OVERCOMING CHALLENGES: OPERATIONALIZING A MULTI-SITE NURSING EDUCATION RESEARCH STUDY

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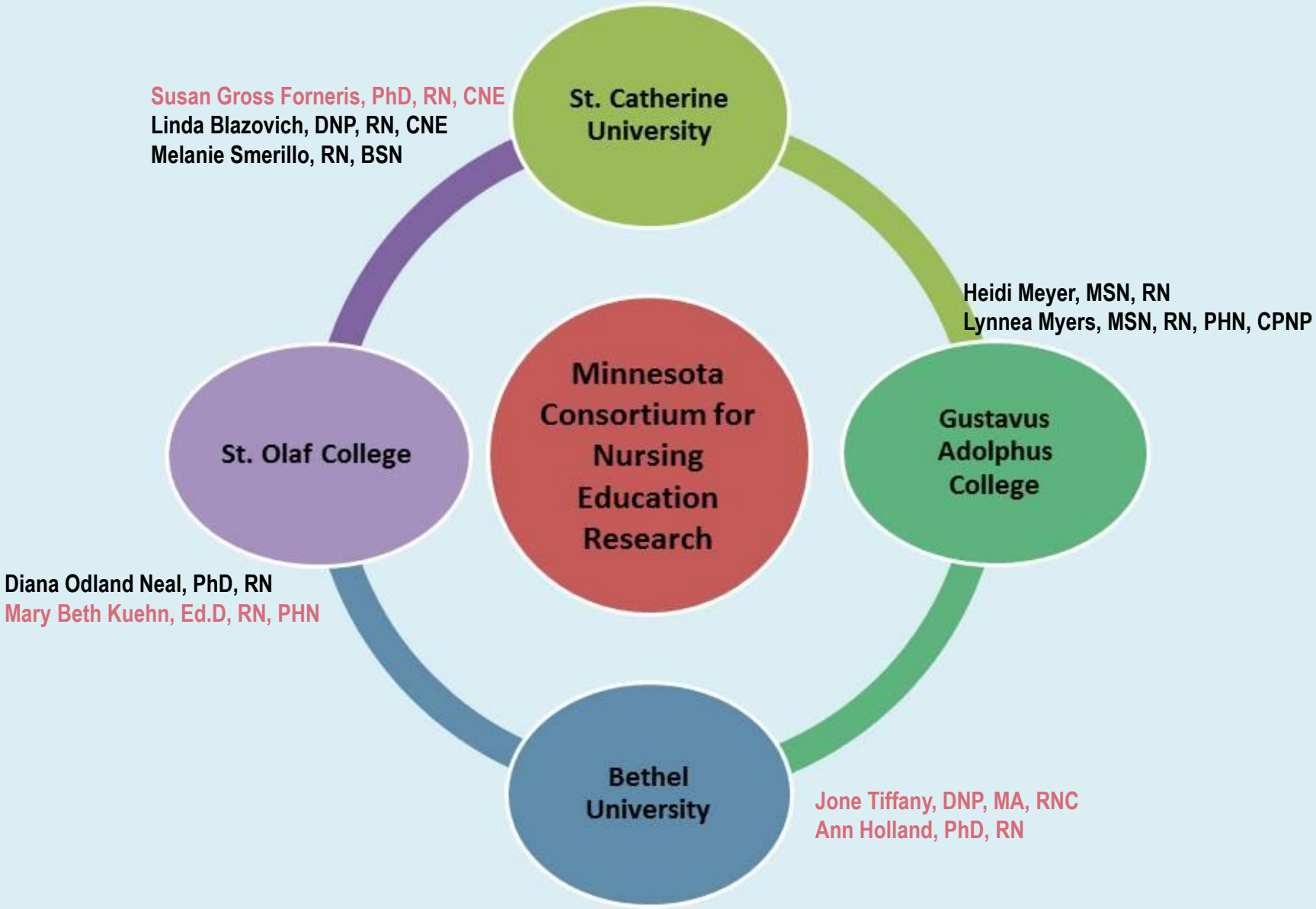
A BIG THANK YOU FOR SUPPORT

PILOT WORK

*STTI CHI-AT-LARGE CHAPTER RESEARCH GRANT

*INACSL DEBRA SPUNT MINI-GRANT AWARD.

