to the preceptors. The first part of the survey containing basic descriptive data statistics were generated based on the participants’ demographical data gathered from the survey. The second and third part of the survey which contained Likert scale responses that were coded using an ordinal scale and placed into four different categorical grouping variables.

Once coding and grouping variable were completed, the completed data set was ready for SPSS to conduct analysis. A Pearson’s Chi Square ($X^2$) test was performed to assess relationships between four grouping variables used: gender type, type of anesthesia provider, survey format and years of practice. Anesthesia provider type was grouped by Anesthesiologist or Certified Registered Nurse Anesthetist. Survey format was distinguished between paper form and electronic form. Years of practice was broken down to 0 to 5 years, and 6 or more years. Independent Pearson Chi Square ($X^2$) tests were run on each one of these four categorical
variables mentioned. These tests were run to identify differences between the associated grouping variable and associated survey questions using a statistical significance scale of \( p < 0.05 \) which indicated statistical significance.

The fourth part of the survey were responses to open ended questions provided at the end of the survey allowing participants the opportunity to elaborate on questions regarding the use of the Daily Progress Report Evaluation Tool and their overall experience in precepting students. These open ended responses were reviewed for additional participant clarification and explanation. Additionally, the open ended questions regarding the Daily Progress Report Evaluation Tool were compiled and responses compared across the participants.

**Human Rights Protection & Ethical Considerations**

Institutional Review Board (IRB) approval was obtained through the University at Buffalo (Appendix A) and a statement of informed consent detailing the participant’s rights were provided to all subjects participating in the survey. Participants were notified via consent document that participation in the survey was completely voluntary and they could decline to continue the survey at any point in time with no harm posed to them. There were no cultural considerations with regards to the questions in the evaluation survey and all participants along with associated data remained completely anonymous. No data identifying participants was used.

Once the electronic dataset was transferred into Statical Package for Social Software (SPSS) version 26 using a password protected computer utilized by the DNP project student at all times and kept in a locked cabinet at the DNP student’s home office in Lackawanna, NY until the dataset was transferred to SPSS subsequently destroying all paper surveys via paper shredder. The ultimate objective in evaluating the Daily Progress Report Evaluation Tool was explained to
all the participants taking the survey which also included querying their familiarity and understanding of the tool.

Results

A total of 32 participants (n = 32) results were reviewed. Table 1 displays the demographical statistics results of the participants. The majority of the participants from both clinical sites that participated were CRNAs (75 %), with a smaller percentage of Anesthesiologists (25 %). The participants gender category was evenly split fifty percent male and fifty percent female. The study had an age range category of 30 to 65 years of age with the plurality of the participants (43.8 %) falling in the 30-35 yr age group, while 18.8 % of participants fell in the 35-40 year age category. The remaining age categories were pretty evenly split.

Descriptive statistics of the 32 participants are displayed in Table 2. This descriptive data quarried participants on the years of anesthesia training (didactical) vs. (clinical), and years of clinical experience vs. years of practice. In area of didactical anesthesia training the majority (56.3 %) of the participants had 2 to 3 yrs of didactical training, while (12.5 %) indicated 3 to 4 years and (31.3 %) indicated greater than 7 years of didactical anesthesia training. In years of anesthesia clinical training once again the majority (59.4 %) of the participants had 2 to 3 yrs of clinical training, while (6.3 %) had 3 to 6 years, (3.1 %) indicating 6 to 7 yrs and (25 %) having greater than 7 years of clinical training in anesthesia. In the arena of years of clinical experience (post training) the plurality (37.5 %) of the participants indicated having 1 to 5 yrs of clinical experience, while (9.4 %) indicated less than 1 yr, (18.8 %) indicating 5 to 10 yrs, (21.9 %) answering 10 to 20 yrs and (12.5 %) stating they have greater than 20 yrs of overall clinical
experience. With regard to years of practice, once again the plurality (37.5 %) listed having 1 to 5 yrs of practice, while (6.3 %) indicated less than 1 yr, (25 %) indicating 5 to 10 yrs, (18.8 %) answering 10 to 20 yrs and (12.5 %) stating they had greater than 20 yrs of overall practice experience.

In Figure 1 the bar graph shows the 32 participants responses to four questions from the survey that were based on the Likert scale of “Excellent”, “Good”, “Neutral”, “Not Good”, “Poor”. The first question in the bar graph shows that of the 32 participants, twenty-nine percent felt that the Daily Progress Report Evaluation Tool (DPRET) ability to assess SRNA’s competency level based on the semester they were in was either “Good”, “Neutral” or “Not Good” and only (6.5 %) found it to be either “Excellent” or “Poor”. In the next categorical question the plurality (41.9 %) felt the tool was “Good” at its user-friendly ability in assessing SRNA’s clinical performance, while (29 %) rated it (Neutral), (3.2 %) found it “Poor” and (12.9 %) indicated they found it either “Excellent or Not Good”. In the following category the DPRET tool did not fair out so well with the plurality (35.5 %) of the participants rating it “Not Good”, (22.6 %) answering “Poor”, (16.1 %) indicating “Neutral”, (19.4 %) found it “Good” and (6.5 %) finding it “Excellent” in its ability to correlate didactical material covered each semester in accordance to the course numbers listed on the DPRET example (NAN 602). Another area the DPRET did not fair out to well was in its ability to assess SRNA’s didactical transference into the clinical setting based on where they are in the program, here the plurality (38.7 %) of the participants rated it “Not Good”. While (9.7 %) found it to be “Poor”, (25.8 %) indicated it as “Neutral”, (19.4 %) stated it was “Good” and (6.5 %) rated it “Excellent”.

