Symposium

Overcoming Challenges: Operationalizing a Multisite Nursing Education Research Study

Presented by
Minnesota Consortium for Nursing Education Research
(MCNER)

Sigma Theta Tau International Nursing Research Congress

The search for evidence…

Susan Gross Forneris, PhD, RN, CNE, CHSE-A
Linda Blazovich, DNP, RN, CNE
Melanie Smerillo, MSN, RN, CNE
Vicki Schug, PhD, RN, CNE

Lynnea Myers, MSN, RN, PHN, CPNP
Heidi Meyer, MSN, RN

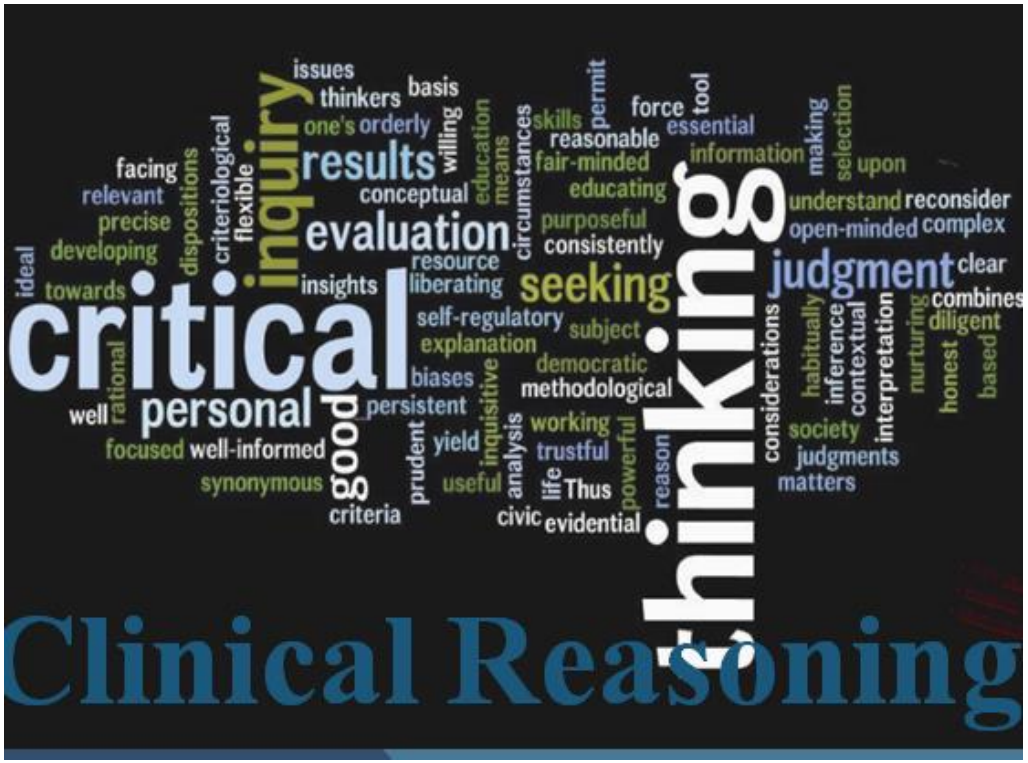
Diana Odland Neal, PhD, RN, PHN
Mary Beth Kuehn, EdD, RN, PHN

Jone Tiffany, DNP, MA, RN, CNE
Ann Holland, PhD, RN

Part 1

Evaluating Learning with Simulation and Debriefing: Tools and Measurement

Setting the Context



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

A Curriculum Blueprint for Meeting National Benchmarks

Standards

	Phenomena of Nursing	Critical Thinking	Communication	Systems	Role	Therapeutic Interventions
Level III (end of spring semester Senior year)	**Synthesize nursing theory and practice to provide care for individuals, families, communities, and populations.**	**Internalize a critically reflective thinking process to evaluate nursing decisions relative to applicable nursing research and ethical principles in the design, implementation, and evaluation of plans for enhancing health of individuals, families, communities and populations.**	**Evaluate effectiveness of verbal and written communication, incorporating integration of relevant concepts and achievement of health care outcomes.**	**Synthesize nursing leadership roles in professional nursing practice to provide for continuity of health care for individuals, families, communities and populations .**	**Enact leadership strategies in promoting change in healthcare systems.**	**Evaluate care for diverse individuals, families, communities and populations from a holistic, caring perspective.**

