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Clinical Performance and the Student Registered Nurse Anesthetist

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Abstract

The clinical component of graduate nurse anesthesia programs continues to be the key factor in evaluating and ensuring student success. Clinical experience has a direct correlation on student development in areas of self-awareness, psychomotor proficiency, critical thinking and professionalism. To effectively create a positive and motivating learning environment for the student registered nurse anesthetist (SRNA), the literature recommends instructors theoretically adapt to the individual learning style of the student, and incorporate various teaching techniques and modalities clinically. The overall goal of the clinical rotation is to establish an atmosphere where an individual can modify learning and skills. Positive, respectful and constructive criticism is vital to the optimal clinical success of the SRNA. Clinical performance is thus enhanced and the eagerness and motivation on the part of the student to improve upon individual practice is achieved. In order to allow for success in stressful healthcare programs, an ideal clinical learning environment needs to be fostered. This will further allow for safe and efficient patient care while providing a level of confidence among medical providers. A series of literature reviews, pilot studies and meta-analysis were studied. The articles that were examined reiterate the need for further research on this specific topic. The aim of this paper is to explore the various learning styles among students and to determine what affects the clinical performance of the SRNA practicing in this already stressful environment.

Clinical Performance and the Student Registered Nurse Anesthetist

Introduction

As medical technology continues to improve positive patient outcomes, so too does the ever evolving education process. A literature review was compiled to explore learning styles among students while determining what affects the performance of the SRNA clinically. The intent of the literature review was to investigate how the clinical experience directly impacts student development. There is a culture in medicine where harassment, humiliation and negative reinforcement have ultimately been the norm for many years, which has resulted in student depression, lack of motivation, decreased level of confidence and less than acceptable clinical performance. The philosophy of medicine has stemmed from teaching by humiliation, leading to hostile work environments, negativity among co-workers and burnout among students studying medicine, nurse anesthesia and surgery (Scott, Caldwell, Barnes, & Barrett, 2015). This way of thinking continues today as junior and senior doctors as well as clinical preceptors perpetuate the actions onto students in creating a “toughen up” way of thinking. The literature shows the negative effects on students yet fails to demonstrate little in the way of changing culture.

Clinical outcomes can be directly affected by the ways in which individuals learn. Learning is considered an individualized process. Students in medicine and nurse anesthesia need to be evaluated on a personal level because any two students may learn in various ways. Emotions, generational trends and motivation may affect student learning. An individual’s emotional state affects the physiological process of learning as the deeper, permanent learning occurs when all areas of the brain are used, including the emotional center. Generational diversity in regards to learning was explored in the literature. An understanding of the generational gaps among students allows preceptors and clinical educators to evaluate the diverse

learning styles. An important aspect of student academic development is motivation. It is important to provide encouraging, motivational learning environments to students in order to provide safe, effective anesthesia to patients.

Constructive and valuable feedback is considered a critical step in the learning and education process and clinical setting. Wilkinson, Couldry, Philips, and Buck (2013) define feedback as an ongoing process that should be non-judgmental, frequent, face to face and provided in small doses. Feedback allows an individual to achieve performance goals while acknowledging self-evaluation. These authors consider effective feedback as a core function to precepting and a critical step in learning. Two techniques utilized are described as descriptive and elaborative. Descriptive is when the preceptor presents observations and judgments regarding performance as a list, not allowing the student to become actively involved. The elaborative feedback technique is when the student is engaged and asked to reflect upon performance and skill set, allowing increased dialogue between both the preceptor and student. This type of technique ultimately allows for a more trusting environment with effective feedback.

The following literature review will reveal current data regarding the culture of medicine, the generational influences in regards to learning styles, a brief discussion on the Socratic method way of teaching and the effects of clinical feedback. All these factors affect the clinical performance of the SRNA. The ultimate goal in evaluating this information presented is to not only enhance the motivation among students but also enhance clinical performance.

Literature Review

Over the past 25 years, research has shown the existence of intimidation, harassment and humiliation and continues in our present day medical society (Scott et al. 2015). Students and

staff members consider this method of teaching as shameful, disrespectful and demoralizing. According to Leape et al. (2012) the creation of the “so-called” hostile work environment results in low morale and creates a fear of self-doubt, thus leaving the student to question the ability to carry out the job at hand or wondering if this is the correct profession. The clinical experience is the cornerstone to the learning process. The majority of the time the students are affected by this negativity. These authors of the literature review continue to describe the immediate feelings of fear, anger, shame, self-doubt, frustration and depression. These emotions on top of the already stressful job can affect the person’s ability to think clearly, resulting in possible medical errors or clinical performance.