Another series of three questions from the survey seen in Figure 2 which was also based on the Likert scale responses of “Excellent” “Good”, “Neutral”, “Not Good”, “Poor” was
analyzed. Here we can see that of the 32 participants the plurality (43.8 %) of the participants answered “Good” to the question assessing their familiarity with the University at Buffalo’s DRPET, while (25 %) ranked their familiarity with it as “Neutral”, (31.3 %) ranked it “Excellent”. In the next categorical question the plurality (45.2 %) were “Neutral” on how they felt the DRPET worked for them, with (29 %) feeling it worked “Good”, (16.1 %) feeling “Not Good”, (6.5 %) feeling “Excellent” and (3.2 %) feeling it was “Poor”. The next categorical question assessed how preceptors felt instructions on how to use the DRPET were provided. The plurality (41.9 %) felt “Neutral” on this, while (22.6 %) felt either “Good” or “Not Good” and (6.5 %) felt either “Excellent” or “Poor”.

Figure 3 indicates a bar graph of the 32 participants responses to four questions from the survey utilizing a measure of “Yes” or “No” answers. The first question assessed found the plurality (93.3 %) of participants answered “Yes” to feeling that they have increased responsibility as a preceptor. The same percentage (93.3 %) answered “Yes” to feeling that students they work with have an adequate level of clinical competence. The third question assessing whether preceptors believed they have adequate resources and support for being a preceptor once again the majority (61.3 %) answered “Yes”. However, in the final assessment when preceptors were asked whether they felt they had sufficient guidelines on how to precept here the majority (61.3 %) answered “No”.

In Figure 4 the bar graph shows 32 participants responses to an additional four questions from the survey that were based on a Likert scale of “Strongly Agree”, “Agree”, “Neutral”, “Disagree”, “Strongly Disagree”. Here we can see the first question assessed the plurality of the participants answered “Agree” to feeling they were adequately prepared to be in a preceptor role, while (9.7 % “Disagreed”), (3.2 % “Strongly Disagreed”) and (19.4 %) were either “Neutral” or
“Strongly Agreed”. In the next categorical question the plurality (35.5 %) of participants answered “Disagree” with the statement that preceptors have clearly defined goals, indicating they felt they did not have clear and defined goals as a preceptor. While (12.9 %) indicated “Strongly Agree” and (25.8 %) felt either “Neutral” or “Agreed” with the statement that preceptor goals were clearly defined. The third question assessed whether preceptors felt they precepted too often, here the majority (54.8 %) answered “Disagree” indicating the plurality of preceptors did not feel uncomfortable with the amount of precepting they did. While (22.6 %) indicated “Neutral”, (16.1 %) felt they “Agreed” and (3.2 %) felt they either “Strongly Agreed” or “Strongly Disagreed” with the feeling that they precepted too often. The final question assessed in this graph found the plurality (41.9 % “Disagreed”) with the statement that educators were available to help preceptors develop in their role. While (25.8 %) indicated they “Agree” with the statement, (19.4 %) were “Neutral”, (3.2 % “Strongly Disagreed”) and (9.7 % “Strongly Agreed”).

The final series of four questions from the survey seen in Figure 5 which was also based on the Likert scale responses of “Strongly Agree”, “Agree”, “Neutral”, “Disagree”, “Strongly Disagree” was analyzed. To the first question in this graph the plurality (77.4 % “Agreed”) that the workload was appropriate while precepting SRNA’s, while (12.9 %) felt they “Strongly Agreed”, (9.7 %) indicating feeling “Neutral”. The second question in the bar graph assessed preceptors on whether they felt coordinators provided preceptors with support in identifying preceptee problems; here, the plurality (35.5% “Disagreed”) with the statement indicating coordinators did not provide preceptors with support in identifying preceptee problems. While (19.4 %) were “Neutral”, (22.6 % “Agreed”) with the statement, (12.9% “Strongly Agreed”) and (6.5 % “Strongly Disagreed”) with the statement. The third question asking whether adequate
opportunities existed for preceptors to share information with other preceptors, here, the majority (45.2 % “Agreed”), while (19.4 %) were “Neutral”, (9.7 %) indicated they “Strongly Agreed” and (25.8 %) found that they “Strongly Disagreed” with the notion that there is adequate opportunities for preceptors to share information with other preceptors. The last question in this bar graph assessed whether preceptors felt that guidelines of coordinators, educators and preceptors were clearly defined. Here, the plurality (45.2 %) indicated they “Disagreed” with this statement, while (19.4 %) were “Neutral”, (25.8 % “Agreed”) and (6.5 % “Strongly Agreed”) with the statement and (3.2 %) of the participants “Strongly Disagreed”.

The Pearson’s Chi Square (X²) test was performed to assess relationships between the four grouping variables used; gender type, type of anesthesia provider, survey format and years of practice. Anesthesia provider type was grouped by Anesthesiologist or Certified Registered Nurse Anesthetist (CRNA). Survey format was distinguished between paper form and electronic form. Years of practice was broken down to 0 to 5 years, and 6 or more years. An Independent Pearson Chi Square (X²) tests were run on each one of these four categorical variables mentioned using a statistical significance scale of p < 0.05.

The first question querying participants on their familiarity with UB’s Daily Progress Report Evaluation Tool (DPRET) using the variable anesthesia provider type a statistically significant result was found between the provider types (X² (2) = 9.429; p = 0.009). This indicated the majority of Anesthesiologist did not feel as comfortable with the tool as their CRNA’s colleagues. The next question assessed the years of clinical training in anesthesia by using the variable provider type a statistically significant result was identified between the provider types (X² (4) = 19.333; p = 0.001) indicating that Anesthesiologist had more clinical
years of clinical training. Although, Anesthesiologist indicated they had more years of clinical training they still did not feel as comfortable with the DPRET as their CRNA colleagues.

When assessing the years of practice experience using the variable provider type the results were again statistically significant between the provider types ($X^2 (4) = 10.000; p = 0.04$) indicating that Anesthesiologist had more years of practice experience. Once again, although the results showed Anesthesiologist as having more years of practice experience they still did not feel as comfortable with using the DPRET as their CRNA colleagues. Given these results, a Chi-Square Test was again used to determine whether using the variable years of practice and separating them into two practice year categories affected the overall perception of the DPRET. The question was assessed using the variable years of practice broken into two age groups (0-5 years and 6 or more years) asking how user-friendly the preceptors felt the DPRET was in assessing SRNA’s clinical performance. Interestingly, a statistically significant result ($X^2 (4) = 11.363; p = 0.023$) showed that using this dichotomous variable both CRNA’s and Anesthesiologist with 6 or more years of practice experience found the tool not as user-friendly in assessing SRNA’s clinical performance as their counterparts who were in practice between (0-5 years).