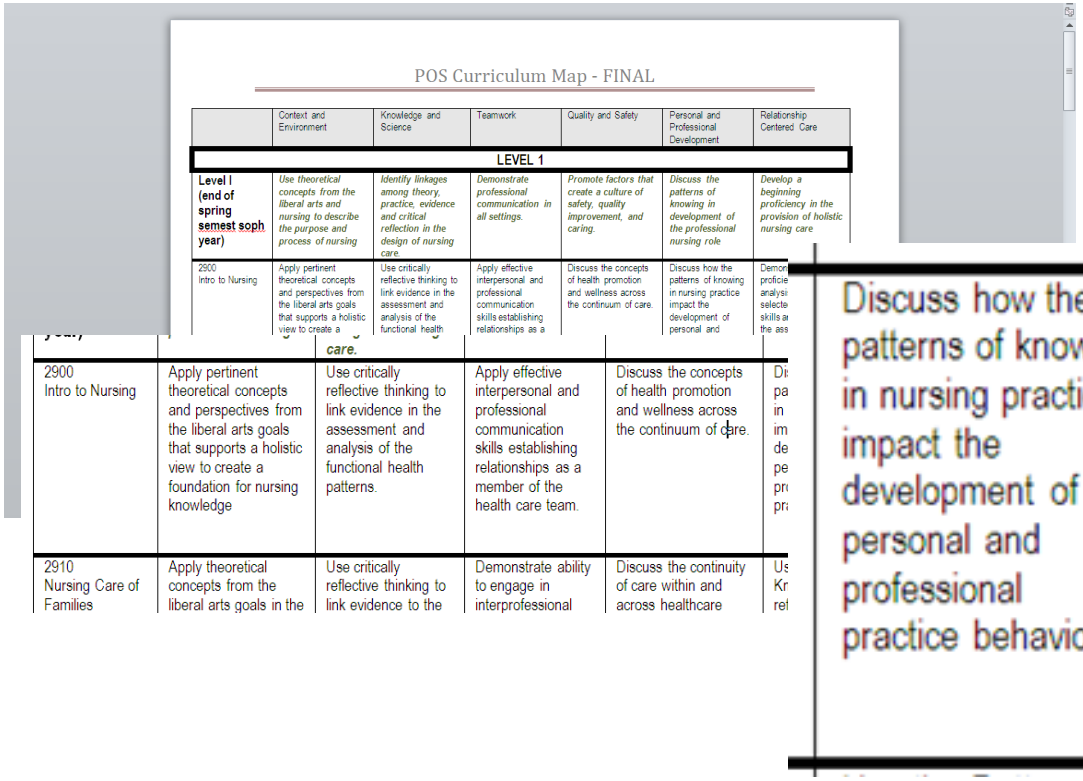
Program Level Learning Outcomes

	Phenomena of Nursing	Critical Thinking	Communication	Systems	Role	Therapeutic Interventions
NURS4200	Integrate nursing theory and practice in the care of individuals, families, communities, and populations.	Utilize a critically reflective thinking process to evaluate the delivery of safe and effective nursing care for individuals, families, communities and populations.	Communicate relevant health care information to enhance the and effectiveness of nursing health care across disciplines.	Integrate nursing leadership strategies to promote continuity of care across the continuum of care.	Operationalize the role of nurse as leader in promoting quality of care across healthcare systems.	Evaluate quality of nursing care and health care outcomes across the continuum of care.

Course Learning Outcomes

Signature Assessments

Operationalizing the Blueprint



POS Curriculum Map - FINAL

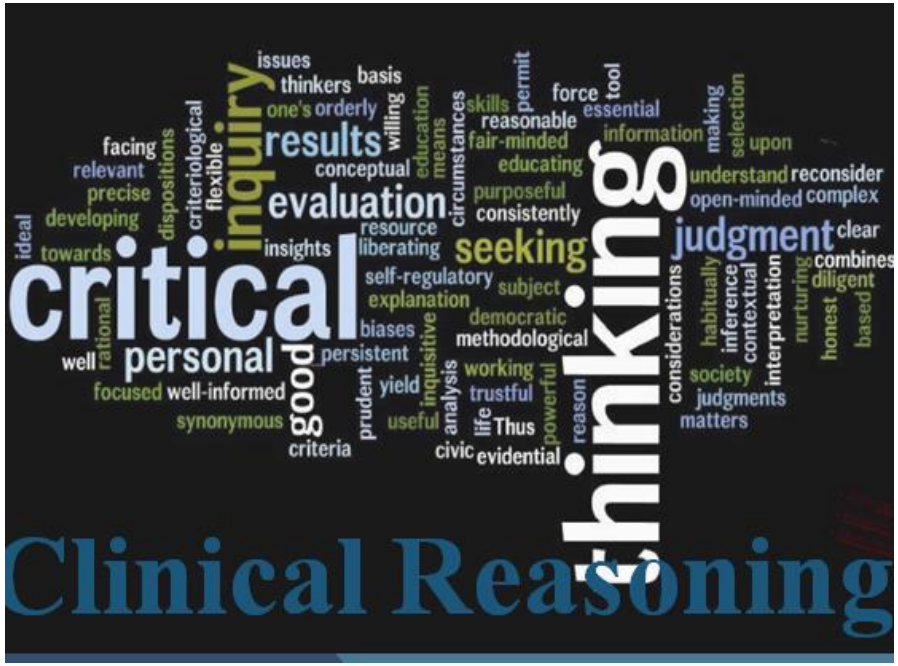
	Context and Environment	Knowledge and Science	Teamwork	Quality and Safety	Personal and Professional Development	Relationship Centered Care
LEVEL 1						
Level I (end of spring semest soph year)	*Use theoretical concepts from the liberal arts and nursing to describe the purpose and process of nursing*	*Identify linkages among theory, practice, evidence and critical reflection in the design of nursing care.*	*Demonstrate professional communication in all settings.*	*Promote factors that create a culture of safety, quality improvement, and caring.*	*Discuss the patterns of knowing in development of the professional nursing role*	*Develop a beginning proficiency in the provision of holistic nursing care*
2900 Intro to Nursing	Apply pertinent theoretical concepts and perspectives from the liberal arts goals that supports a holistic view to create a foundation for nursing knowledge	Use critically reflective thinking to link evidence in the assessment and analysis of the functional health patterns.	Apply effective interpersonal and professional communication skills establishing relationships as a member of the health care team.	Discuss the concepts of health promotion and wellness across the continuum of care.		
2910 Nursing Care of Families	Apply theoretical concepts from the liberal arts goals in the	Use critically reflective thinking to link evidence to the	Demonstrate ability to engage in interprofessional	Discuss the continuity of care within and across healthcare		