In a pilot study discussed by Scott et al. (2015), 151 medical students were asked to describe their clinical experiences of teaching by humiliation during their adult and pediatric clinical rotations. In the adult clinical rotation, 74% of students reported experiencing teaching by humiliation while 83.1% witnessed teaching by humiliation. In regards to the pediatric clinical rotation, 28.8% of students experienced humiliation, while 45.1% witnessed these behaviors. Students in this study reported feelings of disgust and regret about entering the medical profession. Some felt they were endorsing teachers’ public exposure of students’ poor knowledge, while 95% reported having experienced behaviors of humiliation during learning. Of note, less than one third of victims report these actions due to lack of awareness to properly report the incidences, harboring fear of retaliation.

Additional information was found in a systematic review and meta-analysis by Fnais et al. (2014) on harassment and discrimination in medical training. This review sought to understand the significance of mistreatment and ways to explore preventative strategies. The authors support the need to change medical culture in order for students to perform optimally in

training and have success in the clinical setting. The meta-analysis consisted of 51 studies, 57 cross-sectional and two cohort studies. At least one form of harassment or discrimination during training was experienced by 59.4% of medical trainees, while verbal harassment was deemed the most common form of harassment. Many studies used cross-sectional surveys to assess responder's experiences of harassment, which can be open to recall bias. Regardless of the outcomes, a sense of fear remains that in creating negativity with students clinically, these behaviors will persist, as they become senior practitioners.

The American Association of Nurse Anesthetists (AANA) journal in 2011 published an article by Elisha and Rutledge regarding perceptions of SRNAs on clinical experiences. In this article, the authors contributed the clinical experience as having a direct effect on clinical performance and student development particularly in areas of self-awareness, critical thinking, psychomotor proficiency and professionalism. These authors used a descriptive study using a cross-sectional survey with a randomly selected sample of SRNA members from the AANA. The 696 SRNA participants were 2/3 female, predominantly white, and younger than 38 years of age, logging in approximately 31 to 34 hours of clinical time each week. Verbal abuse was experienced by 69% of the participants. The SRNAs within the study considered 88% of Certified Registered Nurse Anesthetists (CRNAs) to be positive role models, while anesthesiologists ranked 6% for role model satisfaction. The top four behaviors ranked by SRNAs in commenting on their clinical preceptors were: calmness during stressful events, use of non-threatening communication, use of clear communication, and instilling independent decision-making. The SRNAs stated their learning was best achieved with the help of their preceptors, taking part in unique cases in combination with a variety of teaching modalities such as readings and clinical lectures. These factors play a role in clinical performance and can

provide success clinically.

The literature among researchers compares the relation of learning, memories and negative experiences to positive experiences. Haizlip, May, Schorling, Williams and Pleqws-Owen (2012) mention a negativity bias in medical education and discuss changing the culture in their article entitled “The Negativity Bias, Medical, Education and the Culture of Academic Medicine: Why Culture Change Is Hard.” Negativity bias is an instinctual feeling, affecting how individuals act in the moment. It is considered a form of human protection developed in order to avoid threat. Humans have shown to have increased attention and influence by negative aspects of their environment rather than by the positive. This negativity, as shown in previous studies, has detrimental effects on memory. In this study, children and adults were found to have a predisposed increase in recall of unpleasant memories with vivid descriptions of undesirable behaviors. This same article further explores practices rooted in positive psychology. Researchers state that recognizing positive emotion and experiences can change the way an environment is perceived. From the data extracted, the authors conclude that simple, sincere, positive remarks or actions used daily but not excessively can have the potential to spark a culture change in academic medicine. In conjunction with culture change, generational gaps among students must be taken into consideration when discussing the topic of learning and positive clinical experiences. Identifying these gaps can significantly alter an individual’s professional development.

