

# Simulation: Effects on Communication, Leadership, Clinical Reasoning, and Interprofessional Collaboration Skills in Nursing Students

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## Purpose

- To evaluate the effects of high fidelity simulation on baccalaureate nursing students' clinical reasoning, interprofessional collaboration, communication, and leadership skills

## Background

- Simulation is a teaching strategy that has been embraced by educators as a key teaching strategy when trying to connect theoretical concepts with clinical applications.
- It is crucial that educators offer experiences that foster the development of critical thinking and clinical reasoning skills.
- Simulation provides an avenue to construct learning opportunities, which a student may or may not experience in their educational journey.

## Research Question

What are the effects of a high fidelity, multi patient, interprofessional simulation on clinical reasoning; inter professional collaboration, communication, and leadership skills in nursing students?

## Design

- Study was mixed methods Pretest-Posttest design
- Jeffries Simulation Model (2005) guided simulation and debriefing

## Sample

Convenience sample of students enrolled in a senior Leadership in Nursing course

Sample size N = 90  
Age Range 20-29: 70  
Age Range 30-39: 14  
Age Range 40-49: 6  
Age Range 50-59: 0

## Tools

- Demographic Questionnaire
- Mayo High Performance Teamwork Scale,
- Interprofessional Collaborative Simulation Experience Tool
- Instructor designed NCLEX style 24 question exam
- ISBAR Interprofessional Communication Rubric (IICR)

## Data Analysis

- Data was analyzed using SPSS Version 22.
- Descriptive statistics describe the characteristics of the participants.
- Paired *t* tests were completed to illustrate statistical correlation between simulation and student performance and perceived leadership characteristics.
- Content analysis was used to analyze open-ended responses

Blessing-Rieman College of Nursing & Health Sciences Simulation Lab



## Simulation

This simulation included five patients in a hospital setting with a variety of complex health problems.

- Dissecting Abdominal Aortic Aneurysm
- Pancreatitis/ARDS
- ALS
- Atrial Fib
- Elderly Dementia Patient

Participants randomly select their role in the simulation.

- Charge nurse
- Registered nurse
- Licensed practical nurse
- Certified nurse assistant

Simulation was paused at a predetermined point and participants switched roles

## IICR

Identify, Situation, Background, Assessment, Recommendation Rubric

- Fall 2016/Spring 2017-**
- Mean Total Score 6.88/15
  - Low Score-*Background*-Mean 0.72/3
  - Assessment-0.94/3
  - High Score-*Identify*-Mean 2.28/3
- Spring 2016**
- Mean Total Score 7.52/15
  - Low *Recommendation and Background* - Mean Score 1.2/3.0
  - High Score-*Situation*- Mean Score 2.05/3.0

## Mayo High Performance Teamwork Scale

- 13/16** areas evaluated displayed an increase in Leadership characteristics Post-Simulation
- Greatest increase**
- Team members ask each other for assistance prior to or during periods of task overload. **Score: (Pre)1.5909- (Post)1.6705**
- Team Members shift roles in emergent situation. **Score (Pre) 1.5455 (Post) 1.618**

## Interprofessional Collaborative Simulation Experience Survey

- Simulation may improve my understanding of providing care for patients' with a variety of health conditions
  - M=.26136, SD= .86429) *t* (87) =2.85, p<.005
- Simulation influenced my *comfort level* in providing care to multiple patients' in a hospital setting
  - M=.30682, SD= 1.00981) *t* (87) =2.837, p= <.006

## Simulation Thoughts

### Improves Understanding

- 76% of participants felt that this simulation provided a canvas for teamwork, learning time management and prioritization skills
  - "It was great to work with a team of RN, LPN, UAP because we were able to delegate and prioritize with real life situations"
- 28% of participants felt overwhelmed and were unsure of roles
  - "It made me uncomfortable"

### Comfort Level

- 50% of participants report increased comfort level, more aware of roles, teamwork skills improved
  - "This simulation made me a little more comfortable with being part of a team because during clinical I don't utilize the other members of my team very much"
- 50% of participants report feeling less comfortable, anxious, nervous and stressed out
  - "Made me feel uncomfortable as an LPN"

### Understanding and problem solving skills

- 80% of participants report improved communication, collaboration, assessment skills and a better understanding of disease process
  - "Made me realize how much a detailed assessment plays a role on a patient health"
- 20% of participants report feeling less comfortable, anxious and stressed
  - "Feel less comfortable, I have a lot to learn, did not know how to explain tests, stressed me out"

### Collaboration Skills

- 87% of participants report simulation helped with collaboration, prioritization, learning to call physician, learning other roles and scopes of practice
  - "Better understanding of LPN role"
- 13% of participants report simulation left them feeling helpless when practicing in a different role and also felt that collaboration was difficult
  - "You feel helpless as a CNA"

## References

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