Discuss how the patterns of knowing in nursing practice impact the development of personal and professional practice behaviors.

…SLO's drive teaching and *formative assessment strategies*

Critical Conversations

Beginning with the End in Mind



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

Pilot Study - 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
- **Variables:**
  - **Independent**: DML
  - **Dependent:** Clinical Reasoning – Health Sciences Reasoning Test

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.

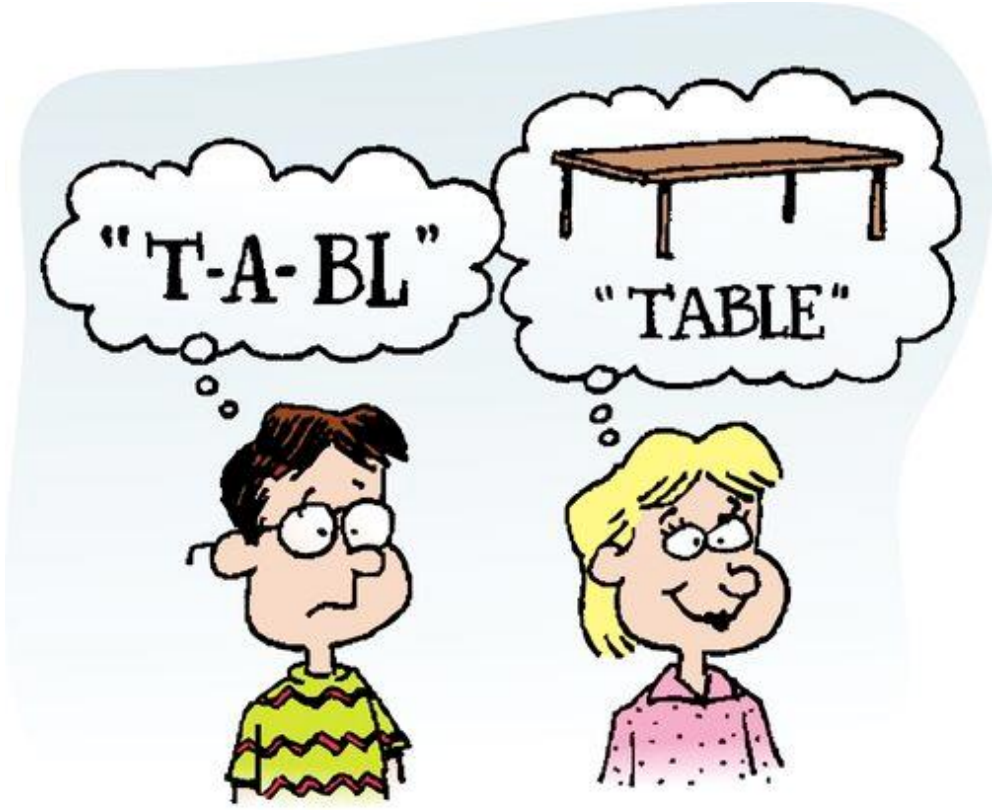
- ***Statistically significant***
- ***N=238***

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

- ***Statistically significant***
- ***N= 153***

Enhanced Teaching Strategies

Use of reflection and dialogue to improve thinking



Challenges & Opportunities for Change

Factors that create both opportunities and challenges for change:

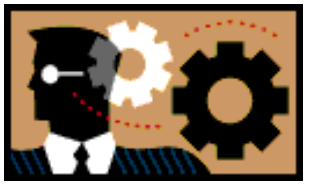
- Faculty Development
- Transfer of Learning Outcomes
- Clinical Partner Development

Part 2

Operationalizing Education Research

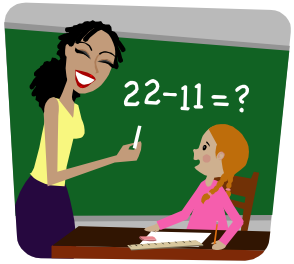
For your consideration…

- Need for valid and reliable instruments
- Importance of evaluating learning outcomes relative domains of learning
- Familiarity with existing instruments



Domains of learning

- Cognitive Domain
  - Knowledge ; development of intellectual skills
- Psychomotor Domain
  - Physical movement, coordination and use of motor skills
- Affective Domain
  - Emotions; manner in which we deal with things emotionally

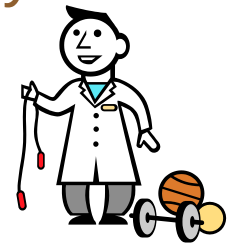


(Bloom, 1956)

Examples

- Affective:

- Psychomotor:



- Cognitive:

- Example: Dobbs, Sweitzer, & Jeffries (2006)
  - Student Satisfaction and Self-confidence
- Example: Rosen, Salas, Silvestri, Wu & Lazara (2008)
  - Simulation module for assessment of residents targeted event responses (SMARTER). Uses Accreditation Council for Graduate Medical Education (ACGME) core outcome competencies to derive learning objectives for simulations.
- Example: Hoffman, O'Donnell, & Kim (2007)
  - Basic Knowledge Assessment Tool 6 (BKAT-6): 100-item paper-and-pencil test measures basic recall and application of information in critical care for new graduates or nurses new to critical care

Challenges With Evaluation

- Moving beyond satisfaction and self-efficacy
  - Kirkpatrick's Levels of Evaluation
    - Level 1 – Reaction (e.g. confidence and satisfaction in learning)
    - Level 2 – Learning (e.g. to what degree did they learn)
    - Level 3 – Behavior (e.g. to what degree did it impact behavior)
    - Level 4 – Outcomes (e.g. did we get the results we wanted)

Newer Evaluation Instruments Reported

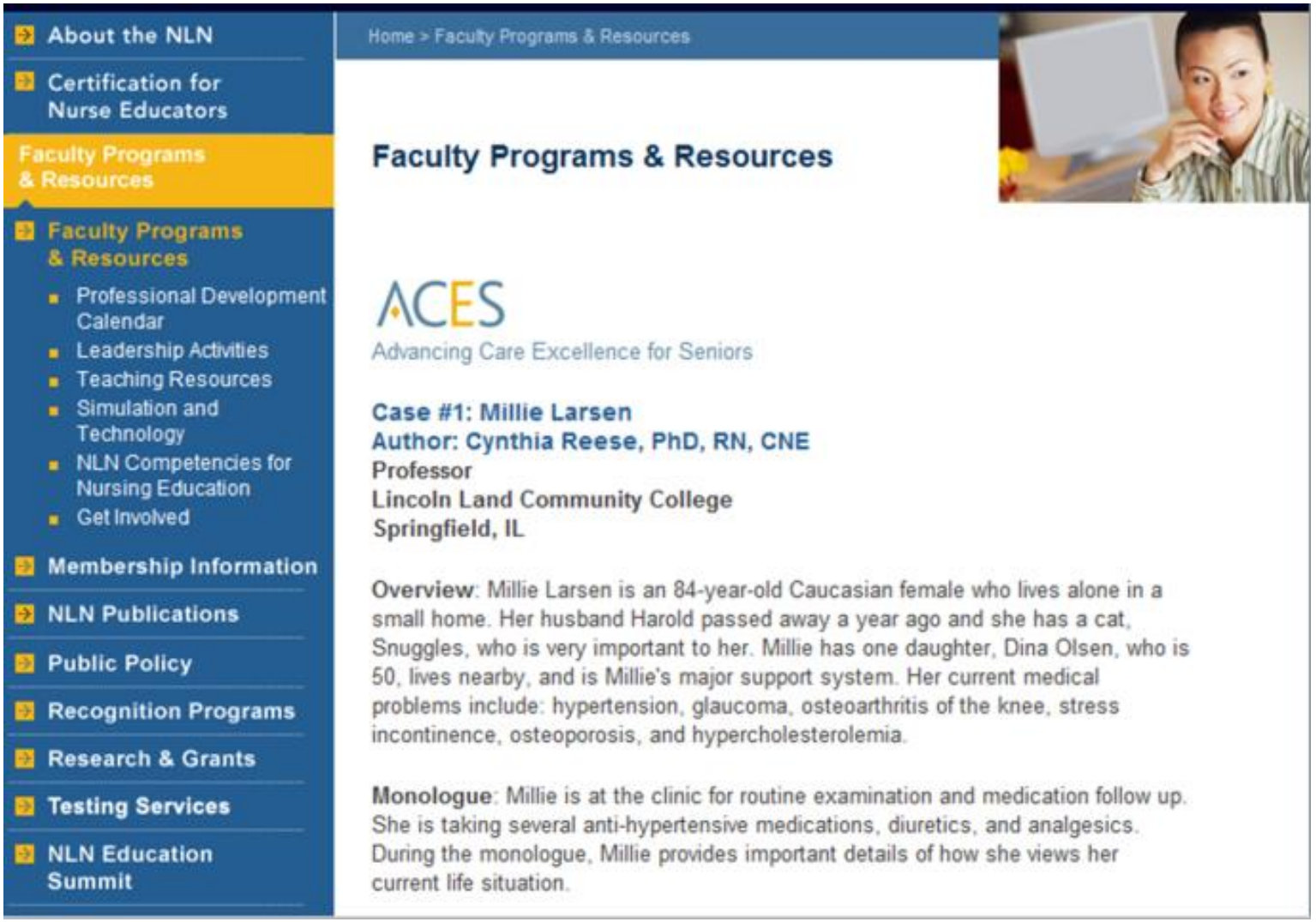
- Spielberger State-Trait Anxiety Inventory
  - Evaluates participant level of anxiety – usually and in the moment (Gore, Hunt, Parker, & Raines, 2011)
- **Health Sciences Reasoning Test**
  - **Evaluates clinical reasoning (Shinnick & Woo, in press)**
- Kolb Learning Inventory
  - Evaluates best style of learning (Shinnick & Woo, in press)