Individuals entering anesthesia school are frequently referred to as adult learners, entering into graduate school after working as registered nurses. Kolb defines adult learning as, “the process whereby knowledge is created through transformation of experience” (Gurpinar, Alimoglu, Mamakli, & Aktekin, 2010). The literature mentions the Kolb learning style tool. It

is used to evaluate the effects of learning styles on academics. Kost and Chen (2015) identify three concepts of successful adult learning: mutual respect, non-threatening communication and a safe and supportive educational environment. Adult learners show difficulty in solving problems if their environment is disrespectful, which further leads to a decreased level of self-esteem. Elisha (2008) mentions a principle of adult learning as active learning. According to this author, active learning occurs when learners are encouraged to take a role in the education process through actual participation. The thought behind this active participation is that the student is able to incorporate experiences with opinions from others with various perspectives, which can increase retention and assist the student in mastering a subject topic (Elisha, 2008). This method of learning for adults is ideal as it takes a contextual subject and applies it to real life situations.

Valuing active learning in the clinical setting is important however, realizing adult learners are also part of a generational influence is also vital in evaluating clinical performance. Understanding the generational gaps can provide a clear description as to how various groups of individuals learn. According to Strauss and Howe as cited by Johnson and Romanello (2005), each generation has a peer personality, a group of individuals who share an age location in history, which leads to a collective way of thinking. The authors refer to this as “generational diversity.” This diversity among students and faculty present significant teaching and learning challenges due to the differences not just associated with age. Literature suggests that each generation has its own set of values, ethics, ideas and culture. In identifying with these groups, faculty are then able to incorporate various teaching modalities in order to better meet the students’ needs. These authors recommend that the faculty should also examine their own biases and understandings of the generations in order to best enable learning in all students.

The first group of individuals highlighted by the authors were the Generation X individuals born between the years 1961-1981. Johnson and Romanello (2005) portray these individuals as wanting to learn useable skills in a straight-forward manner—the quickest, easiest way possible. They view education as a means to an end and consider jobs as promoting financial security. Leisure time has equal importance to financial security. Given this information the authors suggest providing this group with detailed study guides and test reviews that focus on the necessary information being tested while allowing the individuals to perform at their own pace at their own time. The next group was the Millennial group born between 1982-2002. They are considered to be multitaskers, who are goal orientated, positive, assertive, moral individuals demanding immediate feedback on their work. This group grew up with computers and the Internet, easily accessing a world full of information right at their fingertips. For this group, performing in small groups is preferred. Chu et al. (2012) describes millennial learners as having shorter attention spans who crave interactivity and can sometimes struggle with reflective endeavors. Due to the digital input growing up, the way information is processed has been transformed to a more unique way of thinking. Millennials benefit from simulations with immediate feedback on performance such as group activities, which involve problem solving or answering questions in small groups. An understanding of the generational gaps and views between both groups allows an individual to evaluate diverse learning styles. To give an example, the authors referred to a syllabus being passed out on the first day of class. The generation X group will go to the page listing all the assignments and tests, wanting to know what they have to do in order to pass the course. Whereas millennials go to course outcomes and teaching methods, eager to assess if the information will be presented in an interesting fashion. In order to maximize the clinical settings for these two unique generations, preceptors and

faculty should become familiar with how each generation processes information and how they learn best while incorporating various learning modalities to education. A learning style is considered a personal approach where the individual receives and processes information shaped by their genetic characteristics as well as their expectations of the environment (Gurpinar et al., 2010). McDonough and Osterbrink (2005) discuss learning styles as arising from a combination of cognitive, affective and psychological behaviors, leading individuals to adapt to certain strategies in learning. Students in nurse anesthesia and medicine continue to reflect on learning and find ways to perfect and refine their learning processes. Despite the style of learning, individuals should feel safe and supported when answering preceptor or faculty questions. Above all, they should feel respected by faculty and peers alike.

Learning is not only an individual process but also a circular process through four stages of experience. Concrete experiences are followed by reflection and observation, while the formation of abstract concepts is tested through active experimentation. Kost and Chen (2015) discuss the four various stages of learning. The dependent learner, (stage one) is one who requires the educator to take on expert roles and use direct questions. The interested learner (stage two) is motivated by the educator's questions in order to identify his or her own learning goals. The involved learner (stage three) is a person who needs questions that facilitate a discussion in which each member has an equal role. The final stage is described as a self-directed learner (stage four), one whose questions can cultivate their ability to learn. Processing information visually and verbally in conjunction with written information is of equal importance to learning. The study by McLain, Biddle and Cotter (2012) compared 24 anesthesia students and divided them into two groups with different scenarios in order to examine clinical performance and recall when given various simulated anesthesia crisis situations. One group

was provided with strictly verbal information, while the second group was presented with a combination of both verbal and visual information. The authors deduced that verbal and visual cognitive processes, although separate, are intertwined in order to properly synthesize information. The group that had both simulations and written standard lectures had a higher clinical performance. Visual recall can have a greater impact on clinical performance and long-term memory than strictly verbal information. A higher cognitive process versus simple memorization can indicate a synthesis of information. The authors suggest incorporating audiovisual simulation in the learning process. This not only enhances the retention of material but also can improve clinical performance while cognition and memory are dually enhanced.