In assessing how preceptors felt the DPRET worked for them, once again using the Chi-Square Test and the variable years of practice in a dichotomous fashion separating the (0-5 year) group from the (6 or more year) group yielded a statistically significant result of ($X^2 (4) = 11.202; p = 0.024$). This once again seem to lend itself that providers with greater years of experience (6 or more year) felt the tool did not work for them as opposed to their counterparts who were in practice between (0-5 years).
When using the variable provider type to query whether preceptors felt they understood what didactical material was covered in each semester in accordance to each course number listed on the DPRET. Although, not statistically significant between the providers queried, key meaningful results showed that a plurality of both provider types 35.5% felt the tool was, “Not Good” in its ability to correlate what material was covered each semester in accordance with each course number listed on the tool. While 22.6% of both provider types found it “Poor”, 16.1% found it “Neutral”, 19.4% found it “Good” and 6.5% found it “Excellent”. Given this information it is safe to say these results indicated a consistent clinical gap between both provider types.

Once again, using the variable provider type to assess how preceptors felt the DPRET assesses SRNA didactical transference into the clinical setting based on where they are in the anesthesia program. Here again, although, not statistically significant between the providers appraised, key meaningful results showed that the majority 38.7% of both provider types felt the tool was, “Not Good” in its ability to assess SRNA didactical transference into the clinical setting based on where they are in the anesthesia program, while 25.8% of both provider types found it “Neutral”, 19.4% found it “Good”, 9.7% found it “Poor” and 6.5% found it “Excellent”. It is safe to say these results represent a consistent clinical gap between both provider types.

Finally, when using the variable provider type to evaluate how preceptors felt the DPRET assesses SRNA competency levels based on the semester they are in the anesthesia program. Although, not statistically significant between the providers appraised, key meaningful results showed that the 29% of both provider types felt the tool was either “Not Good”, “Neutral” or “Good” in its ability to assess SRNA competency level based on the semester they are in the anesthesia program. While 6.5% found it to be either “Poor” or “Excellent”.
Discussion

Upon reviewing the findings of this DNP project, statistically significant results indicated that, overall, Anesthesiologist did not feel as familiar with the UB’s DPRET as their CRNA colleagues. This can be associated to a potential lack of familiarity by the Anesthesiologist on the Nurse Anesthetist program layout and what knowledge base the SRNA already has per semester, potentially leading to inappropriate expectations of the SRNA by the preceptor.

Given these results, a further assessment looked at whether the years of practice by the provider played a significant role on how user friendly the preceptors felt the tool was at assessing SRNA clinical performance. Using a dichotomous variable of (0-5 yrs) or (6 or more yrs) of practice yielded a significant result indicating that both provider types (CRNA’s & Anesthesiologist) that had 6 or more years of practice experience found the tool not as user-friendly in assessing SRNA clinical performance as their counterparts who had between 0 and 5 years of practice experience. Once again, this can potentially be seen as a clinical gap lending itself to an environment of inappropriate expectations by the preceptor of the SRNA in the clinical setting.

The results of multiple Chi Square Test have provided many notable significant results when comparing the provider types. Once again, when using the variable, years of practice in a dichotomous fashion, and separating the providers by (0-5 yrs or 6 or more yrs) to assess their perception on how they felt the DPRET worked for them. Statistically significant results showed that both provider types (CRNA’s & Anesthesiologist with 6 or more years) of practice experience felt the DPRET did not work for them in comparison to their colleagues who had between 0 and 5 years of practice experience.
When assessing how preceptors overall felt they understood what didactical material was covered in each semester in accordance to each course number listed on the DPRET although not statistically significant between the provider types queried the majority of both providers felt the tool was lacking in this area. When looking at how preceptors felt the DPRET assessed SRNA didactical transference into the clinical setting based on where they are in the anesthesia program although not statistically significant between the providers queried the majority of both providers again, felt it also lacking in this area. For further clarification and examination a review of the open ended questions showed that of the 22 responses that were filled out, the majority more than half (16) felt that including a didactical breakdown per semester and making the evaluation tool more specific to each semester would “benefit by having a better understanding of the students knowledge”.

The results of this study are consistent with many of the studies that were examined in the literature review. Overall, a more comprehensive evaluation tool affording preceptors the ability to better understand where the student is didactically in correlation to their clinical rotation will allow for a more accurate clinical expectation by the preceptor based on what the student has already covered didactically. This will lead to an improved didactical transference by reinforcing the evidence based concepts learned in lecture into the clinical setting, while affording preceptors the ability to accurately assess SRNA’s clinical performance and potentially better identify areas of needed improvement. A sample revised tool was developed based on the results and feedback received from the participants; this can be found in (Appendix E).
Several of the American Association Colleges of Nursing (AACN, 2006) DNP Essentials were presented in this DNP project. The DNP essentials that were addressed included the following: Essential I. Scientific underpinnings for practice: Existing literature regarding preceptors’ ability to accurately assess SRNA’s was reviewed and used to identify problems that anesthesia schools face. The utilization of best evidence available was used to formulate a new practice approach in assessing students in the clinical setting based on theory. Having an up to date clinical tool based on best practice for preceptor to thoroughly assess and prepare student in the clinical setting could lead to the scientific underpinning for a potentially standardized universal tool to be used in the school of anesthesia. Essential II. Organizational and Systems Leadership for Quality Improvement and Systems Thinking was also exhibited in this project. This project can be seen as a quality improvement measure. It aimed to identify system issues within student assessment tools used in the clinical setting and remedy them based on feedback from preceptors’ perceptions on what they would need to better assess students. The particular issue being addressed by this project was to improve the clinical evaluation process used to evaluate SRNA’s.