Standardized Teaching Strategies

Advancing Care Excellence for Seniors (ACES project)

- Unfolding Simulation
- Scenario Development
- QSEN integration

ACES- Unfolding Simulation



ACES- Scenario Development & QSEN Integration

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

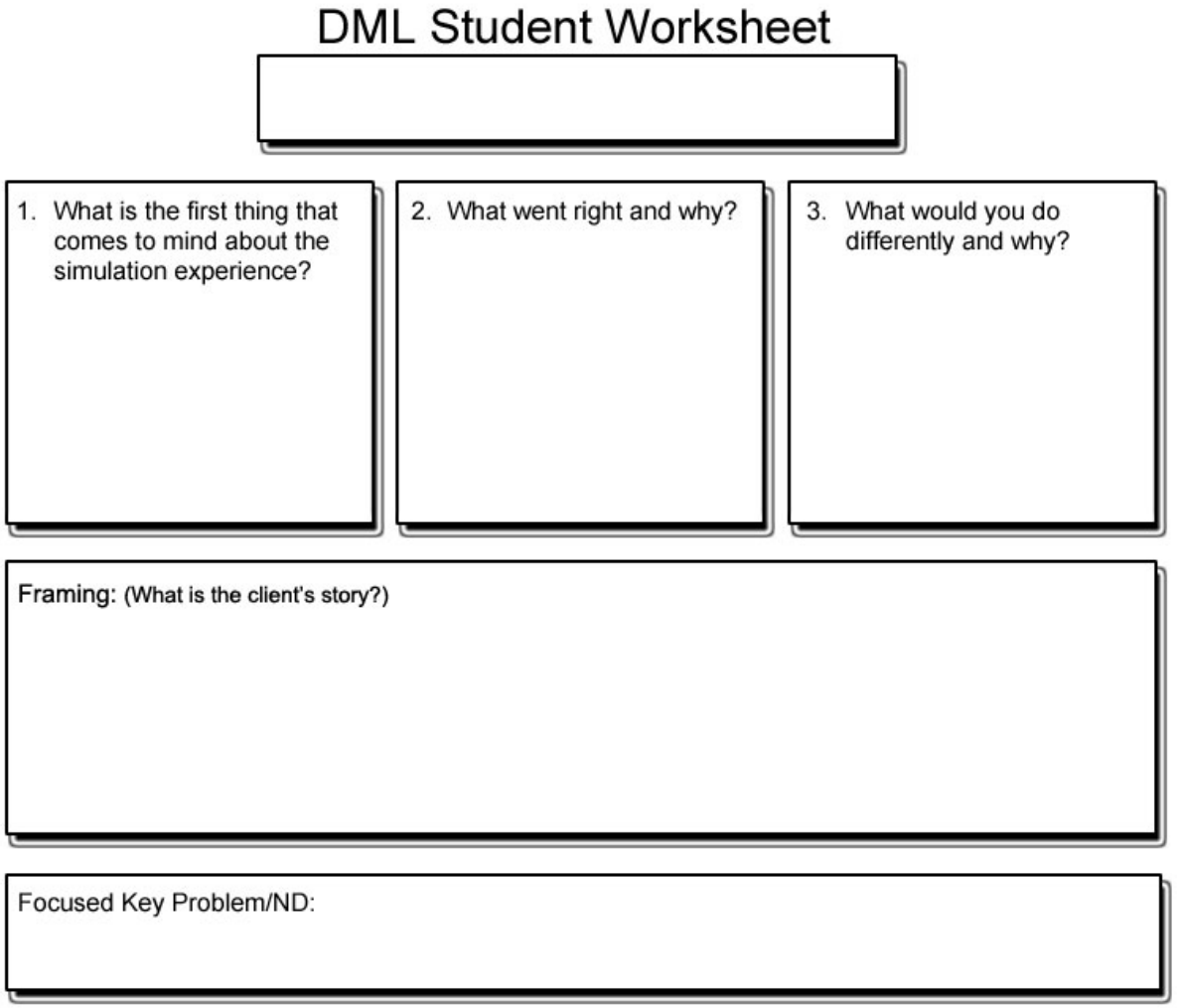
Table 1 – Integration of QSEN competencies leveled with ACES Millie Larsen Simulations

