ENHANCING CLINICAL REASONING: TEACHING THINKING THROUGH DEBRIEFING
A BIG THANK YOU FOR SUPPORT TO:

*STTI CHI-AT-LARGE CHAPTER RESEARCH GRANT
*INACSL DEBRA SPUNT MINI-RESEARCH AWARD.

IT IS MUCH APPRECIATED!
LEARNING OUTCOMES

...describe the use of the DML tool as a methodology for debriefing

...discuss the outcomes of the DML methodology and the implications for nursing education.
The search for evidence...
Clinical Reasoning
...Explore strategies that integrate content knowledge with knowledge of the context creating dialogue that invites questions in a reflective and critical manner.
WHY DO A PILOT?

- To confirm a multi-site approach with consistency re: instructions & procedures
- To obtain a rough estimate of effect size & variability in the measures
- To examine the reliability & validity of results in comparison to Dreifuerst’s
- To determine challenges in preparation for a full scale study
Pilot Study:

- Quasi-experimental, pre-test-post-test, repeated measure research design

Purpose:

- To determine if undergraduate nursing students demonstrate a positive change in clinical reasoning skills using the Debriefing for Meaningful Learning (DML) model
Active Learning Approach
- Form of clinical teaching
- Constructivist learning
- Promotes active learning
- Incorporates Guided Reflection
- Schon’s work –
  - Reflection in-on-action
  - Dreifuerst added ‘beyond-action’

# HEALTH SCIENCES REASONING TEST (HSRT)

<table>
<thead>
<tr>
<th>General Information</th>
<th></th>
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<tbody>
<tr>
<td>Type of Instrument</td>
<td>Self-administered, multiple choice</td>
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<tr>
<td>Date of Publication</td>
<td>2006, 2008, &amp; 2011</td>
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<tr>
<td>Available Languages</td>
<td>Arabic, Chinese Simplified or Traditional Characters, Dutch, English, Farsi, Korean, Spanish</td>
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<td>Reliability</td>
<td>.77-.83</td>
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<table>
<thead>
<tr>
<th>Administration Information</th>
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<tbody>
<tr>
<td>Time to Administer</td>
<td>45-50 minutes</td>
</tr>
<tr>
<td>Administration Types</td>
<td>Online or Paper-and-Pencil</td>
</tr>
<tr>
<td>Results</td>
<td>• Total score of critical thinking scales; and</td>
</tr>
<tr>
<td></td>
<td>• 5 scale scores</td>
</tr>
<tr>
<td></td>
<td>• Analysis and Interpretation</td>
</tr>
<tr>
<td></td>
<td>• Inference</td>
</tr>
<tr>
<td></td>
<td>• Evaluation and Explanation</td>
</tr>
<tr>
<td></td>
<td>• Deductive Reasoning</td>
</tr>
<tr>
<td></td>
<td>• Inductive Reasoning</td>
</tr>
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</table>
Does the use of the DML debriefing strategy positively impact the development of clinical reasoning skills in undergraduate nursing students?

Change in clinical reasoning as measured by improved scores on the HSRT exemplifies meaningful learning from the simulation experience.
### Paired T-Tests

**Paired Samples T-Test**

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
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<tbody>
<tr>
<td>OverallPost - OverallPre</td>
<td><strong>.66667</strong></td>
<td>3.02100</td>
<td>.55156</td>
<td>-.46139</td>
<td>1.79473</td>
<td>1.209</td>
<td>29</td>
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</table>

#### Paired Samples Statistics

<table>
<thead>
<tr>
<th>Pair</th>
<th>OverallPost</th>
<th>OverallPre</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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<tbody>
<tr>
<td>1</td>
<td>OverallPost</td>
<td></td>
<td><strong>21.4333</strong></td>
<td>30</td>
<td>3.83885</td>
<td>.70088</td>
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<tr>
<td></td>
<td>OverallPre</td>
<td></td>
<td><strong>20.7667</strong></td>
<td>30</td>
<td>3.63587</td>
<td>.66382</td>
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</table>
Dreifuerst concluded:

*There was no statistical difference between the experimental and control HSRT data, except when change in total score was compared.*
Dreifuerst’s raw scores illustrated a positive change in clinical reasoning skills with use of the DML debriefing model.  
**Statistically significant**  
**N=238**  
**Use of a control group**

MCNER Pilot also illustrated a positive change in the raw scores in clinical reasoning, however,  
**Not statistically significant**  
**Pilot sample size only 30**  
**No control group**
OK...SO WHAT?
WHAT WE LEARNED

*A full-scale study is realistic & achievable
*Timeliness and Timing vital
*Consistency across sites is key
*Data analysis techniques vital
FORGING AHEAD

*Move to a full-scale study
*Include a larger sample size
*Use multiple measures
*Add a control group
*Further strengthen consistency of debriefing

Implications are clear...
Engage an active learner-centered approach to teach thinking within the context of patient care
FACULTY RESOURCES

Hartford Institute for Geriatric Nursing

NLN ACES

NLN SIRC (Simulation Innovation Resource Center)

http://consultgerirn.org/resources

http://www.nln.org/facultyprograms/facultyresources/ACES/index.htm

http://sirc.nln.org/


QUESTIONS??????

THANK YOU FOR YOUR KIND ATTENTION!!!