The Impact of Simulated Learning Experience Sequencing on Clinical Decision Making

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Objectives

1. Describe ways to sequence simulation learning experiences in relation to hospital learning experiences.
2. Identify instruments used to assess nursing students’ perception of clinical decision making, self-confidence and anxiety in relation to clinical decision making.
3. Recognize ways to improve clinical decision making and self-confidence among nursing students.
4. Discuss how using simulation learning experiences can decrease anxiety among nursing students.

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Clinical Decision Making

• Clinical decision making (CDM) is a complex process involving information processing, critical thinking, evaluating evidence, applying relevant knowledge, problem-solving skills, reflection, and clinical judgment to select the best course of action which optimizes a patient’s health and minimizes any potential harm (Standing, 2007).

• CDM improves nursing practice
  o Decline in medication errors (Dickson & Flynn, 2012)
  o Ability to recognize a change in patient status (Parker, 2014)
  o Increase in patient safety (Weiner et al., 2013)

Simulated Learning Experiences (SLE)

SLE Facilitates Integration of Learning from:
- Didactic theory courses
- Skills laboratory
- Experiences in the clinical practicum (Lasater, 2007)

SLE Improves Nurses:
- Practice Knowledge (Shinnick & Woo, 2015)
- Critical thinking (Jeffries, 2012)
- Problem solving (Meakim et al., 2013)
- Skills performance (Lamb, 2007; Lynagh et al., 2007)

Purpose

Identify if there are differences in nursing students’ perceptions of CDM, self-confidence, and anxiety based on the sequencing of SLE comparing:

- S (Simulation) - H (Hospital) group: SLE followed by hospital-based learning experiences (HLE)
- H (Hospital) - S (Simulation) group: HLE followed by SLE
Specific Aims

1. Are there differences in CDM between the H-S and S-H groups over time?
2. Are there differences between the H-S and S-H self-confidence during the CDM process over time?
3. Are there differences between the H-S and S-H in anxiety during the CDM process over time?

Theoretical Framework


Design and Method

• Quasi-experimental design comparing
  o CDM
  o CDM-related self-confidence
  o CDM-related anxiety

  Based on the sequencing of SLE and HLE

Data Collection

• Pre-Practicum
  o Demographics
  o The Clinical Decision Making in Nursing Scale (CDMNS) Cronbach’s α 0.83
  o The Nurse Anxiety and Self-Confidence with Clinical Decision Making (NASC-CDM)
    Cronbach’s α for self-confidence 0.97 and anxiety 0.96

• Post-Practicum
  o CDMNS
  o NASC-CDM

Study Participants

• N = 117 Students
  o Junior Level Medical-Surgical Practicum
  o 68 Traditional Undergraduate (UG)
  o 49 Generalist Entry Masters (GEM)
  o 91% Caucasian
  o 111 Females, 6 Males
  o Mean age 22
Data Analysis

- T-test
  - To assess differences between UG and GEM students
    - CDHNS and NASC-CDM
- Chi-Square Test
  - To assess differences between group demographics
    - Gender, ethnicity, academic program, work experience
- Repeated Measures ANOVA
  - To determine within and between group differences in scores on CDHNS and NASC-CDM

Results: Demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Simulation-Hospital</th>
<th>Hospital-Simulation</th>
<th>χ²</th>
<th>p</th>
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<tbody>
<tr>
<td>Age</td>
<td>21 (12.18)</td>
<td>22.3 (2.60)</td>
<td>2.79</td>
<td>.10</td>
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<tr>
<td>Gender</td>
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<td>53 (91.4)</td>
<td>8.2</td>
<td>.37</td>
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<td></td>
<td>Male: 2 (3.3)</td>
<td>4 (7.0)</td>
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<tr>
<td>Ethnicity</td>
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<td>50 (88.3)</td>
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<td>.52</td>
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<td>Other: 4 (6.7)</td>
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<td>Academic Program</td>
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<td></td>
<td>GEM: 15 (25.0)</td>
<td>34 (59.6)</td>
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<td>Experience</td>
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<td>8 (14.4)</td>
<td>1.16</td>
<td>.29</td>
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<td>Intern/Extern: 1 (1.6)</td>
<td>1 (1.8)</td>
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Baseline Analysis

- No significant differences among study variables at baseline between the type of student
  - GEM vs UG

Study Aim 1

- Clinical Decision Making

Study Aim 2

- Self-Confidence with Clinical Decision Making

Study Aim 3

- Anxiety with Clinical Decision Making
Findings

• The sequencing of learning experiences did not result in differences in perceived CDM, self-confidence or anxiety with CDM at the completion of the semester.

Discussion

• One semester in a HLE or SLE may not be enough to improve CDM.

• S-H students may have had an inflated sense of CDM-related self-confidence:
  o Group had a higher percentage of UG.
  o Caring for simulated patients.

• S-H students may have had a significant decrease in anxiety with CDM:
  o Caring for simulated patients prior to hospitalized patients.

Impact on Nursing Education

• A sequenced simulation and hospital practicum may be an alternative to address current barriers for clinical placements.

• SLE prior to HLE may have decreased anxiety and increased self-confidence:
  o May enable students to learn better and improve clinical performance.

Study Limitations

• First semester with a revised curriculum:
  o Sequenced SLE/HLE.

• First course incorporating sequenced SLE:

• Non-diverse sample.

• Use of all self-report instruments:
  o Potential for recall.
  o Socially desirable answers.
  o No objective measures.

• Unequal distribution of GEM vs UG.

Future Research

• Repeat this study:
  o Larger sample size.
  o Multiple sites.
  o Other populations.
  o Subsequent courses.

• Longitudinal measures throughout curriculum.

• Include an objective measure.

Questions

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• Longitudinal measures throughout curriculum.

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