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

Debriefing for Meaningful Learning © Methodology

- Constructivism (Dewey,1933)
- 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
  - Extend (Dreifuerst, 2010)

Debriefing for Meaningful Learning ©



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

Teaching Thinking

Students:

1) integrate multiple perspectives into their thinking
2) interpret their knowledge
3) understand their actions

Faculty:

1) ask critical questions that challenge information
2) guide the student to discern what is relevant
3) role model thinking like a nurse

Teaching Thinking

In a nut shell:

1) what was the student thinking about while they were involved in the situation (i.e. think out loud)

2) what influenced their thinking and actions

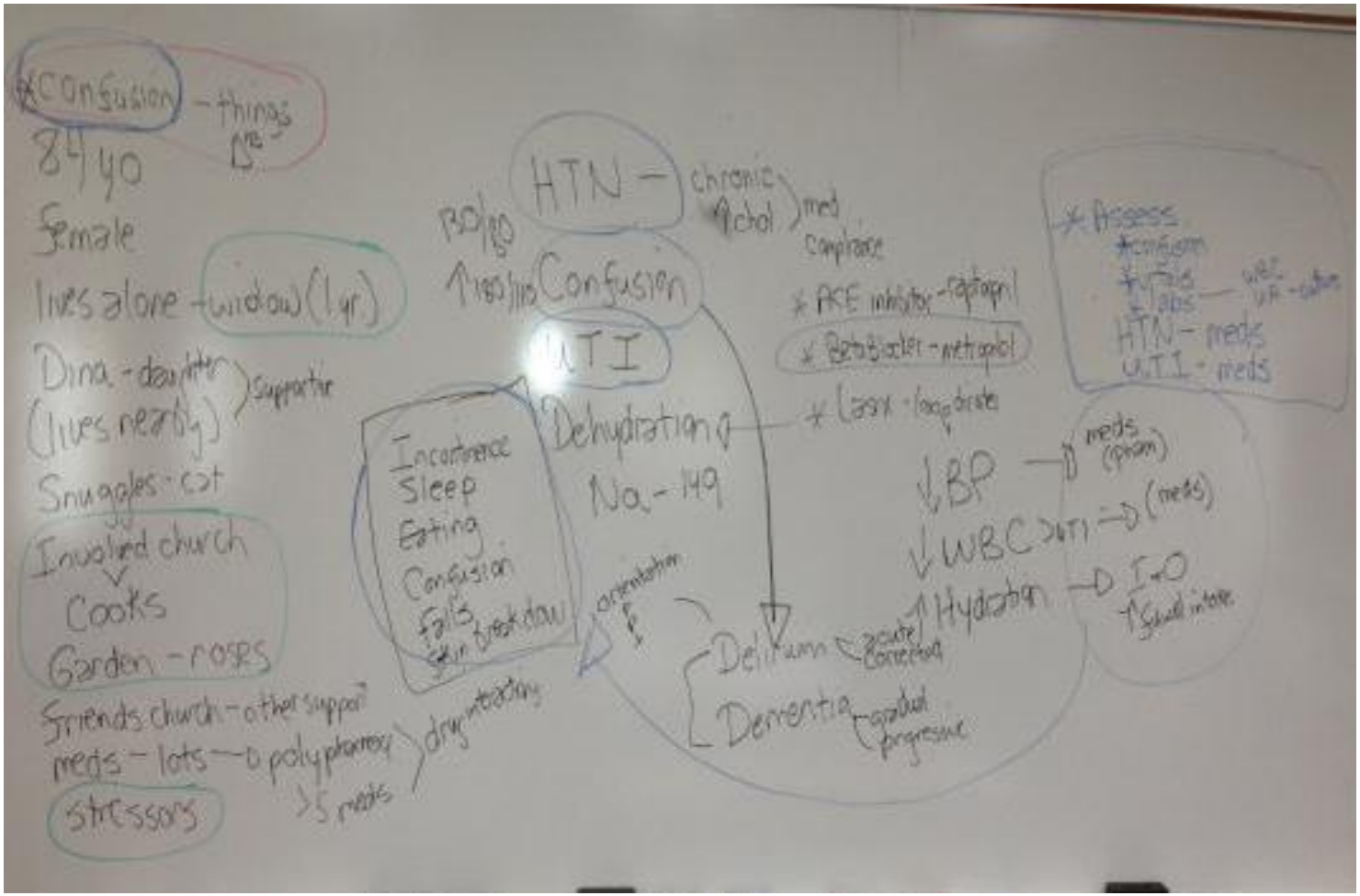
3) what did the student learn

Debriefing for Meaningful Learning ©

Thinking In

Thinking On

Thinking Beyond



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

Student Preparation for Active Learning

- Learning Outcomes – beginning with the end in mind
- Individual Preparation
  - Readings Related to Topics/Concepts to be discussed
- Psychomotor Skill Familiarity

Teaching Thinking in Class

Salience Essay #1.

Instructions: The Salience essay questions measure course learning outcome 2 "Discern salient data in various patient care conditions." Read the case scenario and provide a brief response with an explanation of your rationale.

CASE 1: You are the nurse doing post-operative teaching for a patient who is going home from the hospital today after a successful colon resection surgery a week ago. Temperature 98.8 degrees F., pulse 74, respirations 16, blood pressure 128/76, oxygen saturation 94% on room air. Pain is 2 out of 10 after taking two tablets of hydrocodone/acetaminophen 10/325 mg an hour ago. The incision is well approximated and staples are intact. There is a small amount of serous drainage on the dressing. No redness or edema at the incision. The physician orders are that the