

Empowering Tomorrow's Anesthesia Leaders: Educating High School Students on the Certified Registered Nurse Anesthetist Career Pathway

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Background

- Certified Registered Nurse Anesthetists (CRNAs) are integral to healthcare delivery as they have provided high-quality, anesthesia services for the past 150 years¹
- Despite their essential nature, a staggering shortage of anesthesia providers remains²
 - An estimated five billion people lack access to safe surgical and anesthesia care worldwide^{3,4}
 - Domestic hospitals and recruiting firms continue to report the demand for anesthesia providers significantly exceeds supply²
 - A lack of qualified anesthesia providers affects clinical operations, care quality, and patient access to care²
 - Poses a financial concern to United States-based health systems, where surgical services account for the bulk of hospital revenue²
- Despite the shortage of anesthesia providers, a gap exists in public knowledge pertaining to anesthesia practice and the responsibilities of the providers specializing in the field⁵
- Through the delivery of an interactive presentation to high school students in the greater Milwaukee metropolitan area, the present knowledge gap can be mitigated, and students will be encouraged to consider nurse anesthesia as a future profession



Guiding Questions for Project Development

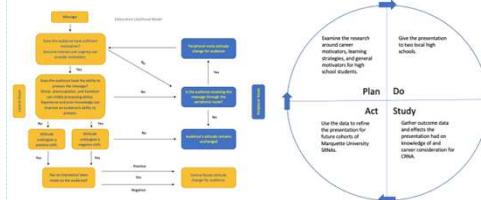
- Among high school students, does participating in an interactive educational presentation on the role and career pathway of CRNAs improve understanding of and interest in pursuing the profession?
- What are the characteristics of the most effective presentation delivery model to increase high school students' interest in nurse anesthesia careers, based on existing evidence?

Project Aims

- **To increase awareness of the nurse anesthesia profession:**
 - ≥ 80% of students demonstrating improved knowledge about the CRNA profession
- **To increase the interest of students in pursuing a career as a CRNA:**
 - ≥ 20% increase from baseline total interest in pursuing a career as a CRNA
- **Students will continue to show interest in the specialty:**
 - ≥ 15% of students access the online resource provided during the presentation within 30 days of delivery
- **To establish a presentation framework for future SRNAs to utilize in the future**

Project Theory & Framework

Elaboration Likelihood Model Plan Do Act Study Framework



- Elaboration likelihood model (ELM) is a theory of persuasion that classifies processing of information through either central or peripheral routes⁶
 - Central route processing is theorized in individuals with pre-existing interest
 - Peripheral route processing is theorized in those with little initial interest
- Plan-Do-Study-Act (PDSA) is a framework to evaluate the success of our project and guide the implementation of future refinement⁷



Project Design

- Quasi-experimental approach with a pre- and post-assessment design
- PowerPoint presentation that includes:
 - Basic explanation of anesthesia practice
 - Define and explain the role of the CRNA, including responsibilities and scope
 - Outline educational and career pathway
 - Discuss career outlook
 - Introduction to anesthesia tools
- Hands-on demonstration that includes:
 - Mannequins to practice bag-mask-ventilation and airway placement
 - Butterfly ultrasound to identify the radial artery

Implementation

- **Partnering Schools:**
 - Dominican High School (Whitefish Bay, WI)
 - Germantown High School (Germantown, WI)
- **Population Identification & Recruitment Procedures:**
 - High school students were selected as the population of interest because this developmental period often serves as a time of individual discovery and career exploration
 - Presentations will be delivered to a convenience sample of students in Grades 9-12
 - Presentations will occur during either the lunch hour (Dominican) or Resource Period (Germantown)
- **Data Collection Tools:**
 - Pre- and post-assessment surveys delivered before and immediately following the educational presentation

Pre-assessment	Post-assessment
1. I am interested in learning more about the CRNA profession. 2. I would like to know more about the education and career path of a CRNA. 3. I am interested in the hands-on activities included in the presentation. 4. I am interested in the role of a CRNA in the healthcare system. 5. I am interested in the responsibilities of a CRNA. 6. I am interested in the scope of practice of a CRNA. 7. I am interested in the career outlook for CRNAs. 8. I am interested in the educational pathway for CRNAs. 9. I am interested in the basic explanation of anesthesia practice. 10. I am interested in the definition and explanation of the role of a CRNA.	1. I am interested in learning more about the CRNA profession. 2. I would like to know more about the education and career path of a CRNA. 3. I am interested in the hands-on activities included in the presentation. 4. I am interested in the role of a CRNA in the healthcare system. 5. I am interested in the responsibilities of a CRNA. 6. I am interested in the scope of practice of a CRNA. 7. I am interested in the career outlook for CRNAs. 8. I am interested in the educational pathway for CRNAs. 9. I am interested in the basic explanation of anesthesia practice. 10. I am interested in the definition and explanation of the role of a CRNA.

- **Additional Considerations:**
 - Rights of the students will be protected through an informed consent procedure and anonymizing surveys
 - Parental consent procedures will occur in accordance with the implementation sites
 - Coordination will occur with the Marquette University College of Nursing Simulation Lab to borrow simulation equipment for the hands-on demonstration
 - Presentations will be completed in Oct/Nov 2024
 - Framework of the presentation will be provided to the Marquette University Nurse Anesthesia class of 2027 to potentially continue the project

Conclusions

- **Significance:**
 - Micro: Encourage and inspire students to pursue a career as a CRNA
 - Meso: Build sustainable relationships with local high schools and representatives of the CRNA profession
 - Macro: Increase the number of students who pursue the profession, thereby improving access to care
- **DNP Essential I:** Scientific underpinnings of Practice: Providing students with a scientific understanding of key components of the CRNA profession
- **MU DNP Program Outcome:** Analyzing and applying models, theories, and scientific evidence to improve the quality of health care of diverse populations

References

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