The search for evidence…

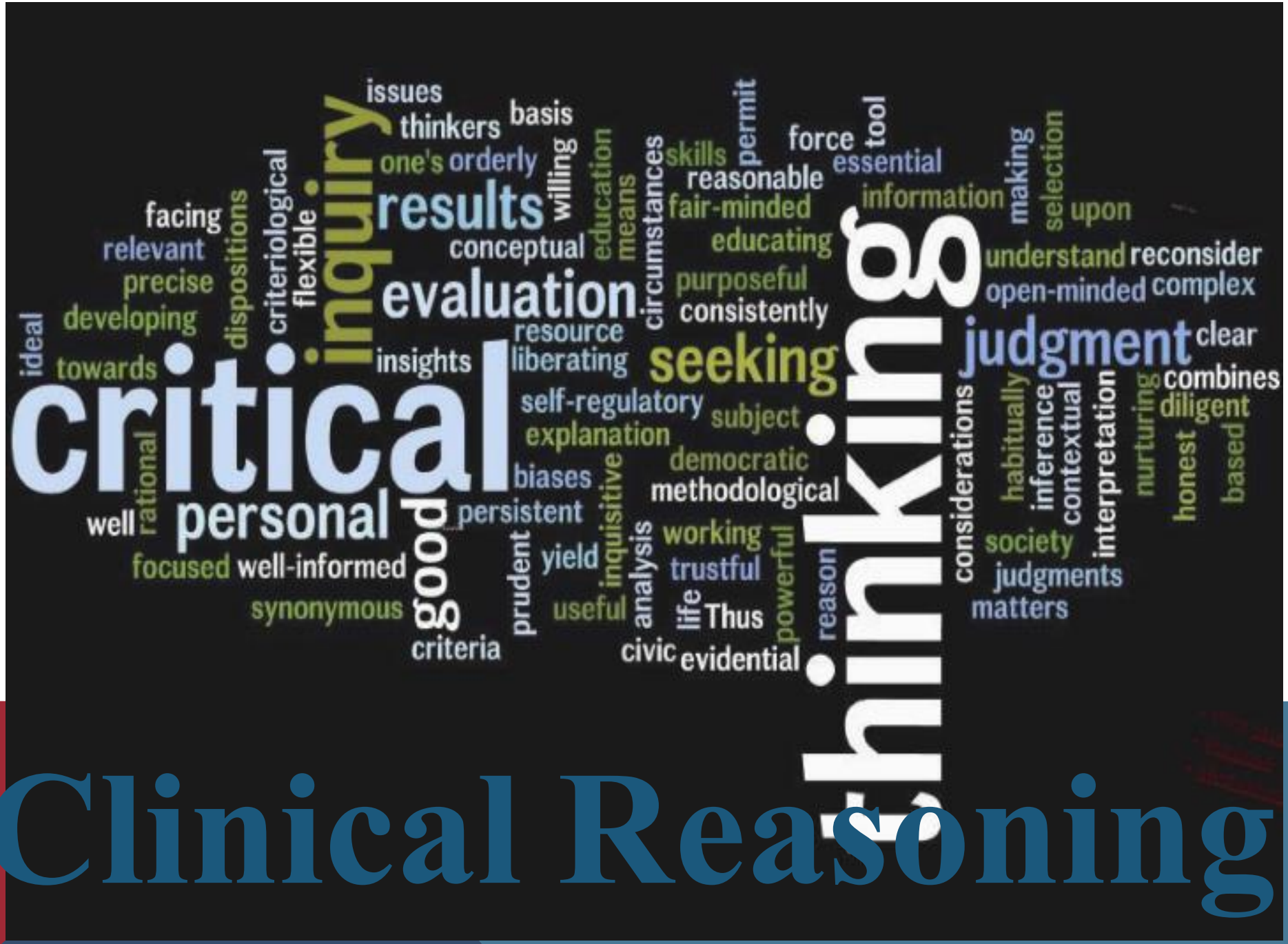


SYMPOSIUM PAPERS

1. Evaluating Learning with Simulation and Debriefing: Tools and Measurement
2. Operationalizing Nursing Education Research
3. Translating Learning Outcomes to Enhance Teaching and Curriculum

EVALUATING LEARNING WITH SIMULATION AND DEBRIEFING: TOOLS AND MEASUREMENT

- 1. Discuss the use of the DML tool as a methodology for debriefing.
- 2. Discuss the use of standardized simulations in learning outcome evaluation - ACES
- 3. Critique measures used for evaluating learning outcomes – HSRT, DASH-SV, DMLSQ.



Clinical Reasoning

…Explore strategies that integrate content knowledge with knowledge of the context creating dialogue that invites questions in a reflective and critical manner.

MCNER FULL-SCALE STUDY

Full Scale 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

RESEARCH QUESTIONS

