Effectiveness of High-Fidelity Simulation on improving student-confidence and self-satisfaction with SBAR Bedside shift report

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Non-Disclosure

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Objective of this presentation: To disseminate the findings of my DNP project.

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Introduction

- Ineffective hand off = adverse events

- AHRQ (2017): Engage patients in shift hand-off

- The SBAR communication tool

- High Fidelity Simulation (HFS) in nursing – a useful teaching-learning strategy

Problem Statement

Use of High-Fidelity Simulation (HFS)

  - to teach nursing skills *(Krautscheid, 2008)*

HFS and SBAR bedside shift report

  - Improve self confidence

  - Improve self satisfaction

Novice to Expert transition

Background of the Problem

- Bedside Nursing Report

  - A core nursing competency (QSEN, 2017)

- High Fidelity Simulation (HFS)

  - to learn clinical skills – bedside shift report

  - To practice critical thinking

  - Develop confidence and self-satisfaction

- SBAR training as nursing students

  - Alleviates fear and anxiety as novice nurses

Review of Literature Highlights

- Systemic literature search

- Key terms for searches included nurs*, "nursing education," simulat*, high-fidelity, "bedside report," SBAR, confidence, and satisfaction.

- Databases searched - CINAHL Plus, Medline (OVID), ProQuest, ProQuest Dissertation and the EBSCO host database

Statement of the Problem

- Effective communication during end-of-shift report

- SBAR bedside end-of-shift report

- HFS as a strategy for effective communication

- Lack of studies – HFS and SBAR bedside reporting

- Need for this project – to advance nursing practice

Purpose of the Project

- Quantitative
- Quasi-Experimental
- Intervention – High-Fidelity Simulation with SBAR Shift Report
- Outcome – Improved student satisfaction and self-confidence

Significance of the Project

- Providing safe, effective care
- Readiness to practice as new graduate nurse
- Increasing students' confidence and satisfaction
- Use of simulation in clinical
- Use of simulation in nursing education
- Help bridge the gap in knowledge

Research Question

1. Does participation in HFS improve student satisfaction while giving SBAR Bedside shift report compared to the students who participated in a traditional demonstration?

2. Does participation in HFS improve self-confidence while giving SBAR Bedside shift report compared to the students who participated in a traditional demonstration?

Research Question

3. Is there a relationship between student self-confidence and satisfaction with learning following HFS regarding SBAR bedside shift reporting?

4. Is there a change in student self-confidence with SBAR bedside shift reporting following HFS?

Hypothesis

H0: There is NO difference in the student satisfaction and self-confidence regarding SBAR bedside shift report among nursing students who received HFS vs a traditional demonstration.

H1: There IS difference in the student satisfaction and self-confidence regarding SBAR bedside shift report between the two groups.

Nature, Scope, and Limitations

- Nature
  - Scope:
    - Inclusion criteria
    - Exclusion criteria
  - Limitations
    - Sampling technique
    - Instrument
    - Time
    - Generalization of findings
  - Delimitations
    - Participant selection

