

Nursing Education Research Conference 2020

Design Thinking for BSN Honors Students: Building Collaborative Skills for Innovative Problem-Solving

Nancy P. Wingo, PhD

Allison R. Jones, PhD

Janet Brown, MSN

Sigrid L. Ladores, PhD

School of Nursing, University of Alabama at Birmingham, Birmingham, AL, USA

Purpose:

Nurses must learn how to address clinical challenges in collaborative and innovative ways. Many new nurses experience difficulties in transitioning from mastery of individual clinical skills to daily interactions with a multi-disciplinary team using effective communication and creative problem-solving (Huston et al., 2018). To address this issue, four multi-disciplinary instructors integrated a human-centered design thinking (DT) process into an undergraduate nursing Honors course to encourage the use of innovation and collaboration for clinical problem-solving (Roberts, Fisher, Trowbridge, & Bent, 2016). The goal was to teach students to work together in teams using a five-step process of DT (empathize, define, ideate, prototype, test) and evaluate their attitudes towards this method of collaboration for problem-solving (Banerjee & Gibbs, 2016). Course instructors modeled collaborative innovation and teamwork, and promoted team-based problem-solving (Wosinski et al., 2018). The DT intervention included assignments requiring students to: 1) interview patients and clinicians to gain empathy, 2) explore clinical problems, and 3) work in teams to identify possible solutions.

Methods:

To evaluate students' attitudes towards DT as collaborative innovation, researchers used a qualitative approach emphasizing how students learn through interaction with others (Creswell & Poth, 2018). On the first day of class, pre-test surveys were distributed to 23 students with questions about how students defined innovation, generated new ideas, approached problem-solving, and worked in teams. On the last day, post-test surveys were distributed with questions about students' future approaches to problem-solving, changes to their ideation process, and attitudes about teamwork. Responses were uploaded into NVivo Pro 11. Two researchers independently performed descriptive and pattern coding to determine themes, and the entire research team met to gain consensus (Miles, Huberman, & Saldana, 2014).

Results:

Response rates for the pre- and post-test surveys were 91% and 87%, respectively. Four themes emerged from student pre- to post-responses. First, students transitioned from defining innovation as either a *noun* or *adjective* related to change, to defining innovation as a *verb*, referring to the DT process. Second, students initially approached problem-solving by seeking the advice of others, using available resources, or stepping away to reflect on the issue, but they shifted to *collaborating with others* to identify potential solutions. Third, students moved from generating new ideas spontaneously or working to find a single solution to being *more confident* in collaborating with others and not fearing failure. No notable differences were noted in overall attitudes towards working in teams. However, students revealed the benefits of learning others'

perspectives and ideas but also noted challenges in workload distribution among teams, conflicts in team dynamics, and issues with coordination of activities.

Conclusion:

The first semester of implementing DT revealed that undergraduate nursing students could learn to view innovation as a process and become more emboldened to work with others to solve clinical problems. Although they did not show drastic attitude shifts regarding teamwork, students became more open to collaboration. Future research is needed to evaluate the impact of DT training on student nurses' transition to professional practice and approach to problem-solving in the multi-disciplinary clinical setting.

Title:

Design Thinking for BSN Honors Students: Building Collaborative Skills for Innovative Problem-Solving

Keywords:

BSN students, collaborative problem-solving and design thinking

Abstract Summary:

Can using design thinking as a process help BSN students become better at collaborating for problem-solving? This presentation describes qualitative research that showed changes in BSN students' perspectives about innovation and collaboration during a course that required students to use design thinking to find solutions to clinical problems.

References:

- Banerjee, B., & Gibbs, T. (2016). Teaching the innovation methodology at the Stanford d.school. In B. Banerjee & S. Ceri (Eds.), *Creating Innovation Leaders* (pp. 163-174). Heidelberg, NY: Springer, Cham.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage.
- Huston, C. L., Phillips, B., Jeffries, P., Todero, C., Rich, J., Knecht, P., Sommer, S., & Lewis, M. P. (2018). The academic-practice gap: Strategies for an enduring problem. *Nursing Forum*, 53(1), 27-34. doi:10.1111/nuf.12216
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.
- Roberts, J. P., Fisher, T. R., Trowbridge, M. J., & Bent, C. (2016). A design thinking framework for healthcare management and innovation. *Healthcare (Amsterdam, Netherlands)*, 4(1), 11-14. doi:10.1016/j.hjdsi.2015.12.002
- Wosinski, J., Belcher, A. E., Durrenberger, Y., Allin, A. C., Stormacq, C., & Gerson, L. (2018). Facilitating problem-based learning among undergraduate nursing students: A qualitative systematic review. *Nurse Education Today*, 60, 67-74. doi:10.1016/j.nedt.2017.08.015

First Primary Presenting Author

Primary Presenting Author

Nancy P. Wingo, PhD
University of Alabama at Birmingham
School of Nursing
Assistant Professor and Director of Instructional Innovation
Birmingham AL
USA

Author Summary: Nancy Wingo, PhD, is an Assistant Professor and Director of Instructional Innovation at the University of Alabama at Birmingham School of Nursing. She has taught for 25+ years in various fields, including Nursing Education and English. Her research focuses on educational innovation, design thinking, and gamification. She has presented her research at international and national conferences, including the American Educational Research Association, the American Association of Colleges of Nurses, and the National League for Nursing.

Second Secondary Presenting Author

Corresponding Secondary Presenting Author

Allison R. Jones, PhD
University of Alabama at Birmingham
School of Nursing
Assistant Professor
Birmingham AL
USA

Author Summary: Dr. Allison Jones is co-director of the UAB School of Nursing Honors Program, working with BSN students who aspire to obtain doctoral degrees. She is known for her work with critically injured trauma patients who receive blood transfusions. She is also active in community health issues, working to promote Stop the Bleed education in the Birmingham area. Dr. Jones is certified as a Clinical Nurse Specialist in Adult Acute Care and in Patient Blood Management.

Third Secondary Presenting Author

Corresponding Secondary Presenting Author

Janet Brown, MSN
University of Alabama at Birmingham
School of Nursing
Graduate Teaching Assistant
Birmingham AL
USA

Author Summary: Janet Brown, MSN, is pursuing a PhD at the University of Alabama at Birmingham School of Nursing. She has over 25 years of experience as a pediatric nurse and is currently serving as a graduate assistant for the UAB School of Nursing Honors Program.

Fourth Secondary Presenting Author

Corresponding Secondary Presenting Author

Sigrid L. Ladores, PhD

University of Alabama at Birmingham

School of Nursing

Associate Professor

Birmingham AL

USA

Author Summary: Dr. Sigrid Ladores is a PhD-prepared pediatric nurse practitioner and nurse educator with 20 years of experience. She is the co-director of the UAB Honors Program, working with BSN students who aspire to doctoral degrees. She is an emerging leader in the area of reproductive health issues in cystic fibrosis. She has presented her research in international, national, regional, and state conferences.