It is clear that there are several nuances of each stage will affect the clinical student differently and to varying degrees. In order to maximize the clinical experience, clinicians who precept students should be aware of these differences and adapt to each student's learning on an individual basis. Generational gaps among students need to be taken into consideration as these differences play an important role on the influence of learning among students. While discussing learning styles, it is important to pay tribute to Socrates, the philosopher known for his teaching and mastering a knowledge base among his students.

Socrates, the well-known Greek philosopher, was noted for engaging learners to improve upon their critical thinking skillset. A series of questions would be presented to a group, while critical thinking exercises would take place through dialogue. The three components of the Socratic method consists of working in groups, exploring the interpretive questions that may lack a specific answer but activates a prior knowledge, and participating on reflective discussion. Socrates' intention was to create a sense of curiosity among each individual in a group in order to reach a collective search for the truth through further discussion. This Socratic method as

described by Stoddard and O'Dell (2016), is the act of teaching. It was not a transmission of information from teacher to student but rather an exercise in assisting students to introspectively discover true knowledge through logic and reasoning. According to Socrates, the teacher should not deliver information. Teaching rather consists of prompting students through a cross examination, recognizing one's own weaknesses and proceeding to ask questions in order to steer the student towards realizing their true knowledge. The Socratic method currently used in today's society can get easily misconstrued with the slang term of clinical teaching or questioning known as pimping as described in the JAMA article by Anderson in 2013.

Sequential questioning of learners by teachers to expose ignorance rather than exploring new knowledge is currently termed pimping. This form of teaching maintains hierarchal levels among medical providers placing the attending or the preceptor's position at the top. This type of teaching occurs for four reasons: to successfully but negatively motivate the learner, to reflect the Socratic teaching method, to maintain a power structure in the learning environment and to transfer this process through generations by physicians who find it useful (Kost & Chen, 2015). The questions used in this type of clinical teaching are fact-based, yes or no, correct or incorrect, which fails to enhance critical thinking skills. Questioning under this type of teaching, unlike the Socratic method, has the intent to cause discomfort in learning by maintaining medical hierarchy and induce shame and humiliation. It does not consider the learner's needs or aid in positive community building. These authors state that knowledge comes from a person and environmental interactions. Pimping occurs in the presence of peers, creating an intentional consequence that the pimped learner is then humiliated. This style of teaching can contribute to the negativity bias as previously mentioned resulting in discouraging experiences among students. These negative experiences continue to flood the mind rather than looking at the

positive skills learned. Literature attempts to compare this modern teaching to the Socratic method. In a JAMA article review in 2015, Doctor Imm discusses the comparison of pimping to the method Socrates employed. He mentions that Socrates had a goal with his teaching and questioning of students. The questions were philosophical even though they may have been open-ended. The intent of Socrates' questions was to clarify meaning, create open and focused thinking, not to humiliate. It has been mentioned numerous times in the literature that students learn best when there is emotional support from peers and teachers. A negative environment indeed impedes thinking and learning.

Establishing a motivation to learn can occur when the level of anxiety is decreased. Socrates did not want to impose anxiety among his learners but rather develop adult reflective discussion in a non-judgmental way. Anxiety can present itself daily among students in clinical on various levels. In a randomized control trial by Mills et al. (2016), 31 second year students were evaluated on their clinical performance and divided into two groups, one with an instructor present and the other with an absent instructor. The students participated by wearing heart monitors and cameras on their bodies to identify distractions and increases in heart rate (HR). There was a significant difference in peak HR in the instructor present group with completed scenarios taking longer due to non-verbal guidance from the instructor. In the absent instructor group, the authors deduced that the students were more attentive, reported less stress and distraction with quicker time completing clinical tasks. It was concluded that removing instructors from simulation-based teaching can enhance student's immersion and decrease level of social anxiety. This study was conducted with paramedic students only in the sample size therefore the research is limited.