Essential VI. Interprofessional collaboration for improving patient and population health outcomes: This project can be seen as aiming to have a better evaluation tool that fosters an environment of better interprofessional collaboration between the SRNAs and CRNAs leading to a better learning environment with increased portrayal of confidence and competence by SRNA’s to the entire OR staff. Essential VIII. Advanced nursing practice: this essential was demonstrated in the form of a potential change in practice that would advance the profession of nursing by utilizing standardized tools that would offer greater student satisfaction, greater sense
of preceptor accomplishment, and a greater ability to gauge and assess a student’s needs allowing them to be better prepared healthcare providers.

**Project Deliverables**

The stakeholder will receive a revised sample DPRET that includes a semester specific didactical breakdown affording them a better knowledge base on what is covered didactically per semester as indicated by the project results. University students and faculty will receive a detailed summary of the results to be displayed via a poster board presented in April 2020 on research day at the University at Buffalo. A summary of results will also be presented via poster board for clinical coordinators and preceptors to be presented at their respective clinical sites in April 2020. Stakeholders will receive a revised sample tool allowing them a better understanding of which topics to pose questions from reinforcing evidence based concepts learned in the classroom. This will afford clinical preceptors and coordinators the ability to better identify any areas of needed reinforcement and improvement. The rational for this being one of my deliverables is based on the survey results and preceptors requesting for clarification on the didactic curriculum as it correlates to the clinical setting. The deliverables are based on the feedback from the anesthesia providers that completed the surveys which were collected and analyzed from each participating site.

**Strengths and Limitations**

One of the main strengths of this DNP project was the use of direct feedback from actual preceptors using and engaging this evaluation tool on a daily basis. These preceptors have firsthand experience working with SRNAs and are commissioned to use the University at Buffalo’s Daily Progress Report Evaluation Tool, making them the best equipped at assessing
any clinical gaps the evaluation tool my pose. Another, strength can be attributed to the many significant results found when using Chi Square to test the differences in perception of the DPRET by the different anesthesia provider types. Finally, a very important strength was the overwhelming majority citing similar responses between both provider groups with regards to how the DRPET the lacked in accurately assessing didactical transference and also lacked in the ability of preceptors to precisely correlate student didactical knowledge to the clinical setting.

Several project limitations were noted, first is the limited number of sites that were involved in the project. Having more site involvement may or may not have yielded stronger support for the results displayed. The second project limitation was minimal participation by Anesthesiologist as opposed to their CRNA colleagues. It would serve the results very well to have more participation from all anesthesia providers entrusted in the clinical training of future nurse anesthetists. This would allow the university to incorporate the revised evaluation tool that clinical preceptors can use when trying to pose clinical questions that are more appropriately tailored to where the student is didactically. The third project limitation noted was the sample size of the sites that actually participated in the study. Of the more than eighty providers between both sites only thirty two participated in the study. The final limitation noted in this project was not exposing the revised sample evaluation tool to the participants.

**Future Implications/Recommendations**

The results of this DNP project demonstrated a potential need for a didactic layout per semester to be included in the evaluation form. These future implications may afford preceptors the ability to precisely assess SRNA clinical competency, more accurately identify SRNA areas of needed improvement and also allow preceptors to better tailor questions based on where the
student is didactically. The results implied that these improvements may increase student transference ability by reinforcing evidence based concepts learned in lecture, leading to an increase in overall student and preceptor satisfaction rates. Another, future implication would be the incorporation of the revised tool to expand preceptor ability to assess SRNA competency level based on the semester they are in the anesthesia program. An interesting underlying finding that was revealed was that the majority of preceptors felt an increase in preceptor responsibility with having a student, leading to a need for expanded research on whether having a preceptor mentorship on effective precepting strategies would be necessary.

Further implications would also include having a larger sample size and including a multitude of approved clinical teaching sites and providers. Including a larger number of sites and providers participating in a future study allowing for better assessment of the DPRET ability to precisely gauge student’s clinical competence based on evidence based practice is paramount to providing the next generation of safe anesthesia providers.

Conclusion

This project set out to answer whether improving the clinical evaluation tool for SRNAs by including a completed didactical breakdown lead to increased preceptor ability to assess SRNA competency level based on the semester they are in the anesthesia program and increase understanding of what material is covered in each semester in accordance to each course number listed on the Daily Progress Report Evaluation Tool (DPRET).

Out of 22 filled out responses more than half (16) of general consensus suggested that including a didactical breakdown per semester and making the evaluation tool more specific to each semester would “benefit by having a better understanding of the students knowledge”. The
findings suggested that CRNA’s overall have a better familiarity with the tool as opposed to their anesthesiologist counterparts. The findings indicated a consistent quantitative clinical gap between both provider types with regards to assessing SRNA didactical transference into the clinical setting based on where they are in the anesthesia program. A consistent quantitative clinical gap was also seen in the preceptors’ ability to understand what material was covered each semester in accordance with each course number listed on the tool.

An underlying finding that was revealed was that the majority of preceptors felt an increase in preceptor responsibility with having a student, leading to a need for expanded research on whether having a preceptor mentorship on effective precepting strategies would be essential. Although, this underlying finding was not pursued in this project, it is of importance to note that the majority of preceptors felt an increase in preceptor responsibility with having a student potentially leading to a need for preceptor education modules. The question on whether to first focus on the improving preceptor mentorship before focusing on the tool used to assess students needs to be explored. If a preceptor has an underlying deficiency with precepting due to feeling overwhelmed, over responsible, over pressured and under mentored this may influence how the survey is being answered.
References


Table 1

*Demographic Data (N = 32)*

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<th>Anesthesia Provider Type</th>
<th>N (%)</th>
<th>Gender</th>
<th>N (%)</th>
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<tr>
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<td>Male</td>
<td>16 (50)</td>
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<td>Certified Registered Nurse Anesthetist</td>
<td>24 (75)</td>
<td>Female</td>
<td>16 (50)</td>
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<table>
<thead>
<tr>
<th>Age N (%)</th>
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Table 2

