

# Health Professions Education Institute (HPEI)

**Title:** Online Quality Improvement Simulation

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## **CURRICULAR INNOVATIONS**

*Problem/Needs Assessment:* Bachelor of Science in Nursing-Doctor of Nursing Practice, Nurse Anesthesia(BSN-DNP-NA) students participate in online learning during their first year of matriculation and complete a practice-based capstone project by graduation. A pre-quality improvement(QI) simulation survey revealed that 47% of the incoming 2021 BSN-DNP-NA students had not taken a prior QI course and 60% had not participated in a QI initiative. An online opportunity to learn/practice using QI methodology was needed.

*Program Objectives:* Provide an online experience for BSN-DNP-NA students to learn/practice QI methodology in preparation for capstone projects/future career goals.

*Description of Program:* Materials for an in-person simulation(Worsham et al., 2018) were converted to online in the Articulate RISE platform. Students began in Canvas-Learning Management System with provided informational video and QI methodology articles,(Adams, 2018; Backhouse & Ogunlayi, 2020; Harel et al., 2016; McQuillan et al., 2016; Silver, Harel, et al., 2016; Silver, McQuillan, et al., 2016; Weekes et al., 2018) then accessed the simulation in Articulate RISE from a link. Although students were provided the same scenario, they could choose additional information based on Plan-Do-Study-Act results and run chart data as they progressed through the scenario. Students completed three Plan-Do-Study-Act cycles with deliverables at set intervals, including a fishbone diagram, impact/feasibility chart, key driver diagram and three Plan-Do-Study-Act cycle forms.

*Evaluation/Assessment:* Pre/post-survey in REDCap(Harris et al., 2009) and course evaluations were administered, as well as a WebEx meeting with students for qualitative data. Fifteen BSN-DNP-NA students participated in the simulation. Pre-module 93%/post-module 100% of students thought using QI principles could be effective in improving medical care, education and processes at work. Pre-module 73%/post-module 86% were confident to

develop a QI project; whereas pre-module 67%/post-module 93% were confident to implement a QI project. All students found the simulation helpful in understanding QI, positively affected their interest in pursuing QI in their career and 93% were likely to use QI principles to address work problems. In an open-ended question in the course evaluation, 33% respondents specifically identified QI modules as a helpful topic/experience. Notable student comments during the WebEx meeting were, “this has been my favorite assignment so far,” “this was a great platform to learn QI methodology” and “I was surprised at how much creativity it required.”

*Conclusions and Lessons Learned:* This simulation experience successfully changed students' views on the effectiveness of QI, increased confidence to develop/implement QI projects and increased interest in using QI in future careers. The challenge we encountered was in the design/complication of using two platforms to provide the simulation experience/place for students to submit assignments. The next iteration will require less movement between the two platforms.

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