Decreasing the level of clinical anxiety together with a respectful learning environment

will create a successful clinical experience and therefore cultivate better medical providers. Psychological safety is a term explained in the literature by Amy Edmondson in the Stoddard and O'Dell (2016) article. This term describes group members feeling safe when there is trust and mutual respect in their environment. Feeling valued and comfortable can minimize any threats to humiliation and hostility, in turn increasing learning especially in groups of hierarchical learning. She suggests that preceptors and faculty use open-ended questions in order to expand one's own knowledge and provide corrections in a compassionate way. In doing so, this will identify failings without causing humiliation and resentment among preceptor and trainee. Pimping exposes status changes between the learner and teacher, therefore failing to establish this psychological safety. In order to progress in a positive culture in medicine not only should this psychological safety be fostered but feedback is critical to the learning process in the clinical setting.

An interesting aspect discovered in the literature was the differing opinions among faculty and residents regarding feedback. Jensen, Wrights, Kim, Horvath, and Calhoun (2012) revealed a study comparing surveys between residents and students to faculty on educational criticism in the operating room. The response rate to the surveys was 63% as the residents consisted of 75% (58 out of 77 residents) while 52% of faculty participated (47 out of 90). Survey questions focused on timing, amount and specificity of feedback, satisfaction and definition of importance of feedback. The outcomes showed that resident satisfaction with timing, amount and specificity of feedback was significantly lower than the faculty. The faculty members' perceptions on frequency of feedback were higher than residents' perceptions in all competencies of feedback. The results concluded that the students and residents were less satisfied with all aspects of feedback, whereas the faculty was more content with how the

feedback was delivered. There was no significant difference among the resident and faculty groups regarding the importance of the advice. The specifics were more important, not the delivery. The authors conclude the best way to ensure trainee understanding is to be as specific as “I am giving you feedback.” Quality criticism is considered non-judgmental and respectful with the focus on behaviors not personality. Areas suggested for improvement within this study is providing the correct amount of feedback in combination with providing well-defined goals for the trainee.

A study presented by Kannappan, Yip, Lodhia, Morton, and Lau (2012) on positive and negative feedback explored 25 first year medical students at Stanford University. The results of the study proved that by providing positive feedback, the students were 60% more inclined to practice surgical skills and admitted their relationship with their mentor would improve greatly. In regards to the negative feedback, 74% of the students stated that their relationship with their mentor would worsen with less of an inclination to study independently. Positive feedback allows for improved relationships among providers and allows the student to become increasingly more motivated to learn. Negative feedback can strain relationships and motivation to improve upon skills and learning. The limitations to this study were the small sample size and limitation to Stanford University. Further research is needed in this topic.

Another comparison between students and preceptors is a systematic review by Sedden and Clark (2016) titled motivating students in the 21st century. This article examines students and preceptor perspectives on both the classroom setting as well as the clinical setting and ways to improve upon each. Important factors to the students in their motivation to learn and clinical performance were based on motivated and enthusiastic instructors. Instructors who were truly concerned about students’ abilities had showed motivation among students. The formation of the

student-preceptor relationship was critical; a sense of feeling connected to the instructor was ranked higher than the instructor's own knowledge base. In doing so, it allowed for an open atmosphere, giving students the freedom to ask questions and argue varying views. Instructors appreciated a drive for learning and being prepared. Instructors who are enthusiastic, positive, encouraging, and those who linked theory to clinical practice all proved successful in providing a positive atmosphere to the students. The limitation to this study was the minimal amount of information regarding instructors' perspectives of students. Future studies may be needed in order to fill this void.

Considering the results of feedback mentioned, Wilkinson et al. (2013) reveal four dimensions of feedback used to assist clinical instructors in a structured clinical setting. Organization, interaction, impact and depth are considered the framework in providing proper instruction and feedback at clinical. These authors further discuss several factors that have the potential to impact the process of effective feedback such as environmental, interpersonal and situational factors. Environmental factors consist of frequency, place and timing of the feedback. Ideally a neutral, private setting is the safest in order to establish rapport between the instructor and student. Feedback should be given as close to an event as possible allowing the student to either repeat or avoid future actions. This can also allow for a comfortable relationship between both parties in order to clarify or ask any necessary questions. Interpersonal factors include the personalities and styles of not only the instructors but also the students. The evidence suggests that adapting the feedback to the student lies solely on the preceptor. Lastly, these same authors discuss situational factors as the content of the feedback being the most significant. In this article the authors mention a study which discovered preceptors were more comfortable delivering positive feedback rather than negative feedback to residents (91% to 64%). The topic

of a feedback “sandwich” is revealed when instructors are faced with providing difficult feedback. This consists of positive, negative and then positive feedback allowing for the student to maintain comfort as well as attention during the process (Wilkinson et al. 2013).