1. Does the use of the DML debriefing strategy positively impact the development of clinical reasoning skills in undergraduate nursing students compared to usual and customary debriefing?

2. Do nursing students perceive a difference in the quality of debriefing when the DML strategy is used compared to usual and customary debriefing?

DR. DREIFUERST'S THEORETICAL FRAMEWORK

- Constructivism
- Reflective Cycle (Gibbs, Farmer, & Eastcott, 1988)
- Interactive Learning Cycle from the Significant Learning Framework (Fink, 2003)
- E–5 framework for effective teaching (Bybee et al., 1989)
  - Engage
  - Explore
  - Explain
  - Elaborate
  - Evaluate

DML Student Worksheet

1. What is the first thing that comes to mind about the simulation experience?

2. What went right and why?

3. What would you do differently and why?

Framing: (What is the client's story?)

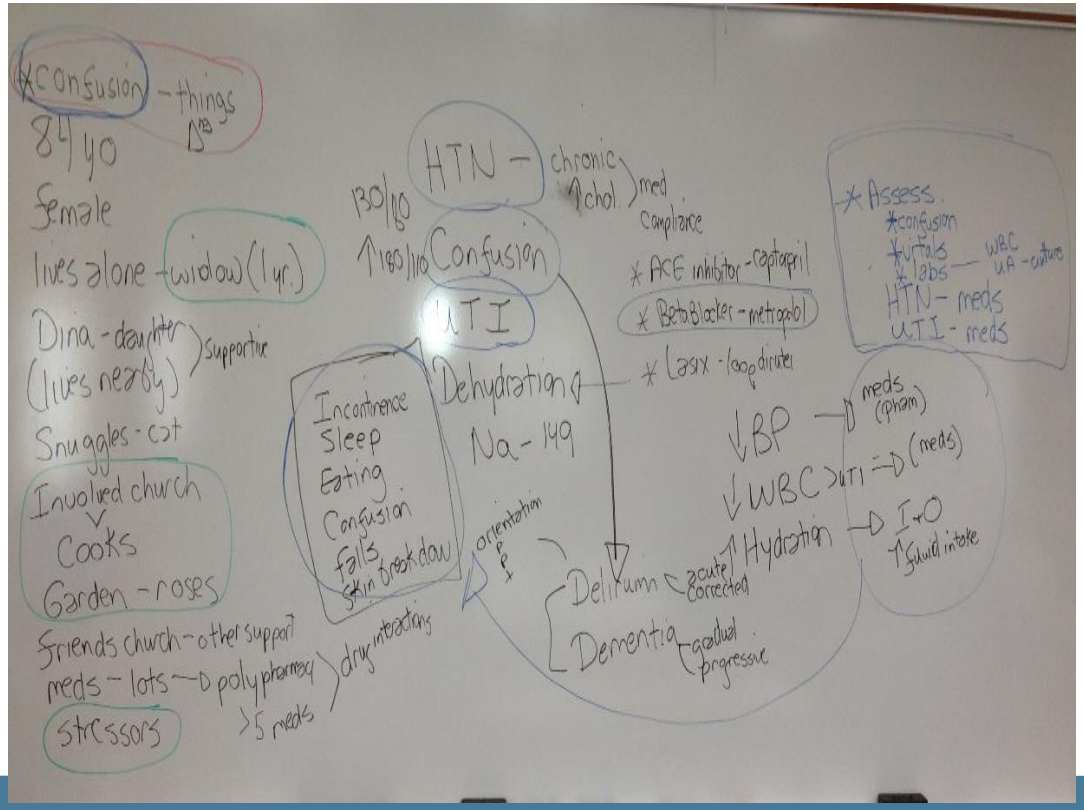
Focused Key Problem/ND:

Dreifuerst, K.T. (2010). Debriefing for meaningful learning: Foster development of clinical reasoning through simulation. Retrieved from Proquest Dissertations and Theses.

DEBRIEFING FOR MEANINGFUL LEARNING ©

Active Learning Approach

- Form of clinical teaching
- Constructivist learning
- Promotes active learning
- Incorporates Guided Reflection
- Schon's work –
  - Reflection in/on-action
  - Dreifuerst added 'thinking beyond-action'



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www.nln.org/ACES

Faculty Programs & Resources

ACES
Advancing Care Excellence for Seniors

Case #1: Millie Larsen
Author: Cynthia Reese, PhD, RN, CNE
Professor
Lincoln Land Community College
Springfield, IL

Overview: Millie Larsen is an 84-year-old Caucasian female who lives alone in a small home. Her husband Harold passed away a year ago and she has a cat, Snuggles, who is very important to her. Millie has one daughter, Dina Olsen, who is 50, lives nearby, and is Millie's major support system. Her current medical problems include: hypertension, glaucoma, osteoarthritis of the knee, stress incontinence, osteoporosis, and hypercholesterolemia.

Monologue: Millie is at the clinic for routine examination and medication follow up. She is taking several anti-hypertensive medications, diuretics, and analgesics. During the monologue, Millie provides important details of how she views her current life situation.

ACES Millie Larsen Unfolding Simulations	Overview of Unfolding Simulation	QSEN Competency Level
Simulation #1	3:00 PM -Initial admission to the hospital from the outpatient clinic.	Beginner QSEN competencies - FOCUS on Patient Centered Care
Simulation #2	7:00 AM- Hospital stay Day 2	Intermediate QSEN competencies - FOCUS on Safety, Patient-Centered Care, Teamwork and Collaboration
Simulation #3	9:00 AM - Hospital stay Day 2 - discharge planning	Advanced QSEN competencies - FOCUS Safety, Patient-Centered Care, Teamwork and Collaboration, Quality Assurance, Informatics

Table 1 – Integration of QSEN competencies leveled with ACES Millie Larsen Simulations

Forneris, S. G., Crownover, J. G., Dorsey, L. E., Leahy, N., Maas, M. A., Wong, L., Zabriskie, A., and Zavertnik, J. E. (2012).

HEALTH SCIENCES REASONING TEST (HSRT)

"Measures high-stakes reasoning and decision making processes"

Form of the California Critical Thinking Test

Designed broadly for health professions students

"Health Sciences Reasoning Test HSRT Test Manual". Insight Assessment. 2011.