Theoretical Framework

Jeffries Simulation Framework
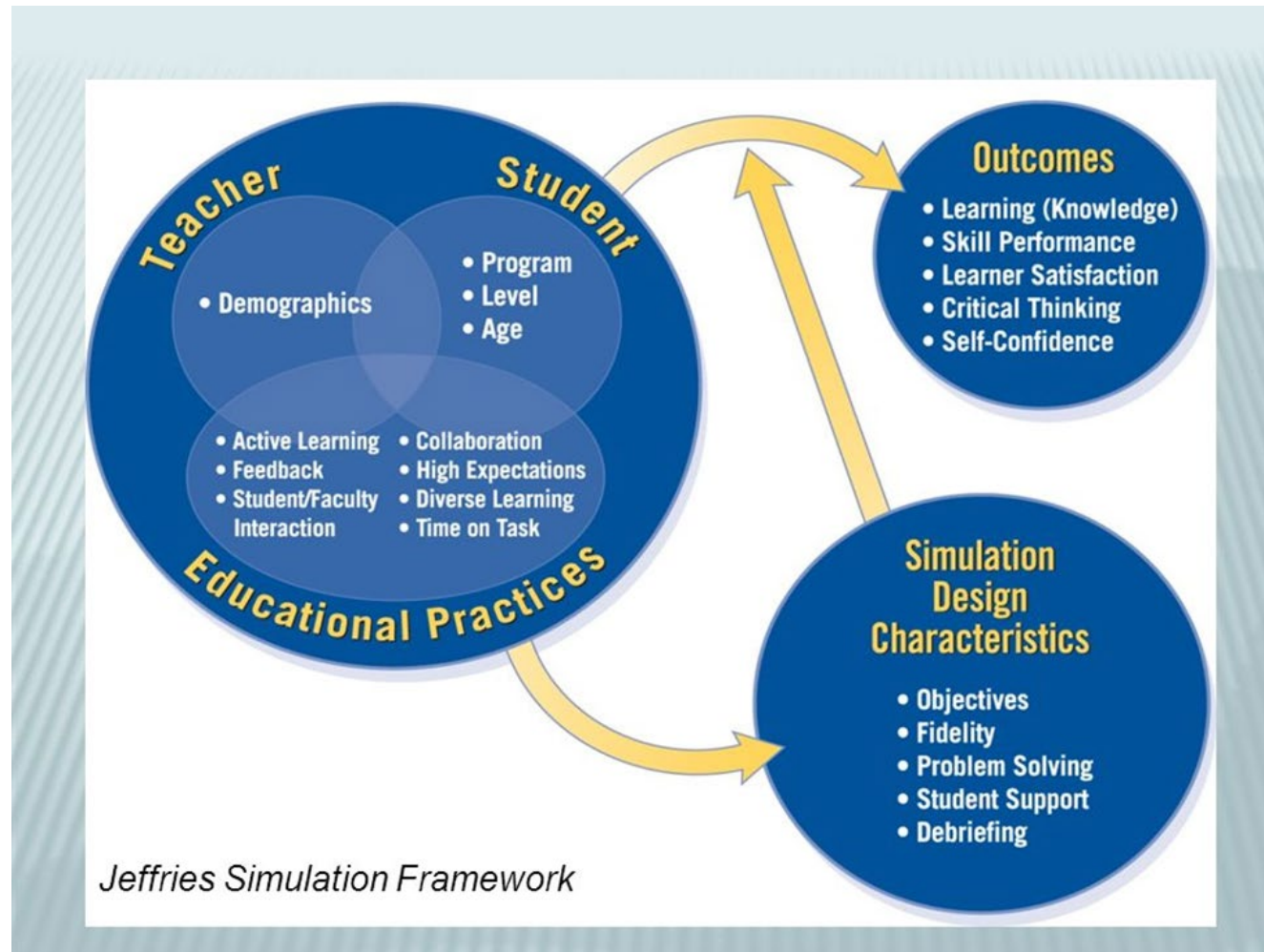
(Jeffries, 2005)

Project Design

- Quantitative study

- Quasi-experimental comparative Design
- Two groups – Experimental and comparative

Sample

- Target population
    - Nursing students

- Accessible population
    - Nursing students from the final semesters

Sample size – *Priori* Power Analysis

t tests - Difference between 2 independent means - two groups

Input: Tail(s) =   Two

Effect size d   =   0.8

α err prob =   0.05

Power (1-β err prob) =   0.80

Allocation ratio N2/N1   =   1

Output: Noncentrality parameter δ =   2.8844410

Critical t   =   2.0085591

Df   =   50

Sample size group 1 =   26

Sample size group 2 =   26

Total sample size =   52

Actual power   =   0.8074866

Instrumentation

Questionnaire:

- Part 1 - Demographic information
- Part 2 - NLN Student Satisfaction and Self-Confidence in Learning Scale (2005)
  - Permission to use NLN research tool.
  - Cronbach's alpha for student satisfaction .94/.87 in the study.
  - Cronbach's alpha for self confidence .87/.84 in the study.

