Enhancing systems thinking for undergraduate nursing students using the 'Friday Night at the ER' (FN@ER) simulation.

THE UNIVERSITY of NORTH CAROLINA GREENSBORO
School of Nursing

Peggy A. Trent, DNP, RN; Cynthia Thornton Bacon PhD, RN, CNE; Thomas McCoy, PhD, PStat

References:

American Association of Colleges of Nursing. (2008). *The essentials of baccalaureate education for professional nursing practice.* Retrieved from: www.aacn.nche.edu

McCulloch, P., Rathbone, J. & Catchpole, K. (2011). Interventions to improve teamwork and communications among healthcare staff. *British Journal of Surgery, 98*(4): 69-479.

Background

- The complexity of health care systems requires interdisciplinary teamwork (McCulloch, Rathbone & Catchpole, 2011)
- Nurses need an understanding of systems thinking to function effectively in this environment.
- Nurses must possess basic organizational and systems leadership skills to provide high quality health care (AACN, BSN Essential II, 2008).
- FN@ER simulates the challenges of a complex hospital environment.

Purpose/Goal/Aim

- To engage undergraduate students in simulated complex problem solving.
- To assess for changes in their self-perceived critical and systems thinking skills.
- To assess application of the 6 QSEN competencies.

Methods

- Pre-licensure (*n*=104) and RN-to-BSN (*n=60*)
- Students participated in the 'FN@ER'
- Simulated the challenges of managing 24 hours in a hospital.

Pre/Post

- Systems Thinking Scale (STS)
- QSEN Competency

Measurements
STS

- STS score – 20 items (α =0.91)
- Person Effort subscale – 7 items (α=0.67)
- Reliance on Authority subscale – 10 items (α=0.75)

QSEN Competencies

- 6 open-ended Questions

Linear and ordinal logistic GEE regression was used for the analysis.

Results

Systems Thinking Scale (STS)

Significantly higher average STS scores post-simulation (b = 3.24, 95% CI for b = [1.76, 4.73], $p < 0.001$)

Significantly higher average scores on Personal Effort subscale post-simulation (b = 1.25, 95% CI for b = [0.71, 1.80], $p < 0.001$)

Significantly higher average scores on Reliance on Authority subscale post-simulation (b = 3.15, 95% CI for b = [2.48, 3.83], $p < 0.001$).

QSEN Competencies	Significance
Patient-Centered Care	*ns* *
Teamwork and Collaboration	*ns*
Evidence Based Practice	*ns*
Quality Improvement (QI)	*p=0.008*
Safety	*ns*
Informatics	*ns*

*ns=not significant

Students reported high levels of satisfaction with FN@ER.

Conclusions

- Nurse educators should consider using the FN@ER to challenge students' critical and systems thinking.
- Hospital nurse educators should also consider using the FN@ER to assist new graduate nurses transitioning to practice.
- FN@ER would be beneficial for practicing nurses developing leadership skills.