HEALTH SCIENCES REASONING TEST (HSRT)

General Information	
Type of Instrument	Self-administered, rating scale
	2006, 2008, & 2011
Available Date of Publication Languages	Arabic, Chinese Simplified or Traditional Characters, Dutch, English, Farsi, Korean, Spanish
Reliability	.77-.83

Administration Information	
Time to Administer	45-50 minutes
Administration Types	Online or Paper-and-Pencil

Results	• Total score of critical thinking scales; and
	• 5 scale scores
	  • Analysis and Interpretation
	  • Inference
	  • Evaluation and Explanation
	  • Deductive Reasoning
	  • Inductive Reasoning

DEBRIEFING ASSESSMENT FOR SIMULATION IN HEALTHCARE-STUDENT VERSION (DASH-SV)

- DASH used by peer-faculty to evaluate quality of debriefing
- DASH-SV reports quality of debriefing evaluated from a student perspective

Retrieved, Feb 13, 2014 @ http://www.harvardmedsim.org/debriefing-assesment-simulation-healthcare.php

DEBRIEFING ASSESSMENT FOR SIMULATION IN HEALTHCARE-STUDENT VERSION (DASH-SV)

General Information	
Type of Instrument	Self-administered, multiple choice
Available Date of Publication	2009, 2010
Language	English, German
Reliability	0.82

Administration Information	
Time to Administer	10-15 minutes
Administration Types	Paper-and-Pencil

Results	• 6 elements of effective debriefing:
	  • engaging learning
	  • engaging context
	  • engaging organization
	  • in-depth discussion promoting reflection
	  • identify areas of weakness and why
	  • Identify areas for improvement and why

OPERATIONALIZING EDUCATION RESEARCH

- 1. Discuss the methodology used to evaluate clinical reasoning learning outcomes.
- 2. Discuss measures used to assure consistency with research operations across multiple sites

RESEARCH QUESTIONS

- Does the use of the DML debriefing strategy positively impact the development of clinical reasoning skills in undergraduate nursing students compared to usual and customary debriefing?
- Do nursing students perceive a difference in the quality of debriefing when the DML strategy is used compared to usual and customary debriefing?

change in clinical reasoning as measured by improved scores on the HSRT exemplifies meaningful learning from the simulation experience.

METHODOLOGY

- Quasi-experimental, pre-test-post-test, repeated measure research design
- HSRT and DASH-SV curriculum requirements
- Students randomly assigned to traditional debriefing vs. DML debriefing

change in clinical reasoning as measured by improved scores on the HSRT exemplifies meaningful learning from the simulation experience.

RESEARCH QUESTION #1

- Does the use of the DML debriefing strategy positively impact the development of clinical reasoning skills in undergraduate nursing students compared to usual and customary debriefing?

RESEARCH QUESTION #1: MAYBE.

