Beyond Critical Thinking: Assessing Clinical Judgment Through Use of Simulated Scenarios
Dr. Paula C. Broussard
Associate Professor/Semester Coordinator
College of Nursing and Allied Health Professions

University Description
- State university, one of 8 campuses under the University of Louisiana system.
- Enrollment 16,500.
- 61 baccalaureate degree programs
- 28 master's degree programs
- 9 doctoral programs

Program Description
- 1500 declared majors
- Generic BSN
- MINE (Mobility in Nursing Education)
- Accelerated Option

Cypress Lake
The Critical Thinking Movement in Nursing

- Influence of NLN
- Striving to define critical thinking
- Difficulties in measurement

Traditional Approach

- Thinking is a means to knowledge acquisition
- Reasoning is a group of conscious mental operations that precede and guide human action.
- Founded in the concept of rationality and logic

Feminist Approach

- Subjectivity and intuition are as valued as rationality as a means of knowledge acquisition
- Founded on feminist “women’s ways of knowing”
Defining Critical Thinking

- Commonalities
  - Reflective practice
  - Contextual appraisal
  - Analysis
  - Inference
  - Evaluation
  - Self regulated thinking and practice
  - Incorporates feelings and emotions decisions

Critical Thinking in Nursing

- Walthew, 2003
- Studied nurse educators views of critical thinking
- Educators reflected incorporation of both approaches into their definitions:
  - Traditional information gathering, linking theory to practice, and logical problem solving
  - Contextual knowing, use of emotions including caring in decision making, relationship and communication

Paul (1991)

One’s basic way of knowing cannot be isolated from one’s basic way of being.

Characteristics of Excellent Thinkers in Nursing

- Able to assimilate and manage conflicting information and dissonant viewpoints
- Routinely examine assumptions that underlie our practice and behaviors
- Able to make sound decisions, even without complete information
- Question existing practice and search for evidence to support practice, making valid suggestions to change current practice
- Comfortable and competent in functioning in a leadership role

(Valiga, 2003)
How is Critical Thinking Best Measured?

- Standardized Measurements
  - Watson Glaser
  - California Critical Thinking Disposition Inventory
  - California Critical Thinking Skills Inventory
- Issues with measurement
- Is there a truly universal measure?

So, how do we facilitate clinical thinking?

- Recognize that critical thinking is not a single concept, but a group of skills, when existing together, form a foundation for safe and effective professional practice
- Teach and evaluate these skills as such

The Need to Move On

- Shifting the focus from critical thinking to clinical thinking.
- Recognize that current measures of critical thinking are either insufficient or not addressing critical thinking as we conceptualize it
- Recognize the possibility that the concept of critical thinking is so complex that its existence and evolution cannot be completely quantified
- Recognize that perhaps critical thinking cannot be "improved," that it is a fixed trait in adult learner

Source: Tanner C. Journal of Nursing Education February 2005

The Relationship between Thinking and Judgment

- Clinical judgment is the use of critical thinking skills, but may require more than critical thinking.
- Clinical judgments are best made when the learner is able to critically analyze and compare the present state to a specified or desired outcome state (Pesut and Herman, 1999).
- Implies more than decisions – requires use of knowledge based on both traditional and feminist thinking, both logic and intuition based on experience, and on contextually appropriate application of learned content
Assumptions in the Development of Clinical Judgment

- Excellent clinical judgment is the goal of nursing education
- To transition between thinking and judgment, the student must be clear about problems, issues, and risks which must be managed in order to reach desired outcomes.
- Judgment is best developed when the learner can reflect upon a collection of past experiences that form a point of reference: a schema for organize thoughts and decisions. Therefore, students require repetition and feedback in a variety of settings and with a variety of patient situations over an extended period of time.

Teaching Clinical Thinking and Judgment

- Contextually based environments and learning exercises
- Emphasize process of thinking as much as content
- Model thinking and decision making
- Create teaching strategies that demonstrate outcomes of clinical thinking and judgment

Simulation: One Answer to a Complex Problem

- Gives faculty the flexibility to create many different learning situations
- Students get repeated exposure to patient problems in varying contextual situations
- Controlled feedback based on the situation
- Students may be presented with highly structured, well defined scenarios or ill-structured, poorly defined scenarios which represent realistic ambiguity and dissonance.

- Teaches students to think on their feet
- Controlled the clinical environment, ensuring adequate case exposure within a limited period of time
- Creates realistic scenarios to practice decisions and experience outcomes of those decisions
Why Simulation?

“Studying student’s thinking while they care for their clients in their clinical practicum rather than through the use of case studies, enables faculty to evaluate student skill acquisition, and professional growth over time.”


What Do We Mean By Simulation?