Instilling a sense of comfort while performing skills in the clinical setting is important to the success of the student. A quantitative study by Smith, Swiwain and Penprase (2011) published in the AANA journal, examined the characteristics of effective clinical teaching for nurse anesthesia students. These authors believed that by interacting with preceptors and taking part in real life cases the student will grow into a professional, acquire skills and develop certain attitudes and values. As mentioned in this article, it is also vital for the preceptors to feel confident in their skills as a practitioner in order to maintain patient safety and provide a strong learning experience for the students. This study focused on filling in the gaps between the Katz study in 1984 and Hartland and Londoner study in 1997. Katz’s intention was to seek out and define the characteristics of effective clinical instructors particularly in nurse anesthesia. Hartland and Londoner further went on to explore these 22 characteristics in order to determine the importance of each, as perceived by nurse anesthesia program directors, CRNA instructors and first and second year SRNAs. The study was conducted with 125 CRNAs, 50 SRNAs with 89 surveys for analysis. There were three top characteristics scored in the top five among both the instructor and student groups. According to the SRNAs, the top characteristic is when the instructor stimulates student involvement and appropriately encourages independence. As far as the CRNAs, the first ranking characteristics among students were clinical competence and judgement. The third ranking value similar to both groups was calmness during times of stress. These findings are clear examples of how autonomy plays an important role in the clinical setting as well as the ability to have a calming presence. These authors do a great job in

portraying how clinical experience and effectiveness of the clinical instructors are instrumental in creating successful nurse anesthesia programs. Unfortunately, this study had limitations such as the small sample size with the focus on integrated program settings. Further research is needed to evaluate whether didactic programs have the similar or differing results.

While discussing the effectiveness of clinical instructors, the literature mentions incorporating a nursing educator course in order to modify perceived behaviors and CRNA knowledge base.

The AANA journal article by Elisha in 2008 used a type of exploratory study in determining if an eight-hour educational course modified the behavioral perceptions and knowledge of CRNA clinical educators (CRNACE). The author agrees like many previously mentioned that the quality of clinical education significantly impacts the development of adult learners. The study consisted of 33 CRNA clinical educators from Kaiser Permanente in southern California. At the completion of the study the author discovered that the educational course provided to the instructors enhanced behaviors and knowledge of clinical anesthesia. It is important to note the author revealed four significant constraints on behavior: adult learning principles, establishing positive teacher-learner relationships, providing positive feedback and instituting student evaluations. The adult learning principles consisted of clinical educators who were unreceptive to changing their teaching practices based on student learning styles and needs. This article also mentions the characteristic least conducive to student learning unanimously voted upon by both junior and senior SRNAs was both verbal and non-verbal demeaning behavior. Considering the results of this study, a culture change fostered around educators adapting to various student and individual learning should be created. The limitations to this particular study is the small sample size and population limited to those CRNAs employed at Kaiser Permanente. It would be

interesting to conduct future studies similar to this specific one and compare the results to other healthcare facilities.

Discussion

A discussion of the findings within the literature review is necessary. The articles by Leape et al. (2012) and Scott et al. (2015) discuss hostile work environments and teaching by humiliation during clinical rotations. The findings mention students having negative feelings towards their decision to pursue medicine while also keeping in feelings of hurt and regret rather than voicing their concerns in an appropriate manner. This reaction is due to fear of retaliation. Fnais et al. (2014) also discusses strategies to change mistreatment in order to change medical culture. Students should always have an outlet clinically whether it be a clinical coordinator they can trust or a mentor who is either a preceptor or other colleague. Trust must be part of the clinical environment in order to improve one's own growth and experiences. Patients must trust their medical staff when arriving for surgery. A student must trust their preceptors hoping that each one has their best interest in mind. Preceptors can use daily positive remarks in order to spark a culture change in that hospital. Questionnaires could be given to each student at the beginning and end of each clinical, allowing the site to evaluate the culture within the hospital. This can help bring attention to situations that can be changed positively in order to create better learning environments. Haizlip et al. (2012) mention in their study a negativity bias that develops among students. Students are more inclined to remember the negative feelings of their day or negative comments from preceptors. A recommendation by these authors is to keep a daily journal. This can be incorporated for each site. Even if students write in it weekly, they can reflect on the good they did which can in turn build a sense of confidence among students. The Gurpinar et al. (2010) as well as the Kost and Chen (2015) articles evaluate various learning