*Descriptive Statistics (N = 32)*

<table>
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<tr>
<th>Years of anesthesia training (didactical) N (%)</th>
<th>Years of anesthesia training (clinical) N (%)</th>
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<tr>
<td>2-3 yrs</td>
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<td>3-4 yrs</td>
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<th>Years of clinical experience N (%)</th>
<th>Years of practice N (%)</th>
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<td>&gt; 20 yrs</td>
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<tr>
<td>4 (12.5)</td>
<td>4 (12.5)</td>
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Figure 1

*Shows Likert scale responses to the following questions*

- **Excellent**
- **Good**
- **Neutral**
- **Not Good**
- **Poor**

<table>
<thead>
<tr>
<th>Daily Progress Report Evaluation Tool ability to assess SRNA’s competency level based on the semester in the anesthesia program</th>
<th>User Friendly ability of Tool in assessing SRNA’s Clinical Performance</th>
<th>Didactical material covered each semester in accordance with course number listed on Daily Progress Evaluation Tool (N602)</th>
<th>Daily Progress Report Evaluation Tool ability to assess SRNA’s didactical transference into the clinical setting based on where they are in the program</th>
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Figure 2

Shows Likert scale responses to the following questions

- Familiarity of UB's Daily Report Progress Evaluation Tool
- How clinical preceptors felt the instructions on the use of the Daily Report Progress Evaluation Tool worked for them
- How clinical preceptors felt the instructions on the use of the Daily Report Progress Evaluation Tool were provided
Figure 3

*Shows Yes & No answer responses to the following questions*

- As a preceptor do you feel you have increased responsibility
- Preceptor belief that students have adequate level of clinical competence
- Preceptor belief they have adequate resources & support for being a preceptor
- Preceptors feel they have sufficient guidelines on how to precept

N=32
Figure 4

Shows Likert scale responses to the following questions

<table>
<thead>
<tr>
<th>Adequate preparation for the preceptor role</th>
<th>Preceptor goals clearly defined</th>
<th>Function as a preceptor often</th>
<th>Educators are available to help preceptors develop in their role</th>
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<tr>
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<td>Agree: 19.4%</td>
<td>Disagree: 54.8%</td>
<td>Strongly Disagree: 41.9%</td>
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<td>Agree: 9.7%</td>
<td>Neutral: 12.9%</td>
<td></td>
<td></td>
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<tr>
<td>Neutral: 3.2%</td>
<td>Disagree: 3.2%</td>
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<tr>
<td>Disagree: 3.2%</td>
<td>Strongly Disagree: 3.2%</td>
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<tr>
<td>Strongly Disagree: 3.2%</td>
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</tbody>
</table>
Figure 5

Shows Likert scale responses to the following questions

- Workload is appropriate as a preceptor
- Coordinator provides preceptor support by helping to identify preceptee problems
- Adequate opportunities for preceptors to share information with other preceptors
- Guidelines of coordinator, educator, and preceptor clearly outlined

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent (%)</th>
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Appendix (A)

November 2, 2019

Dear Fouad Zaid,

On 11/2/2019, the University at Buffalo IRB reviewed the following submission:

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<td>Title of Study:</td>
<td>CLINICAL TOOLS USED FOR EVALUATION OF COMPETENCY LEVELS AND EXPECTATIONS OF STUDENT REGISTERED NURSE ANESTHESISTS (SRNAs) BY CERTIFIED REGISTERED NURSE ANESTHETISTS (CRNAs) &amp; THE ANESTHESIA CARE TEAM MEMBERS</td>
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<tr>
<td>Investigator:</td>
<td>Fouad Zaid</td>
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<tr>
<td>IRB ID:</td>
<td>STUDY00003866</td>
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<tr>
<td>Funding:</td>
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<td>IND, IDE, or HDE:</td>
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The University at Buffalo Institutional Review Board has considered the submission for the project referenced above on 11/2/2019 and determined it to be Exempt.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the Click system.

UBIRB exemption is given with the understanding that the most recently approved procedures will be followed and the most recently approved consenting documents will be used. If modifications are needed that may change the exemption determination, please contact the UB IRB Office. Also, see the Worksheet: Exempt Determination (HRP-312) for information on exemption criteria and categories.

As principal investigator for this study involving human participants, you have responsibilities to the SUNY University at Buffalo IRB (UBIRB) as follows:
1. Ensuring that no subjects are enrolled prior to the IRB approval date.

2. Ensuring that the UBIRB is notified of:
   - All Reportable Information in accordance with the Reportable New Information Smart Form.
   - Project closure/completion by submitting a Continuing Review/Modification/Study Closure Smart Form in click.

3. Ensuring that the protocol is followed as approved by UBIRB unless minor changes that do not impact the exempt determination are made.

4. Ensuring that the study is conducted in compliance with all UBIRB decisions, conditions, and requirements.

5. Bearing responsibility for all actions of the staff and sub-investigators with regard to the protocol.

6. Bearing responsibility for securing any other required approvals before research begins.

If you have any questions, please contact the UBIRB at 716-888-4888 or ub-irb@buffalo.edu.
### Appendix (B)

**Nurses’ Perceptions of Stress and Support in the Preceptor Role**  
Adapted from Hautala, Saylor, & O’Leary-Kelley, (2007)

1. *What is your perceived levels of stress as a preceptor?*
   - Nonstressful  
   - Mildly stressful  
   - Moderately stressful  
   - Very stressful  
   - Extremely stressful

2. *Preceptor workload: As a result of being a preceptor, do you have:*
   a. Increased time commitment  
   - Yes  
   - No
   b. Heavier patient assignment  
   - Yes  
   - No
   c. Increased responsibility  
   - Yes  
   - No
   d. Higher patient acuity  
   - Yes  
   - No