(NLN, 2017)   **Transforming Health Care Through Education**

Project Sequence and data collection

- Permission from the institution
- Institutional Review Board approval
- Proxy selection
- Study description
- SBAR report form and video
- Consent and Intervention

Data Analysis Methods

Codebook Preparation

SPSS 23

Tests

Descriptive Statistics

- Non-parametric test

Mann-Whitney U test

Spearman's rho correlation co-efficient

Data Management Methods

- Confidential

- Five year time frame

- Destruction of data

Ethical Considerations

- Avoid coercion
- Respect
- Confidentiality
- Beneficence
- Justice

(Creswell, 2012; Tappen, 2016)

Internal and External Validity Threats

- Internal validity threats
  - Diffusion
- External validity threats
  - Hawthorne
  - Interaction of history and intervention effects

(Tappen, 2016;)

| Demographic Characteristic	Frequency	Percent	Cumulative Percent
Gender			
Female	50	82.0	82.0
Male	11	18.0	100.0
Age in years			
18 – 25	32	52.5	52.5
26 – 35	16	26.2	78.7
36 – 45	7	11.5	90.2
46 & above	6	9.8	100.0
Race and Ethnicity			
Caucasian	38	62.3	62.3
Hispanic	15	24.6	86.9
Asian / Asian American	4	6.6	93.4
Others	4	6.6	100.0
Previous experience with HFS			
1 – 2 previous HFS	11	18.0	18.0
3 – 4 previous HFS	18	29.5	47.5
5 – 6 previous HFS	32	52.5	100.0
Previous experience with patient care			
Yes	28	45.9	45.9
No	33	54.1	100.0
Post High School Education			
None after high school	2	3.3	3.3
Some college or trade school	15	24.6	27.9
Completed a degree or diploma	44	72.1	100.0

Results

Demographic Characteristics of the Sample

Results:

Mean Total Scale and Previous experience with High Fidelity Simulation

Error Bars: 95% CI
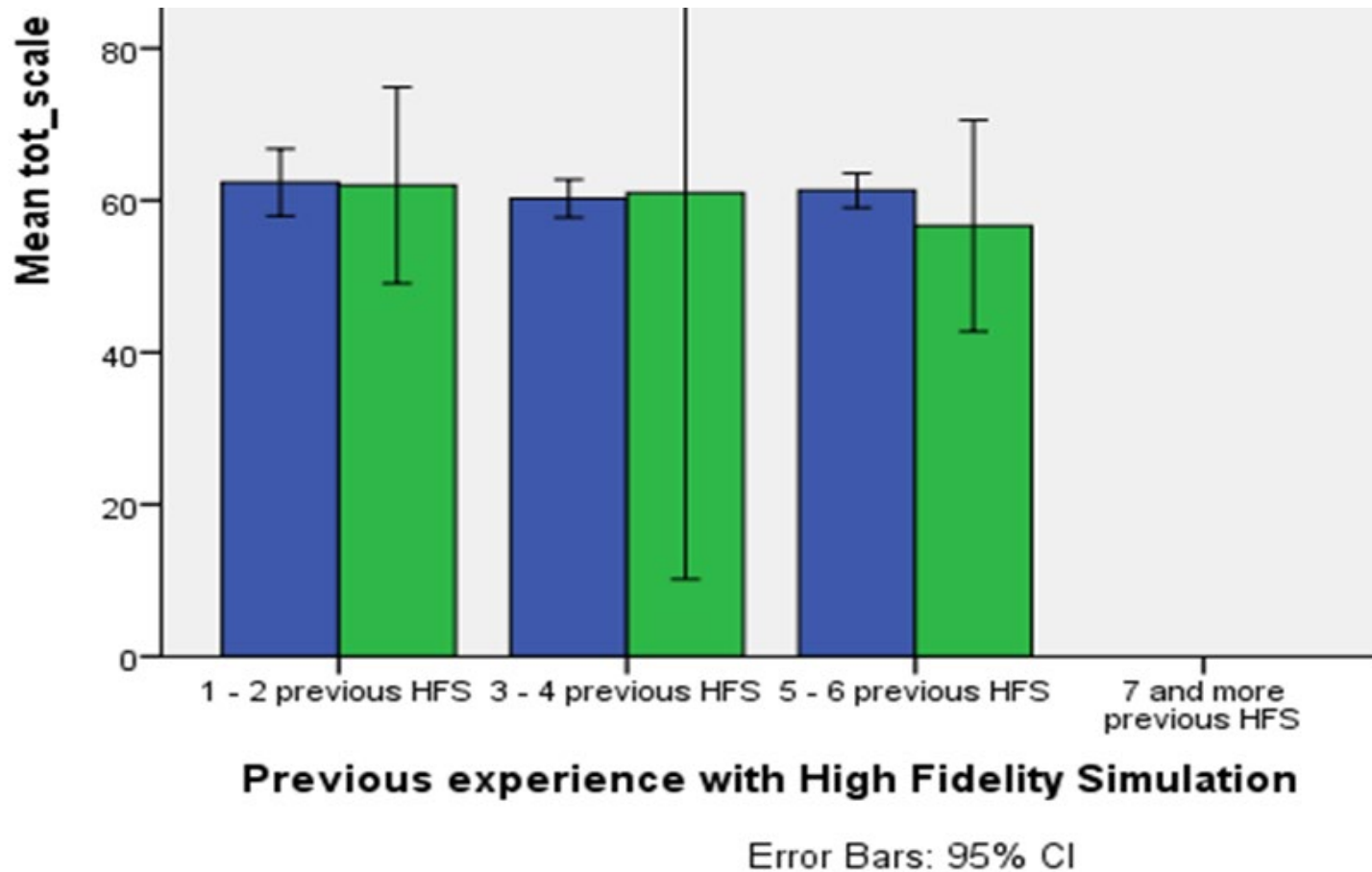
Results:

Mean Total Score and previous experience with patient care
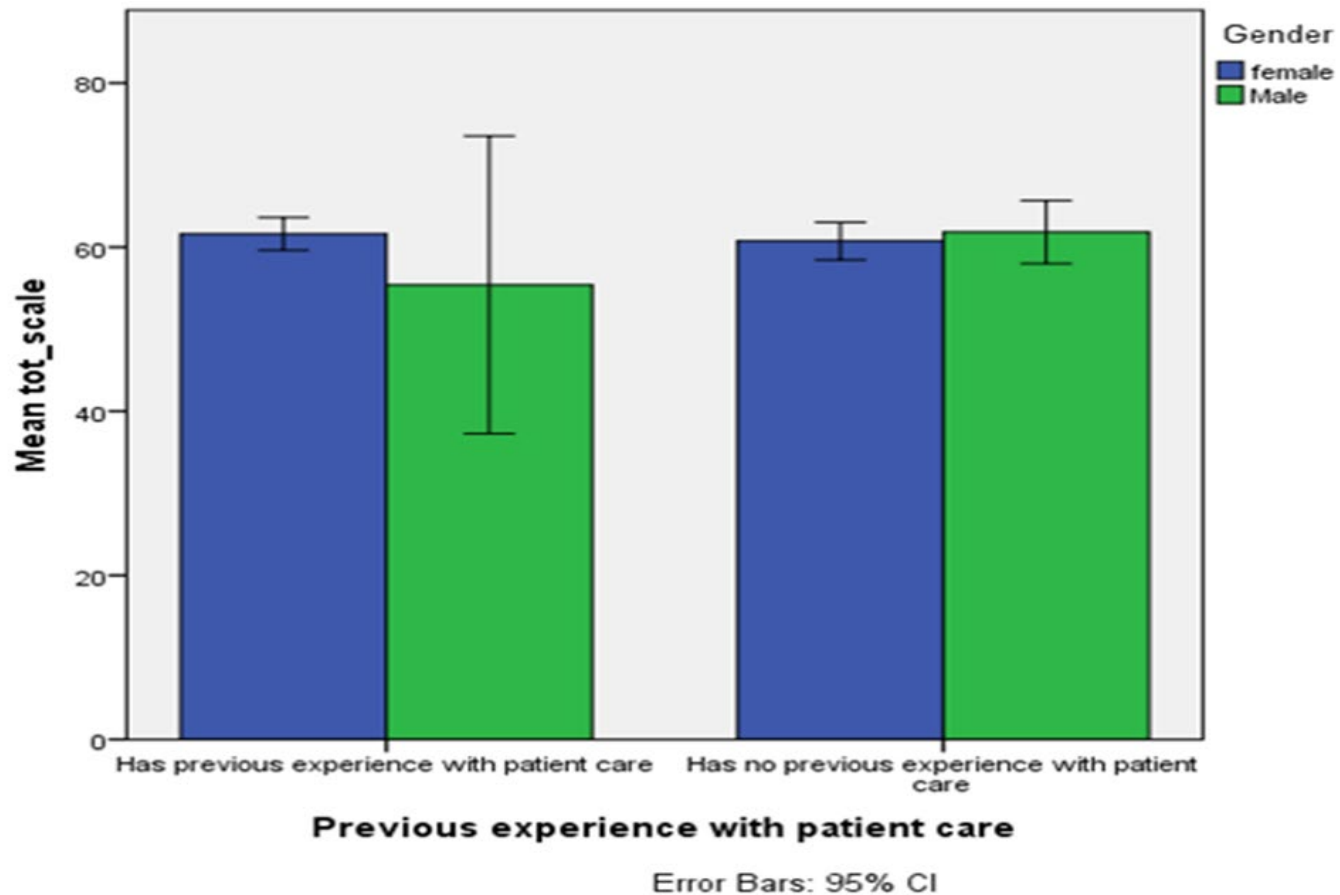
Results