HSRT Paired T-Tests

POST-SCORE

t-Test: Two-Sample Assuming Equal Variances

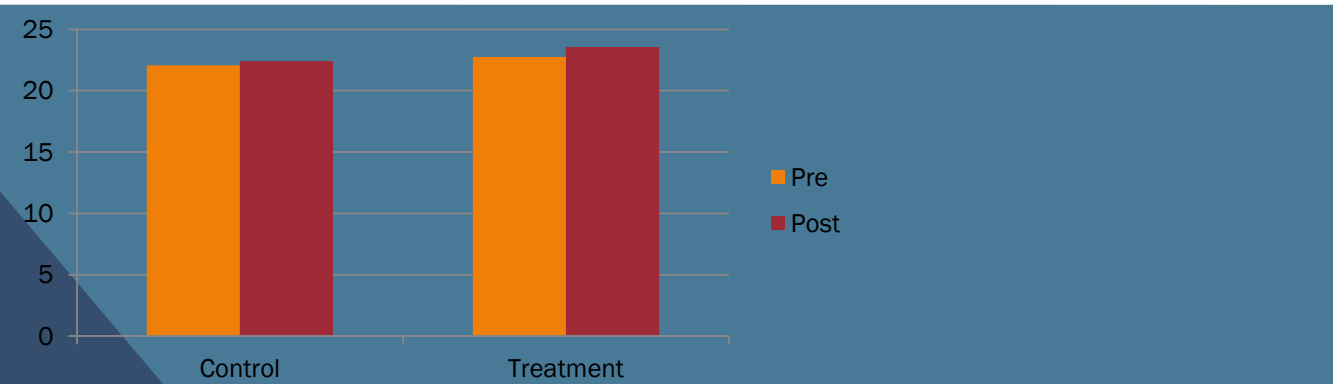
	Control	Treatment
Mean	22.41333333	23.56410256
Variance	21.57009009	15.10622711
Observations	75	78
Pooled Variance	18.27394804	
Hypothesized Mean Difference	0	
df	151	
t Stat	-1.664578443	
P(T<=t) one-tail	0.049035288	
t Critical one-tail	1.655007387	
P(T<=t) two-tail	0.098070576	<-- This is another way to look at the data. This says the treatment group post scores are significantly different than the control group.
t Critical two-tail	1.97579889	

TREATMENT

t-Test: Paired Two Sample for Means

	Pre	Post
Mean	22.74358974	23.56410256
Variance	12.79054279	15.10622711
Observations	78	78
Pearson Correlation	0.62998235	
Hypothesized Mean Difference	0	
df	77	
t Stat	-2.248911076	
P(T<=t) one-tail	0.013688327	
t Critical one-tail	1.664884538	
P(T<=t) two-tail	0.027376654	<-- This says that students in the treatment group have a statistically significant improvement in their scores.
t Critical two-tail	1.991254363	

	Control	Treatment
Pre	22.07	22.74
Post	22.41	23.56



RESEARCH QUESTION #2

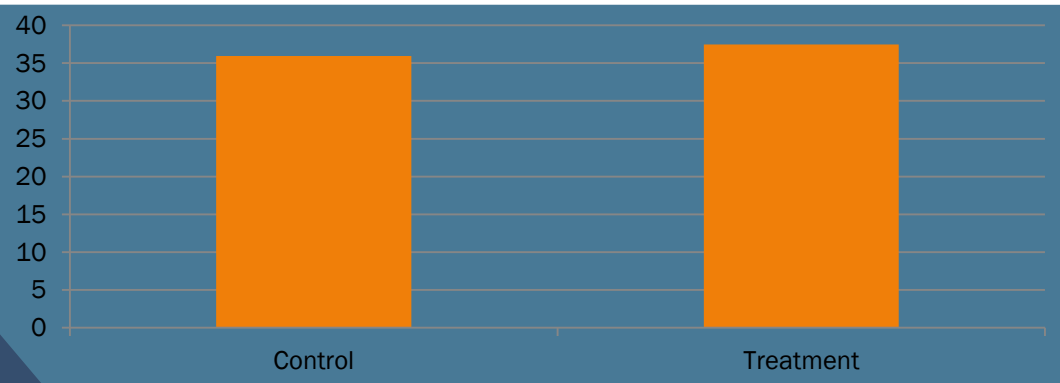
- Do nursing students perceive a difference in the quality of debriefing when the DML strategy is used compared to usual and customary debriefing?

RESEARCH QUESTION #2: YES

DASH-SV Paired T-Tests

t-Test: Two-Sample Assuming Equal Variances		
	Treatment	Control
Mean	37.45333	35.94667
Variance	13.35928	26.99712
Observations	75	75
Pooled Variance	20.1782	
Hypothesized Mean Difference	0	
df	148	
t Stat	2.053958	
P(T<=t) one-tail	0.02087	
t Critical one-tail	1.655215	
P(T<=t) two-tail	0.041739	<-- This means the difference is significant at the 0.05 level
t Critical two-tail	1.976122	

Control	35.95
Treatment	37.45
Difference	1.5



WHAT DO THE RESULTS REALLY TELL US:

Dreifuerst's raw scores illustrated a positive change in clinical reasoning skills with use of the DML debriefing model.