3. *Organizational Support*
   a. Do you believe that your students have an adequate level of clinical competence?  
   - Yes  
   - No
   b. Do you believe that you have access to adequate resource support for being a preceptor (educators, clinical nurse specialists, faculty)?  
   - Yes  
   - No
   c. Do you believe that you have sufficient guidelines on how to be a preceptor?  
   - Yes  
   - No
   d. Do you feel you have sufficient acknowledgment/reward for being a preceptor?  
   - Yes  
   - No

4. *Do you believe that you have adequate clinical confidence to be a preceptor?*
   - Yes  
   - No

5. *Perceived Levels of Support*
   a. Adequate preparation for the preceptor role  
   - Strongly Disagree  
   - Disagree  
   - Neutral  
   - Agree  
   - Strongly Agree
   b. Preceptor goals are clearly defined  
   - Strongly Disagree  
   - Disagree  
   - Neutral  
   - Agree  
   - Strongly Agree
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<td>c. Coworkers are supportive of the preceptor program</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
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<td>d. Workload is appropriate as a preceptor</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
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<td>e. Do not have sufficient time for patient care when precepting</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
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<td>f. Function as a preceptor too often</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
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<td>g. Management is committed to the preceptor program</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
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<tr>
<td>h. Educators are available to help me develop as preceptor</td>
<td>Strongly Disagree</td>
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<tr>
<td>i. Adequate opportunities to share information with other preceptors</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
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<td>j. Coordinator provides support by helping me to identify preceptee problems</td>
<td>Strongly Disagree</td>
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<td>k. Guidelines clearly outline responsibilities of coordinator/ educator and my role</td>
<td>Strongly Disagree</td>
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*Appendix B. displays the Nurses’ Perceptions of Stress and Support in the Preceptor Role Adapted from Hautala, Saylor, & O’Leary-Kelley, (2007).*
Daily Progress Report Evaluation Tool
Survey

Consent Information

1. University at Buffalo Institutional Review Board (UBIRB)

Office of Research Compliance | Clinical and Translational Research Center Room 5018
875 Ellicott St. | Buffalo, NY 14203

UB Federalwide Assurance ID#: FWA00008824

Adult Consent to Participate in a Research Study
Title of research study: CLINICAL TOOLS USED FOR EVALUATION OF COMPETENCY LEVELS AND EXPECTATIONS OF SRNAs BY CRNAs & THE ANESTHESIA CARE TEAM MEMBERS.
Version Date: 10/25/2019
Investigator: Foaad M. Zaid SRNA

Why am I being invited to take part in a research study?
You are being invited to take part in this study because you are a currently practicing CRNA or Anesthesiologist in Western New York. You are eligible to part of this research because you are involved in the training and education of student registered nurse anesthetists.

What should I know about a research study?
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Why is this research being done?
The main objectives of this research study are to: 1) Identify perceptions of stress and support in the preceptor role, 2) Improve the clinical evaluation tool for SRNAs by including a completed didactical material layout in the tool, along with utilizing online preceptor training courses to increase completion of programmatic requirements and didactical transference leading to increased student satisfaction.

How long will the research last and what will I need to do?
We expect that you will be in this research study for less than 20 minutes. The research consists of a single, brief survey.

More detailed information about the study procedures can be found under “What happens if I say yes, I want to be in this research?”

Is there any way being in this study could be bad for me?
As the survey is anonymous, there are no reasonably foreseeable risks, discomforts, hazards, and inconveniences to you.

Will being in this study help me in any way?
There is no direct benefit to the subjects.
What happens if I do not want to be in this research?
Participation in research is completely voluntary. You may choose not to enroll in this study.

Detailed Information: The following is more detailed information about this study in addition to the information listed above.

Who can I talk to?
If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at: If you have questions, concerns or complaints or think the research has hurt you please contact the principal investigator, Foad Zaidi, at fmzaid2@buffalo.edu. You may also contact the research participant advocate at 716-888-4845 or researchadvocate@buffalo.edu.

This research has been reviewed and approved by an Institutional Review Board ("IRB"). An IRB is a committee that provides ethical and regulatory oversight of research that involves human subjects. You may talk to them at (716) 688-4888 or email ub-irb@buffalo.edu if:

- You have questions about your rights as a participant in this research.
- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You want to get information or provide input about this research.

How many people will be studied?
We expect about 80 people to participate in this research study.

2. What happens if I say yes, I want to be in this research?
If you decide to participate in the study, an email will be sent to you with this consent document attached. A link to the survey will also be included in the email. You may take the survey at your convenience from your own computer or work-based computer.

What are my responsibilities if I take part in this research?
If you take part in this research, you will be responsible to complete the survey.
What happens if I say yes, but I change my mind later?
You can leave the research at any time it will not be held against you.

You may withdraw from the research at any time. Simply do not complete the survey if you no longer wish to continue. Not completing the survey would have no foreseeable negative effects.

Is there any way being in this study could be bad for me?
There are no risks, nor are there any direct benefits to respondents by participating in this study.

What happens to the information collected for the research?
The anonymous survey data will be analyzed by the research team. All study approval documents and correspondence not stored in the Click System will be retained in the office of Dr. Lorelee Sessanna, Department of Nursing, Room 212 Wende Hall, 3435 Main Street, University at Buffalo.

Can I be removed from the research without my OK?
There are no circumstances for removal from the study, as there is no way to withdraw data from the study as the survey is anonymous.

Who is paying for this research?
This study is not funded.

What else do I need to know?
You may not receive any other forms of compensation (i.e., for lost wages or discomfort).

By answering questions in this survey and submitting them to the researcher, you are consenting to participate in this project.

SURVEY QUESTIONS
3. What type of anesthesia provider are you?

☐ Anesthesiologist
☐ Certified Registered Nurse Anesthetist

4. What is your gender?

☐ Male
☐ Female

5. What age category are you in?

☐ 30-35
☐ 35-40
☐ 40-45
☐ 45-50
☐ 50-55
☐ 55-60
☐ 60-65
☐ 65-70
☐ 70-75
☐ > 75
6. What are your years of training in anesthesia (didactical)?

