

Peer-to-Peer Teaching: An Innovative Strategy to Enhance Airway Simulation Education through Building Relationships Among Cohorts

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Presentation Objectives

- Describe the benefits of peer-to-peer learning during simulation education
- Verbalize the format of the peer-to-peer pilot program
- Describe program outcome measures



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Problem Background

- Innovation in Nurse Anesthesia Education
 - Peer-to-peer (P2P) learning is proposed as a dynamic strategy to augment knowledge dissemination and skill development.
 - Traditional instructional model in Marquette University's (MU) Nurse Anesthesia Educational Program (NAEP) could benefit from integration of P2P program.
- P2P as a Means of Peer Support
 - Chipas et al. (2012) found high stress levels among SRNAs, with many reporting depression and suicidal ideation
 - Peer support identified as potential solution to promote mental well-being
 - P2P learning aims to enhance relationship-building and consequently peer support within MU NAEP
- Population
 - Marquette SRNAs
 - GY25 as pilot peer teachers (PTs), GY 27 as pilot peer learners (PLs)



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Purpose Statement and Aim

- **Purpose Statement:** to implement an effective, sustainable Peer-to-Peer (P2P) learning program within the Marquette University NAEP to enhance nurse anesthesia skill development and build cross-cohort relationships in support of SRNA wellness.
- **Aim:** to utilize the P2P learning program as a means of supplementing the didactic preparation of students and foster the mental health of Marquette SRNAs as measured by pre- and post-intervention surveys



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Project Objectives

- **Peer Teachers (PTs):**
 - 50% increase in self-ratings of teaching effectiveness as measured by pre- and post-implementation surveys
 - 50% increase in "sense of belonging" as part of MU NAEP
- **Peer learners (PLs):** Volunteer third-year SRNAs from GY2025
 - 30% reduction in reported anxiety surrounding simulation skill performance focused on airway management
 - 50% increase in confidence in simulation skill performance
 - Neutral or positive ratings of P2P efficacy compared to faculty-led sessions alone
 - 50% increase in ratings of peer support
 - 50% increase in "sense of belonging" as part of MU NAEP
- Plan is for design of 12-month P2P program if pilot shows added value



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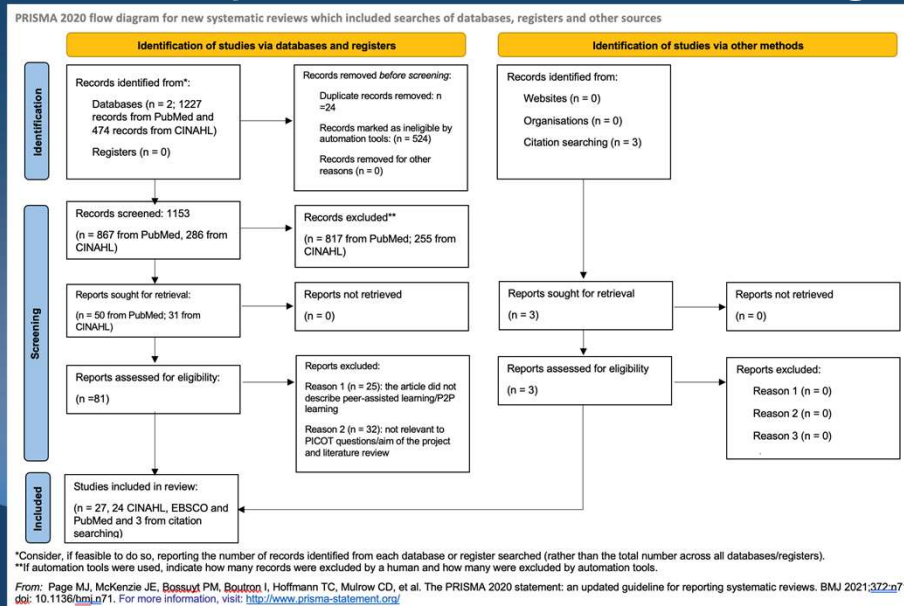
Literature Synthesis

- Used PubMed, CINAHL, and EBSCO for search
- Search terms: peer learning, peer-assisted learning, peer teaching, peer instruction, nursing education, mentor, teaching assistant
- Full-text English language studies published between 2014 and 2024 describing peer learning examined
- 27 articles in total, between initial searches and citation searching, included in literature review
- Literature reviewed was from multidisciplinary health sciences
 - Nursing, PA, medical, dental education



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Literature Synthesis: PRISMA Flow Diagram



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Evidentiary Support

- Common theme: outcomes associated with PT were positive
- **PTs**: reported enhanced confidence in teaching skills and content mastery; ability to practice teaching skills in a safe environment
- **PLs**: broadly reported reduction in anxiety in learning simulated skills; peers more approachable than faculty
- Mutual learning occurred between PTs and PLs
- Zhang et al. (2022): systematic review of 33 RCTs; peer teaching had a significant effect on procedural skill development; peer teaching effectiveness comparable to faculty-led teaching
- Largely hands-on settings, facetime involved
 - How we were guided to simulation time for implementation setting

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Methodology

- **Design:** Pre-/post-test design with convenience sample of 14 GY2027 SRNAs as PLs and 4 volunteers from GY2025 SRNAs as PTs.
- **Implementation methods:** GY2027 briefed on the project on Orientation Day August 2024
 - P2P program will occur within the skills/simulation curriculum over 6 sessions
 - PTs from GY2025 will volunteer to serve as PTs for skills/simulation sessions
 - PLs will receive pre-survey before P2P and post-survey at conclusion of P2P pilot
 - PTs will receive pre-survey before their session and at conclusion of the session
- **Population recruitment procedures:** convenience sample of GY2027 SRNAs (14) and GY2025 SRNAs (4)
 - PT volunteers in good academic standing with MU NAEP
 - All PTs from GY2025 will complete virtual review of session content with course faculty prior to session

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Simulation Session Content

Date	Simulation Topic	Student Peer Teacher
9/5	Airway- DL mechanics	Ridgeway & Brune
9/19	Airway- VL	Ridgeway & Brune
9/26	Airway- LMA	Brune & Volunteer PTs
10/10	Airway Scenarios- Basic Induction Sequence	Ridgeway & Volunteer PTs
10/31	Airway Assessment, Preoperative Assessment, Basic Induction Medications (Fentanyl, Lidocaine, Propofol, NMB: Rocuronium & Succinylcholine)	Brune & Volunteer PTs
11/14	Airway Assessment, Preoperative Assessment, Induction Medications (Same as above)	Ridgeway & Volunteer PTs

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Data Collection Tools

- Qualitative surveys of a combination of Likert-style questions and open-ended questions
- Designed to solicit GY2025 PTs and GY2027 PLs for overall attitudes towards P2P program, perceived program effectiveness, and program's impact on SRNA wellness/inter-cohort relationships
- PT post-implementation survey includes Tutor's Teaching Experience Questionnaire by Brannagan et al. (2013)
- PL post-implementation survey includes Clinical Teaching Preference Questionnaire by Williams et al. (2012)
- Surveys designed, disseminated and analyzed using Marquette University Qualtrics platform
- Analysis to date

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Conclusions and Sustainability

- P2P Learning demonstrated to be effective in medical education literature
- Positive experiences with program sessions to date
- Sustainability will depend on future MU senior SRNAs and faculty seeing benefit in continuation of the P2P Learning program and focusing time and effort on the program's continuation
 - Session information and any resources created for pilot project will be kept and passed down to aid continuation of the program

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References

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