The Effect of Evaluator Training on Reliability of High Stakes Assessment in Simulation: A Pilot Study

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Conflicts of Interest and Disclosures:

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Objectives

- Describe the need for evaluator training for high stakes assessment of student performance in simulation
- Describe a training intervention developed to prepare faculty for performance evaluation
- Discuss the results of the pilot study and implications for nursing education programs and future research
Background: Simulation

- A core nursing education strategy
- Used as teaching/learning strategy and for formative assessment
- More recently used for summative and high stakes assessment
  - NCSBN study (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014)
  - NLN study (Rizzolo, Kardong-Edgren, Oermann, Jeffries, 2015)
Evaluating Clinical Competence

• Readiness for practice determinations
  ▫ Is NCLEX-RN sufficient?
• NLN Fair Testing Guidelines (2012)
• Methods and tools
  ▫ OSCEs
  ▫ Nursing instruments (LCJR, CCEI, etc.)
• How do we ensure validity and reliability in high stakes assessment in simulation?
The Pilot Study

- Extension of the NLN High Stakes study
- What is the effect of (a) a training intervention and (b) faculty personality characteristics on faculty ability to achieve intra/inter-rater reliability when evaluating student performance during simulation?
- Conducted to test the training intervention and study procedures prior to a larger experimental study.
Definitions

• Simulation:
  ▫ the activity of having students perform a patient care situation using clinical judgment in a high fidelity environment (high realism, not necessarily highly sophisticated manikins).

• High stakes assessment:
  ▫ “an evaluation process associated with a simulation activity that has a major academic, educational, or employment consequence . . .” (Meakim et al., 2013, p. S7).
Definitions

• Clinical competence:
  ▫ the ability to “observe and gather information, recognize deviations from expected patterns, prioritize data, make sense of data, maintain a professional response demeanor, provide clear communication, execute effective interventions, perform nursing skills correctly, evaluate nursing interventions, and self-reflect for performance improvement within a culture of safety” (Hayden, Jeffries, Kardong-Edgren & Spector, 2011).
Conceptual Framework

• Shared Mental Model:
  ▫ individually held knowledge structures that help team members function collaboratively in their environments and are comprised of four attributes: content, similarity, accuracy and dynamics (McComb & Simpson, 2014).
Method

- Recruited 5 participants with expertise in simulation
- Designed a Blackboard LMS site from which to deliver and receive all study materials
- Participants completed Basic Orientation and Advanced Evaluator Training components over 2 month period
- Participants completed experimental portion of study over 1 month period
Data Collection Instruments

- Demographic Survey
- Creighton Competency Evaluation Instrument (CCEI)
  - Video-recorded student performance videos
- Clifton StrengthsFinder Inventory
- Pilot Study Feedback Survey
The Training Intervention

- **Basic Orientation**
  - Documents to read, StrengthsFinder Inventory, training video for CCEI, practice evaluation of 1 video using CCEI

- **Advanced Evaluator Training**
  - Training Webinar, practice evaluations of 3 videos using CCEI, Coaching Webinar, repeat evaluations, remediation (if needed)
## Results

- **Demographic data**

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Results

• Quantitative data
  ▪ 7 video performances evaluated:
    □ 1 orientation video
    □ 3 training videos
    □ 3 experimental videos
  ▪ Group level analysis
    □ kappa, ICC, % correct
  ▪ Individual level analysis
    □ % correct, % agreement (intra-rater)
StrengthsFinder Assessment

• **StrengthsFinder**: a web-based assessment of personality (Rath, 2007)
• 177 items with descriptors
• Assessment helps identify areas where there is the greatest potential for building strengths.
• Measures recurring patterns of thoughts, feeling, and behavior
StrengthsFinder Results

Top Strengths

4/5 Learner
3/5 Connectedness
3/5 Input
3/5 Belief

Four Domains

Executing - 7
Influencing - 2
Relationship building - 8
Strategic Thinking - 8
StrengthsFinder - Full Study

• Move to a Qualitative Survey
• After completing the study - participants review their results and answer a series of questions.

- As you reviewed your individualized StrengthFinders report, what resonated with you? What surprised you when you read the reports? What was missing from the report?
- How do your top five talents/strengths help you conduct accurate and consistent evaluation of students in testing situations?
- How do your top five talents/strengths make it more challenging to conduct accurate and consistent evaluation of students in testing situations?
- How would your peers or supervisor(s) say your talents/strengths affect how you evaluate students in testing situations?
- Reflecting on your top five talents/strengths, when you work in a team situation, what do you bring to the team? What do you need from other team members?
- As you reflect on the Shared Mental Model theoretical framework, how do your talents/strengths help you come to a Shared Mental Model with your clinical evaluation team?
Results

- Pilot Study Feedback Survey data
  - Basic Orientation: Mean = 4.6
  - Advanced Evaluator Training: Mean = 4.48
  - Study procedures and technology: Mean = 4.88
  - Study outcomes: Mean = 4.6
  - Estimated time spent: Mean = 21.1 hours
  - Written comments:
    - Webinar discussions were most helpful in assisting with performance evaluations
    - Several participant recommendations were adopted for the full study
Lessons Learned

- Technology travails
- Developing a shared mental model
- Building an accurate timeline
- Fitting data analysis to the study purpose and tools
- “That’s why we’re doing a pilot study!”
Next Steps

- Manuscripts
- Full study - Nationwide experimental study (control group, intervention group)
  - 102 enrolled
  - 80 completed
- Just the beginning.............
Implications for Nursing Education
Implications for Research
THANK YOU
References