- □ 2-3 yrs
- □ 3-4 yrs
- □ 5-6 yrs
- □ 6-7 yrs
- □ > 7 yrs

7. What are your years of training in anesthesia (clinical)?

- □ 2-3 yrs
- □ 3-4 yrs
- □ 5-6 yrs
- □ 6-7 yrs
- □ > 7 yrs

8. What are your years of clinical experience?

- □ < 1 yr
- □ 1-5 yrs
- □ 5-10 yrs
- □ 10-20 yrs
- □ > 20 yrs
9. What are your years of practice?

- □ < 1 yr
- □ 1-5 yrs
- □ 5-10 yrs
- □ 10-20 yrs
- □ > 20 yrs


- □ Excellent
- □ Good
- □ Neutral
- □ Not Good
- □ Poor

11. How user-friendly do you feel the Daily Progress Report Evaluation Tool is in assessing SRNA's clinical performance?

- □ Excellent
- □ Good
- □ Neutral
- □ Not Good
- □ Poor
12. How do you feel you understand what didactical material is covered each semester in accordance with each course number listed on the Daily Progress Report Evaluation Tool? (Ex. N602)

○ Excellent
○ Good
○ Neutral
○ Not Good
○ Poor

13. How do you feel the Daily Progress Report Evaluation Tool assesses SRNAs didactical transference in the clinical setting based on where they are in the anesthesia program?

○ Excellent
○ Good
○ Neutral
○ Not Good
○ Poor

14. How do you feel the Daily Progress Report Evaluation Tool assesses the SRNA competency level based on the semester they are in the anesthesia program?

○ Excellent
○ Good
○ Neutral
○ Not Good
○ Poor
15. How do you feel the Daily Progress Report Evaluation Tool works for you?

- Excellent
- Good
- Neutral
- Not Good
- Poor

16. How do you feel instructions on how to use the Daily Progress Report Evaluation Tool were provided?

- Excellent
- Good
- Neutral
- Not Good
- Poor

17. What is your perceived levels of stress as a preceptor?

- Nonstressful
- Mildly stressful
- Moderately stressful
- Very stressful
- Extremely stressful

18. As a result of being a preceptor, do you have an increased time commitment?

- Yes
- No
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<td>As a result of being a preceptor, do you have a heavier patient assignment?</td>
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<td>As a result of being a preceptor, do you have increased responsibility?</td>
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<td>As a result of being a preceptor, do you have higher acuity patients?</td>
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<td>Do you believe that your students have an adequate level of clinical competence?</td>
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<td>Do you believe that you have sufficient guidelines on how to be a preceptor?</td>
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25. Do you feel you have sufficient acknowledgment/reward for being a preceptor?
   ○ Yes
   ○ No

26. Do you believe that you have adequate clinical confidence to be a preceptor?
   ○ Yes
   ○ No

27. Adequate preparation for the preceptor role?
   ○ Strongly agree
   ○ Agree
   ○ Neutral
   ○ Disagree
   ○ Strongly disagree

28. Preceptor goals are clearly defined?
   ○ Strongly agree
   ○ Agree
   ○ Neutral
   ○ Disagree
   ○ Strongly disagree
29. Coworkers are supportive of the preceptor program?
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

30. Workload is appropriate as a preceptor?
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

31. Do not have sufficient time for patient care when precepting?
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
32. Function as a preceptor too often?

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

33. Management is committed to the preceptor program?

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

34. Educators are available to help me develop as preceptor?

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree
35. Adequate opportunities to share information with other preceptor?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

36. Coordinator provides support by helping me to identify preceptee problems?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

37. Guidelines clearly outline responsibilities of coordinator, educator and my role?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

38. How well do you feel the current Daily Progress Report evaluation tool evaluates the student's clinical performance?
39. How do you feel the current Daily Progress Report would benefit or not benefit in better gauging student's knowledge base by including didactical topics already covered in lecture? (Please explain)

40. How do you feel the Daily Progress Report can improve in assessing students clinical performance more accurately?

41. What do you feel would alleviate any stress related to precepting students?

42. How do you feel the Daily Progress Report should be made more specific to each clinical rotation and corresponding year?
## Appendix (D)

### Daily Progress Report

**Student:**

**Clinical Course:** N601 N602 N603 N604 N605 N606

**Facility:** Bassett BGMC/GVI CGH ECMC MPH-M IF Surgery Center MMH NFM Olshen RPCCG SOCH StJoe’s SIMH SBC UMMC Upstate VAMNY Other

**Instructor:**

**Surgical Procedure:**

**ASA:**

**Anesthesia Time:**

**Anesthesia Performed (GA, REG, STBY):**

**Instructions:** Please check the appropriate responses:

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- **Evaluate the level of the graduate student’s clinical performance in regards to the following:**
  - **Patient Safety**
    - (Vigilance, remaining from distractions (e.g., texting, reading, emailing, etc.) during direct patient care, comprehensive equipment check, patient protection from iatrogenesis)
  - **Peri-anesthesia Care**
    - (Individualized planned care, culturally competent care across the lifespan, pre-anesthesia patient assessment, care tailored to specific patient needs, regional and general anesthetic techniques)
  - **Critical Thinking**
    - (Application of scientific knowledge to decisions and problem-solving and approaches to anesthesia care, evidence-based practice, accountability for diagnosis and intervention, appropriateness of pre-anesthesia plan of care, management of equipment malfunctions, appropriateness of fluid and blood component therapy, management of physiologic responses consistent with anesthetic care)
  - **Communication**
    - (Effective information exchange with patients and families; effective interpersonal professional communication; comprehensive, timely, accurate, and legible healthcare records, appropriate transfer of patient care)
  - **Personal Attributes**
    - (Effective interprofessional and interprofessional collaboration and leadership, integration of critical and reflective thinking in leadership approach, demonstrates ethical behavior, practices with integrity and within legal and regulatory requirements, responsible and accountable for practices and behaviors, informs public of the role of the CRNA, disseminates research evidence, analyzes health outcomes in clinical settings, employs information technology to support patient care and improve health care systems)