- Doesn’t necessarily have to be done with expensive, high-fidelity simulators
- May use task trainers, standardized patients.
- Idea is to make key aspects of scenario as real as possible.
  (equipment should be functional, if focus is on communication, conversation should be as real as possible)

Theoretical Foundation for Simulation as a Teaching/Learning Technique

- Behaviorism
  - If the learner is prepared for the experience, learning is enhanced.
  - Establishing and repeating meaningful connections enhances learning.
  - Learning environment enhances behavior.

- Social Learning Theory
  - Individuals learn from watching others
**Cognitivism**
- Learner interprets stimuli and assigns meaning to events by cognitively reorganizing and analyzing inputs.
- Learning ultimately results in the “aha”
- The teacher’s role is that of a collaborative facilitator

**Constructivism**
- Learning is a process of constructing meaning as defined by the individual learner and based on the individual’s knowledge base
- Learning MUST be personally relevant, meaningful, and viable to the learner
- Role of teacher is to structure orderly, appropriate experiences based on solid goals

---

**So, What Does This Mean for Constructing Scenarios for Teaching and Evaluation?**
- Most important – solid, realistic goals that are shared with the student ahead of time.
- Teacher’s role is to construct, structure, and organize the learning experience and function as collaborator
- Scenarios must be realistic and plausible for the learner
- Must include opportunity for reflection
- Must create an environment of collegial learning where students are comfortable with learning with and from each other

---

**Structuring Simulated Scenarios**
- Defining the outcome: we want to achieve
- Identify outcomes to the student
- Force students to “think about their own thinking”
- Require identification of needed changes in practice
- Require student to function in leadership role
Assessing Clinical Judgment

- Assess clinically-based behaviors, actions and decisions as they would occur in practice
- Scenarios based on realistic clinical situations
- Reliability and validity of scenarios must be determined
- VALIDATE REAL BEHAVIORS IN A REAL ENVIRONMENT

Implementation of Simulation in A Baccalaureate Senior Acute/Critical Care Course

- First implemented in a senior level acute/critical care course.
- Designed to reinforce content and facilitate clinical judgment
- Part of clinical performance grade

Nursing 418 Content

- Critical care assessment skills
  - ECG interpretation
  - Hemodynamic monitoring
- Acute Coronary Syndrome
  - Care of emergency, medical, and postoperative patients
- Respiratory Failure
  - Ventilator management
- Multiple Trauma, SIRS, ARDS

Nursing 418 Skills

- Blood Administration
- Trach care and endotracheal suctioning
- Ventilator management
- Telemetry and ECG monitoring
- Resuscitation/airway management
- Scenarios combine skills validation with critical event management based on course content

**Example:**
- Blood administration skill
  - Context changes: Pt. develops CHF exacerbation; flank pain with hypotension and ↓ u/o; mild itching reaction
- Dysrhythmia management
  - Pt. with low rate – asymptomatic; pt. w/ low rate who says I'm feeling a little woozy; pt. who has escape beats.

**Management of IICP**
- Action based on calculation of cerebral perfusion pressure

**Titration of vasoactive drugs**
- Calculation of drip rate, program IV pump

**Format**
- Objectives
- Critical elements for skills validation, desired outcome of critical event management
- Description of patient scenario
- Determine dialogue
  - May be programmed or "on the fly" with simulators
  - Use of realistic voices for the scenario
- Write guide for instructors to insure consistency of scenario

- Includes questions for reflection-in-action
- Includes questions for reflection-on-action
  - May be part of written debriefing
  - May be part of verbal debriefing
Standardized Student Questions

- Reflection in action
  - Outcomes I want to achieve for this patient:
  - My identification of these outcomes is based on:
  - I will help this pt. to achieve these outcomes by:
  - Resources, help, or further information I may need:

- Reflection on action
  - My feeling about the outcome of this scenario is:
  - Given the same scenario again, I would change ___, ___, and ___ in my performance.
  - What past experiences influenced your decisions in this situation? What is your feeling about this influence?

Implementation

- Construction of critical care lab
  - Completely gutted large classroom
  - Installed 6 critical care stations, complete with state of the art IV pumps, Laerdal SimMan® simulators, ventilators, crash carts and defibrillators, and headwalls.
  - Constructed observation station with audio and digital video recording equipment and remote operation of simulators

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Evident</th>
<th>Not Evident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student identifies realistic, appropriate outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student seeks resources/assistance as situation dictates</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Processes opposing and conflicting information
Analyzes lab and assessment data; identifies missing data
Able to reflect on performance realistically, self-correcting when needed

Outcomes
Students enthusiastic and comfortable with facing complex challenges
Faculty sense being more effective in clinical teaching, more comfortable with evaluation of student's thinking and decision making abilities
Faculty report more equipped to make evaluations of clinical performance

Contact information
Paula Broussard
pcbroussard@louisiana.edu