The Impact of Critical Thinking upon Clinical Judgment during Simulation with Senior Nursing Students

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Problem

Confusion among nurse educators regarding which high quality student outcomes to facilitate in didactic, clinical, and simulation settings:

- Critical thinking
- Clinical reasoning
- Clinical judgment
Purpose

Examine the impact of components of critical thinking upon clinical judgment during a pediatric medication administration OSCE with senior-level nursing students.
Background/Significance

- Challenge: Radical transformation of nursing education (Benner, Sutphen, Leonard, & Day, 2010)

- Numerous interchangeable and overlapping definitions
  - Profetto-McGrath (2003): critical thinking: process of logical reasoning with prudent judgment
  - Pesut & Herman (1999): clinical reasoning: process of critical thinking, reflection, and creativity used to make judgments
Theoretical Framework

1. Clinical Judgment Model (Tanner, 2006)
   a) Noticing
   b) Interpreting
   c) Responding
   d) Reflecting
   e) Lasater Clinical Judgment Rubric (Lasater, 2007)

2. Neurodevelopment of critical thinking (McAnarney, 2008; Steinberg, 2008)
   • Guided choice of independent study variables
Methods

- **Sampling**
  - Convenience sample
  - 160 Senior 1 pre-licensure baccalaureate nursing students
  - Fall 2012 and Spring 2013 semesters
  - University ranks in nation’s top 10% for racial diversity

- **Research Design**
  - Quantitative descriptive correlational study
Methods: Independent Variables

Study Measures:

1. Student Demographic Survey
2. Tower of Hanoi (Welsh & Huizinga, 2001)
3. Health Science Reasoning Test (Insight Assessment, 2011)
Methods:

Dependent Variable

- Pediatric Medication Administration OSCE
  - Videotaped performances scored
  - Lasater Clinical Judgment Rubric
    - 11-items based on Tanner (2006) model
    - Perfect score = 44 points
    - 4 dimensions of effectiveness
      - Beginning
      - Developing
      - Accomplished
      - Exemplary
Results: Demographic Data

- 85% female
- Median age: 23 years (Range 20-62 yrs)
- Ethnicity:
  - 42% Caucasian
  - 25% Asian
  - 16% Hispanic
  - 11% African American
- GPAs: 2.5-3.0 (46%) & 3.0-3.5 (43%) 
- 49%: previous healthcare experience
Results: TOH & HSRT

- **Tower of Hanoi:**
  - Average 7 moves over minimum/task
  - Did better in earlier easier vs. later more complex tasks
    - >70% required 1-15 moves in Tasks 11-15

- **Health Science Reasoning Test**
  - Average score: 25.31 (out of total 38)
  - Induction highest scores (7.26)
  - Inference lowest scores (2.90)
Results:
Lasater Clinical Judgment Rubric

- Total scores: 30.74 (SD 2.41)
  - Out of possible 44 points
- Noticing: 8.60 (SD 1.07)
  - Out of possible 12 points
- Interpreting: 5.98 (SD 0.17)
  - Out of possible 8 points
- Responding: 10.41 (SD 1.52)
  - Out of possible 16 points
- Reflecting: 5.77 (SD 0.77)
  - Out of possible 8 points
Results: Regression Analyses

- 4 critical thinking variables predicted clinical judgment
  1. **Gender**: females scored higher than males
  2. **Ethnicity**: African Americans had significantly lower scores on LCJR
  3. **HSRT deduction score**: higher score predicted higher LCJR score
  4. **HSRT analysis score**: higher score predicted *lower* LCJR score
Implications for Nurse Educators

- Critical thinking and clinical judgment:
  - Need separate concise definitions
  - Small overlap between components
- Develop innovative teaching strategies to address predictors of clinical judgment
- Attention to gender and ethnicity
References

References