**Student Comments:**

**Instructor Comments:** (please include rationale for satisfactory or unsatisfactory grades).

**Revised:** May 2018
Appendix (E)

University at Buffalo

Daily Progress Report Evaluation Tool

Student: ___________________________ Date: ___________________________

Clinical Course: NAN 602—Didactically students have covered and reviewed the following:
- Pre-operative assessment, Airway Management, Fluid & Electrolyte Replacement, Intraoperative monitoring & Neuromuscular Monitoring,

Facility: Basset BGMC/GVI CGH ECMC MFSH MFSC MMH NFM Oishei RPCCC SOCH St. Joe’s SMH SSC UMMC Upstate VAWNY Other: ___________________________

Clinical Instructor: ___________________________ Anesthesia Time: ___________________________

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<td>Evaluate the level of the graduate student’s clinical performance in regards to the following:</td>
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**PATIENT SAFETY:**
(Vigilance, refining from distractions [e.g. texting, reading, emailing, etc.] during direct patient care, comprehensive equipment checks, patient protection from iatrogenesis)

**PERIANESTHESIA CARE:**
(Individualized planned care, culturally competent care across the lifespan, preanesthesia patient assessment, care tailored to specific patient needs, regional & general anesthesia techniques)

**DIDACTIC TRANSFERENCE TO CLINICAL PRACTICE:**
(Consistently utilizes critical thinking skills in applying didactic knowledge learned to clinical cases. Application of scientific knowledge to decisions and problem-solving and approaches to anesthesia care, evidence-base practice, accountability for diagnosis and intervention, appropriateness of preanesthesia plan of care, management of equipment malfunctions, appropriateness of fluid and blood component therapy, management of physiologic responses coincident with anesthesia care)

**COMMUNICATION:**
(Effective information exchange with patients and families; effective interpersonal professional communication; comprehensive, timely, accurate, and legible healthcare records, appropriate transfer of patient care)

**PERSONAL ATTRIBUTES:**
(Effective intraprofessional and interprofessional collaboration and leadership, integration of critical and reflective thinking in leadership approach, demonstrates ethical behavior, practices with integrity and within legal and regulatory requirements, responsible and accountable for practice and behaviors, informs public of the role of the CRNA, disseminates research evidence, analyzes health outcomes in clinical settings, employs information technology to support patient care and improve health care systems)

Student Comments:

Clinical Instructor Comments:
CLINICAL TOOLS USED FOR EVALUATION

Slide Deck

2/16/2020
Benner's Theoretical Framework Cont.

ADVANCED BEGINNER

Benner's framework is a hierarchical model that describes the stages of clinical practice. The framework is based on the concept of expertise and takes into account the different levels of knowledge, skills, and abilities required at each stage. The model includes five stages: Novice, Advanced Beginner, Competent, Proficient, and Expert. Each stage represents a different level of competence in the process of clinical practice.

- Benner's framework is based on the concept of expertise and takes into account the different levels of knowledge, skills, and abilities required at each stage.
- The framework includes five stages: Novice, Advanced Beginner, Competent, Proficient, and Expert.
- Each stage represents a different level of competence in the process of clinical practice.

COMPETENT

The Competent stage is characterized by the ability to perform clinical tasks accurately and efficiently. The nurse at this stage is able to apply clinical knowledge to specific patient situations and to make decisions based on evidence-based practice. The nurse is also able to collaborate effectively with other healthcare professionals.

- The nurse at the Competent stage is able to perform clinical tasks accurately and efficiently.
- The nurse is able to apply clinical knowledge to specific patient situations and to make decisions based on evidence-based practice.
- The nurse is able to collaborate effectively with other healthcare professionals.

PROFICIENT

The Proficient stage is characterized by the ability to apply clinical knowledge to a variety of patient situations and to make decisions based on evidence-based practice. The nurse at this stage is also able to adapt to changes in the healthcare environment and to work collaboratively with other healthcare professionals.

- The nurse at the Proficient stage is able to apply clinical knowledge to a variety of patient situations and to make decisions based on evidence-based practice.
- The nurse is able to adapt to changes in the healthcare environment and to work collaboratively with other healthcare professionals.

EXPERT

The Expert stage is characterized by the ability to apply clinical knowledge to complex and unpredictable patient situations and to make decisions based on evidence-based practice. The nurse at this stage is able to influence the healthcare environment and to mentor and educate other nurses.

- The nurse at the Expert stage is able to apply clinical knowledge to complex and unpredictable patient situations and to make decisions based on evidence-based practice.
- The nurse is able to influence the healthcare environment and to mentor and educate other nurses.

2/18/2020
Results: Descriptive Statistics Cont.

- Results: Pearson's Chi Square (X²) Test
  - Results: Pearson's Chi Square (X²) Test Cont.
    - Results: Pearson's Chi Square (X²) Test Cont.
**Stakeholder Deliverable**

**University at Buffalo**

**Daily Progress Report Evaluation Tool**

Student: __________________________ Date: __________________________

*Clinical Course: NAN 602—Didactically students have covered and reviewed the following:*
- Pre-operative assessment, Airway Management, Fluid & Electrolyte Replacement, Intraoperative monitoring & Neuromuscular Monitoring,

Facility:  Basset  BGMC/GVI  CGH  ECMC  MFSH  MFSC  MMH  NFM  Oishei  RPCCC  SOCH  St. Joe’s  SMH  SSC  UMMC  Upstate  VAWNY  Other:____________________

Clinical Instructor: __________________________ Anesthesia Time: __________________________

<table>
<thead>
<tr>
<th>Surgical Procedure</th>
<th>ASA Class</th>
<th>Anesthesia Performed (GA, REG, STBY)</th>
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**Instructions:** Please check the appropriate responses:

0-Unsatisfactory  2-Meets Expectations  4-Exemplary
1-Below Expectations  3-Exceeds Expectations  5-Not Observed

<table>
<thead>
<tr>
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<th>Objectives</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Evaluate the level of the graduate student’s clinical performance in regards to the following:</strong></td>
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Student Comments:
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Clinical Instructor Comments:
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