styles. A simple questionnaire or survey can combine both coping skills and learning styles in order to better the experience of each individual at clinical. The Kannappan et al. (2012) study in regards to feedback is another example as to how positive feedback seemed to be a motivator to studying for most students. Any strain on the teacher-student relationship has significant impacts both clinically and professionally. The findings in this article suggest that negative feedback results in a decreased improvement in skills performance. In addition this type of approach results in a decreased interest in the subject matter of the learner. Feedback has been portrayed by numerous articles in the literature review to be the cornerstone of student progress as well as clinical development. It is critical to evaluate feedback with respect by using a safe and welcoming environment. Changing our teaching culture, understanding the generational influences and providing proper feedback in a motivational and safe environment can all contribute to a successful SRNA clinical experience.

Conclusion

As medical technology continues to improve so too should the clinical education process. Necessary improvements in medicine's distressing teaching culture remain a top priority in order to achieve clinical success among SRNAs and medical residents. It is imperative to have an understanding of the various learning styles and generational influences in order to incorporate these factors into the educational experience of students. In doing so, the SRNA will be provided a positive and encouraging clinical environment which can further enhance clinical performance. This is important in anesthesia practice especially for graduate CRNAs. It is our job to change culture and understand that the clinical experience should ideally be a positive experience for students. Encouraging confidence in the SRNA during the clinical period requires an appropriate learning environment that enriches the student's ability to attain new information.

The student can then understand and integrate the knowledge clinically while applying it to current practice.

Eliminating a sense of fear and anxiety among students has been proven to increase the motivation to learn while creating an improved clinical performance. Allowing autonomy from instructors when appropriate will allow the student to reflect on current situations with a clear head, while gaining a level of confidence in providing safe anesthesia to patients. If, after a couple weeks the student is not left alone, a conversation as to why may need to be addressed. If it is a matter of the clinical site, then the student should not take it personally. However, if it is a student matter then the student should be made aware of this in order to change his/her practice. The instructors need to keep up to date with the literature, technology and recent advancements in anesthesia in order to provide a motivational and enthusiastic learning environment for future students. As the evidence suggests, a consideration would be incorporating clinical education for instructors. These education classes can improve upon the instructors' understanding of the adult learner while creating positive changes to the clinical environment. Clinical sites and instructors can benefit from creating a simple clinical tool in order to evaluate how best each student learns. The tool could assess the student's preferred style of learning such as visual or verbal explanations, studying internet tutorials or seeing examples of procedures firsthand. Each clinical site can incorporate this clinical tool at the beginning of each rotation. Not only will it give the site a better understanding of each student but it would allow the student to share themselves with each site and what they hope to gain from each clinical and various stages of their curriculum. By doing so, the instructors could then evaluate the most effective way to teach clinically. As mentioned in the literature review, generational influences play an important role

in the adult learning. Instructors can assist SRNAs clinically after having a better understanding on how best each generation learns.

If we continue to teach in ways that embrace humiliation, students will continue to be demoralized and will lack the confidence needed at clinical. How can this way of teaching in healthcare be viewed positively? There is a better way to conduct ourselves professionally while maintaining a positive and inviting environment for students studying not only nurse anesthesia but medicine as a whole. Instructors can fulfill their role in not only preparing students to achieve a new status as colleagues but also as expert providers of anesthesia care if the clinical process is customized for each student. Healthcare professionals must strive to welcome this teaching environment. Only then can we say we have achieved success clinically like Socrates would have celebrated.