patient should change the gauze dressing daily until the clinic appointment next week. The patient states "I am nervous about going home because the last time I had surgery, the incision became infected and I don't want to have another infection." Lungs are clear. Bowel sounds are positive in all four quadrants and the last bowel movement was yesterday. The patient lives in a two story home with his spouse, and the only bathroom has a bathtub without a shower. The patient reports his hobby is fixing up classic cars and states "I am looking forward to working outside on my car while I am home from work for six weeks recovering from surgery!" **Based on what you have learned about infection and information from this patient's story, identify three points you will include in your patient education to help this person prevent postoperative infection.**

Point you will include in the patient education……..	Why is this important?……
1.	
2.	
3.	

Figure 2 Salience Essay

Teaching Thinking in Clinical

CASE ANALYSIS ASSIGNMENT #1

Instructions:

1. Read the attached case. Identify the most relevant data for this patient. Include no more than 5-7 data points. List the data below with the pathophysiologic rationale for its inclusion. Try to only cluster data if it pertains to each other.

Data	Rationale

2a. Review the data you identified in question #1. Recall the central concepts we have studied this year. Identify the priority central concept that most clearly explains the pathophysiology of the disease in this case.

The Priority Central Concept: {Name what is happening, e.g. Altered Cells}

2b. Explain the underlying pathophysiology of the identified central concept in relationship to the disease process: {What is happening in the body? Give a thorough pathophysiologic description down to the cellular level}. Try to put this in your own words or thoughts.

3. Which labs and other diagnostic tools support you with identifying the medical diagnosis. In your own words, briefly explain their relevance within the context of this case.