Statistically significant

N=238

MCNER full scale study findings illustrated a positive change in the raw scores in clinical reasoning,

Statistically significant –not strong

N= 153

FACULTY DEVELOPMENT

MILLIE LARSEN – SCENARIO 1

Learning Objectives – for faculty

Perform a head-to-toe physical assessment and use the following assessment tools: SPICES and Confusion Assessment Method (CAM).

Identify and discuss critical assessment findings:(elevated blood pressure and confusion) and relate which findings are commonly found in the older adult patient.

Recognize geriatric syndrome(s) present in simulation: urinary incontinence and confusion.

Assuring Consistency

FACULTY DEVELOPMENT

Reflective Thinking(Elaborate)- (Summarize "thinking like a nurse" –20 min. on this page

Describe a time during the scenario when you were thinking like a nurse?
Did the instructor get any signs that the student might be thinking like a nurse? Be sure to discuss these!
Thinking about the care you provided, what would you do differently next time?

Thinking-in-Action –Think like a nurse and act accordingly
What were the critical decisions?
What were you thinking when?
The thinking started to come together when?

What were you thinking and doing when you Encountered Millie's confusion? Lab values?
What are your concerns about Millie's confusion?

Thinking-on-Action rationale after action
Reflecting on the actions after the fact- providing the Rationale for why something was done

1. Get meds going	Assist with decreasing BP – return to baseline
2.Discern the nature of her confusion- assess WBC-	12,000- WNL at least currently baseline mental status with daughter, urinary output-use of the confusion scales –CAM
3.Discern the impact of lab values on other body systems	(Na- slightly high and K- at the bottom level 3.5- how might this impact her cardiac (K+-excitability)function or neurological - Neuro function- restlessness
4. Safety and physical and psychological –geriatric syndromes	Complete appropriate assessments -SPICES, CAM, -maintain a safe environment. Pt. and family ed. on next steps

OK...SO WHAT?

TRANSLATING LEARNING OUTCOMES TO ENHANCE TEACHING AND CURRICULUM

- 1. Discuss the implications of designing robust nursing education research.
- 2. Discuss factors that create both challenges and opportunities for change.

WHAT WE LEARNED

Achieving
Learning
Outcomes

WHAT WE LEARNED

Curriculum Enhancements

WHAT WE LEARNED

Enhanced Teaching Strategies

Educational strategies need to focus on enhancing clinical reasoning through a learner-centered approach that guides thinking through the use of reflection & dialogue to make an inferential link between thinking & doing. (Forneris & Peden-McAlpine, 2007, 2009)

CHALLENGES AND OPPORTUNITIES FOR CHANGE

Faculty Development

CHALLENGES AND OPPORTUNITIES FOR CHANGE

Improving Patient Care Outcomes

CHALLENGES AND OPPORTUNITIES FOR CHANGE

Clinical Partner Development

FORGING AHEAD

Engage an active learner-centered approach to teach thinking within the context of patient care

Implications are clear…

FACULTY RESOURCES

Hartford Institute for Geriatric Nursing	http://consultgerirn.org/resources
NLN ACES	http://www.nln.org/facultyprograms/facultyresources/ACES/index.htm
NLN SIRC (Simulation Innovation Resource Center)	http://sirc.nln.org/

Barton, A. J., Armstrong, G., Preheim, G., Gelmon, S. B., & Andrus, L. C. (2009). A national Delphi to determine developmental progression of quality and safety competencies in nursing education. *Nursing Outlook, 57*, 313-322. doi: 10.1016/j.outlok.2009.08.003

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QUESTIONS?????

THANK YOU FOR YOUR KIND ATTENTION!!!