References

- Anderson, J. (2013, April). Can "pimping" kill? The potential effect of disrespectful behavior on patient safety. *JAAPA*, 26(4), 53-56.
- Chu, L. F., Erlendson, M. J., Sun, J. S., Clemenson, A. M., Martin, P., & Eng, R. L. (2012). Information technology and its role in anesthesia training and continuing medical education. *Best Practice & Research Clinical Anesthesiology*, 26, 33-53.
- Elisha, S. (2008, August). An educational curriculum used to improve the knowledge and the perceptions of certified registered nurse anesthetist clinical educators. *AANA Journal*, 76(4), 287-292.
- Elisha, S., & Rutledge, D. (2011, August). Clinical education experiences: perceptions of student registered nurse anesthetists. *AANA Journal*, 79(4), S35-S42.
- Fnais, N., Soobiah, C., Chen, M., Lillie, E., Perrier, L., Tashkhandi, M., Strauss, S., Mamdani, M., Al-Omran, M., Tricco, A. (2014, May). Harassment and discrimination in medical training: a systematic review and meta-analysis. *Academic Medicine*, 89(5), 817-827. doi: 10.1097/ACM.0000000000000200
- Gurpinar, E., Alimoglu, M., Mamakli, S., & Aktekin, M. (2010, December). Can learning styles predict student satisfaction with different instruction methods and academic achievement in medical education. *The American Physiological Society*, 34, 192-196. doi:10.1152/advan.00075.2010.
- Haizlip, J., May, N., Schorling, J., Williams, A., & Pleqws-Owen, M. (2012, September). The negativity bias, medical, education and the culture of academic medicine: why culture change is hard. *Academic Medicine*, 87(9), 1205-1209. doi: 10.1097/ACM.0b013e3182628f03

Jensen, A. R., Wrights, A. S., Kim, S., Horvath, K. D., & Calhoun, K. E. (2012, August).

Educational feedback in the operating room: a gap between resident and faculty perceptions. *The American Journal of Surgery*, *204*(2), 248-255.

Johnson, S., & Romanello, M. (2005, September/October). Generational diversity teaching and learning approaches. *Nurse Educator*, *30*(5), 212-216.

Kannappan, A., Yip, D., Lodhia, N., Morton, J., & Lau, J. (2012, November/December). The effect of positive and negative verbal feedback on surgical skills performance and motivation. *Journal of Surgical Education*, *69*(6), 798-801.

Kost, A., & Chen, F. M. (2015, January). Socrates was not a pimp: changing the paradigm of questioning in medical education. *Academic Medicine*, *90*(1), 20-24. doi: 10.1097/ACM.

Leape, L. L., Shore, M. F., Dienstag, J. L., Mayer, R. J., Engman-Levitan, S., Meyer, G. S., & Healy, G. B. (2012, July). Perspective: a culture of respect, part 1: the nature and causes of disrespectful behavior by physicians. *Academic Medicine*, *87*(7), 845-852. doi: 10.1097/ACM.0b013e318258338d

McCarthy, C. P., & McEvoy, J. W. (2015, December). Pimping in medical education lacking evidence and under threat. *JAMA*, *314*(22), 2247-2348.

McDonough, J. P., & Osterbrink, J. (2005, April). Learning styles: an issue in clinical education. *AANA Journal*, *73*(2), 89-93.

McLain, N., Biddle, C., & Cotter, J. (2012, August). Anesthesia clinical performance outcomes: does teaching method make a difference. *AANA Journal*, *80*(4), S11-S16.

Mills, B., Carter, O., Ross, N., Quick, J., Rudd, C., & Reid, D. (2016). The contribution of instructor presence to social evaluation anxiety, immersion and performance within

- simulation-based learning environments: a within-subject randomised cross-over trial with paramedic students. *Australian Journal of Paramedicine*, 13(2), 1-8.
- Scott, K. M., Caldwell, P., Barnes, E. H., & Barrett, J. (2015, August). "Teaching by humiliation" and mistreatment of medical students in clinical rotations: a pilot study. *MJA*, 203, 185-185e.5. doi: 10.5694/mja15.00189
- Sedden, M. L., & Clark, K. R. (2016, July/August). Motivating students in the 21st century. *Radiologic Technology*, 87(6), 609-616.
- Smith, C., Swiwain, A., & Penprase, B. (2011, August). Congruence of perceived effective clinical teaching characteristics between students and preceptors of nurse anesthesia programs. *AANA Journal*, 79(4), S62-S68.
- Stoddard, H. A., & O'Dell, D. V. (2016, April). Would Socrates have actually used the "Socratic method" for clinical training. *Society of General Internal Medicine*. doi: 10.1007/s11606-016-3722-2
- Wilkinson, S., Couldry, R., Philips, H., & Buck, B. (2013, January). Preceptor development: providing effecting feedback. *Hospital Pharmacy*, 48(1), 26-32. doi: 10.1310/hpj4801-26