Distribution of students according to their level of satisfaction with SBAR BSR before intervention

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Not at all satisfied	9	14.8	14.8	14.8
Somewhat satisfied	38	62.3	62.3	77.0
Moderately satisfied	14	23.0	23.0	100.0
Total	61	100.0	100.0	

Results

Distribution of students according to their level of self-confidence with SBAR BSR before intervention

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all confident with SBAR BSR	3	4.9	4.9	4.9
	Somewhat confident with SBAR BSR	41	67.2	67.2	72.1
	Undecided	1	1.6	1.6	73.8
	Moderately confident with SBAR BSR	14	23.0	23.0	96.7
	Highly confident with SBAR BSR	2	3.3	3.3	100.0
	Total	61	100.0	100.0	

Results: Project Question 1

- Is there a difference in satisfaction with learning between nursing students receiving a traditional skill demonstration and students participating in HFS experience when learning to give an effective SBAR bedside shift report?

Hypothesis Test Summary on level of student-satisfaction post intervention

Null Hypothesis	Test	Sig.	Decision
The distribution of tot_satis score is the same across categories of teaching methodologies	Independent – Samples Mann Whitney U Test	.548	Retain the null hypothesis.

Results: Project Question 2

Is there a difference in self-confidence with learning between nursing students receiving a traditional skill demonstration and students participating in HFS experience when learning to give an effective SBAR bedside shift report?

Hypothesis Test Summary on level of self-confidence post intervention

Null Hypothesis	Test	Sig.	Decision
The distribution of tot_conf score is the same across categories of teaching methodologies	Independent – Samples Mann Whitney U Test	.827	Retain the null hypothesis.

Results: Project Question 3

Is there a relationship between student self-confidence and satisfaction with learning following a demonstration vs HFS experience regarding SBAR bedside shift reporting?

There was a strong, positive correlation between the two variables, $r = .87$, $N = 61$, $p < .001$, with high levels of student-satisfaction associated with high levels of self-confidence with SBAR bedside shift report.

Results: Project Question 4

Is there a change in student self-confidence with SBAR bedside shift reporting following traditional vs HFS experience compared to their pre-strategy level?

Students who participated in either the simulation or the demonstration group were statistically more confident, $z = -6.79$, $p < .001$, with a large effect size ($r = .87$) and more satisfied, $z = -6.71$, $p < .001$, with a large effect size ($r = .86$) after the intervention.

Implications for nursing practice

1. Advocates of disseminating and influencing change, SBAR BSR with every HFS

2. Curriculum changes

3. Effective transition

4. Change agent

5. SBAR & Effective communication

Recommendations

1. Longitudinal study
2. Students from all semesters
3. Different educational settings
4. Larger sample size
5. Standardized script
6. Observational study

Limitations

1. Only participants from the last two blocks
2. Bias related to self-reporting
   - Non-response bias
   - Inaccurate response
   - Memory bias
3. Convenience sampling technique

Conclusions and Contributions to the profession of Nursing

1. Student satisfaction with learning positively affects self-confidence.

2. Deliberate practice in a safe environment improves student satisfaction and self-confidence.

3. A training video followed by HFS is an effective teaching tool for SBAR bedside reporting.

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