Figure 3 Case Analysis Assignment

Part 3

Translating Learning Outcomes to Enhance Teaching and Curriculum

Square Peg in a Round Hole

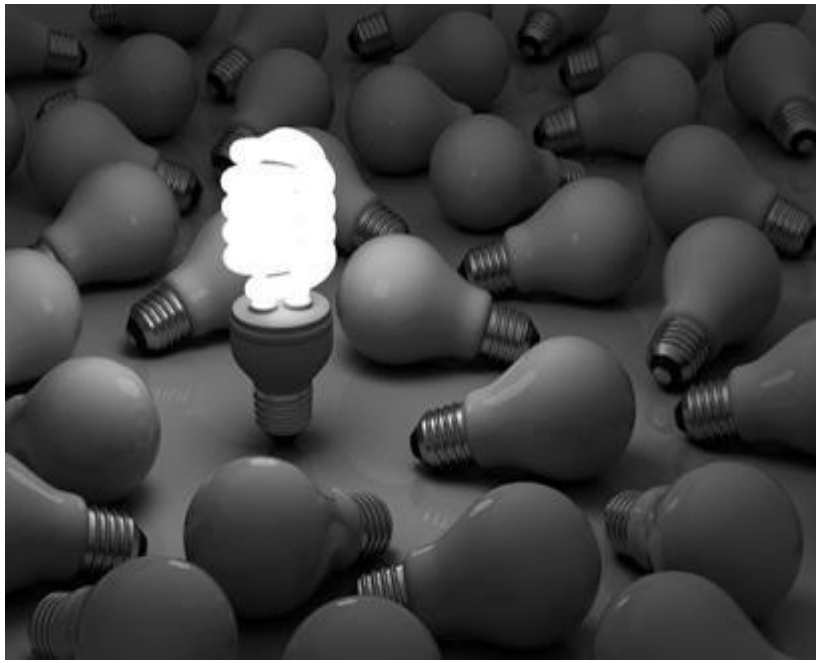
Roger's Diffusion of Innovation

- Relative Advantage
- Compatibility
- Complexity
- Trialability
- Observability

(Rogers, 2003)

Roger's Diffusion of Innovation

- Innovators
- Early Adopters
- Early Majority
- Late Majority
- Laggards



(Rogers, 2003)

Road-Blocks, Detours and Re-Routes, Oh My!

Road-Blocks: Curricula

- Program Priorities
- Additive Curricula
- New Curricula in progress – too many changes already
- Accreditation

"I'll be happy to give you innovative thinking. What are the guidelines?"

Road-Blocks: Faculty

- Too Busy
- Multiple Responsibilities
- Size of the School
- Lack of Power
- Resistance

Student Response

You know how the prof usually led the discussion around certain highlights of the events that happened during the sim scenario(while the students are feeling a little bored)? Well..... basically we used data gleaned during the scenario to create a pseudo-concept map on the marker board with the instructor as the “scribe” while we drew verbal connections between the data and the patient’s story they “came in with.” We had to constantly think about how one thing connected to the next. I left there being able to apply what I learned to new situations.

Supporting faculty to create change

- Administrative support
- Faculty champions
- Networking—reducing isolation
- Encouraging innovation

Reframing curricula

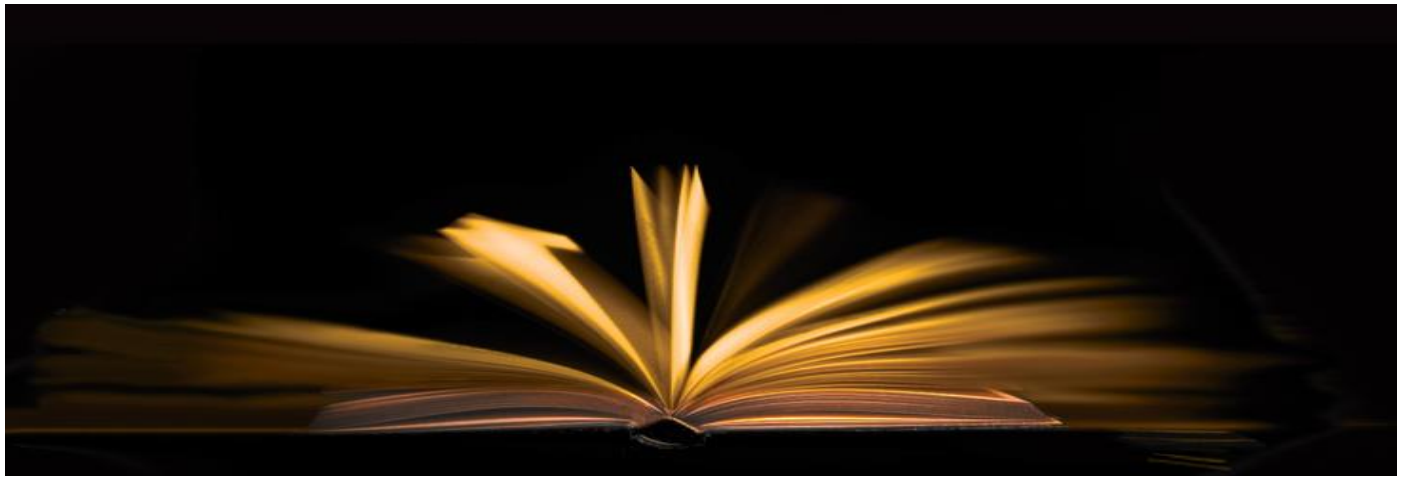
- Overcoming inertia— ‘we’ve always done it this way’
- Enhancing intra-departmental collaboration
- Incorporating cutting edge best practices
- Encouraging innovative teaching methods
- Educating the Educator

Student management

- Setting expectations
- Threading the innovation throughout the spectrum of learning and assessment
- Harnessing student enthusiasm

Faculty Service and Scholarship

- Local and regional consortia
  - Developing networks
  - Writing collaborations
  - Grant writing support




produced by
ROBERT LEWIN

Questions?