

## **Unfolding Case Study to Increase Student Learning and Clinical Judgement**

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### **Author Biographies**

Dr. Lydia Watkins is the Dean of Nursing and Health Sciences and an Associate Professor of Nursing at the College of Coastal Georgia. Previously, she was an Adjunct Instructor with Michigan State University's College of Human Medicine, and a Pediatric Nurse Practitioner in Hematology/Oncology at Sparrow Hospital in Lansing, Michigan. Her Master's and Doctorate of nursing degrees are from the University of Alabama in Birmingham, and her Bachelor of Science in Nursing degree is from Samford University.

Dr. Lauren Boardman is an Assistant Professor of Nursing at the College of Coastal Georgia. Her specialty areas include critical care, psychiatric/mental health and behavioral nursing, simulation, research and evidence-based practice. Her undergraduate baccalaureate degree is from The Ohio State University, Master's degree from Otterbein University, and Doctoral degree from Duquesne University. Dr. Boardman has published original research manuscripts on nursing student resiliency and currently is conducting further research in this area.

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### **Introduction**

Over the years, teaching strategies have had to drastically change to meet the needs to today's learner. Innovative approaches to teaching and remediation are required to enhance the student's learning experiences. For the faculty of the College of Coastal Georgia, this means adopting practices to build clinical judgment through narrative pedagogy and applied learning, which, in return, increases the level of critical thinking and enhances application of course material to clinical and patient scenarios. Unfolding case studies can be threaded into a kinesthetic activity to challenge students to apply main concepts from didactic content.

An example currently being conducted in Coastal Georgia's BSN program involves a month-long, unfolding case study where the students are introduced to a young male who, on day one presents to the emergency department (ED) after being in a motor vehicle accident. As the week's progress, students are given additional patient information, in addition to the presenting baseline subjective and objective data. Each simulation day students work on a concept map with the facilitator to identify potential complications during their nursing shift, anticipate what interventions would be required with each complication, and how they would evaluate if interventions were successful or required further action.

### **Goal of the Teaching Activity**

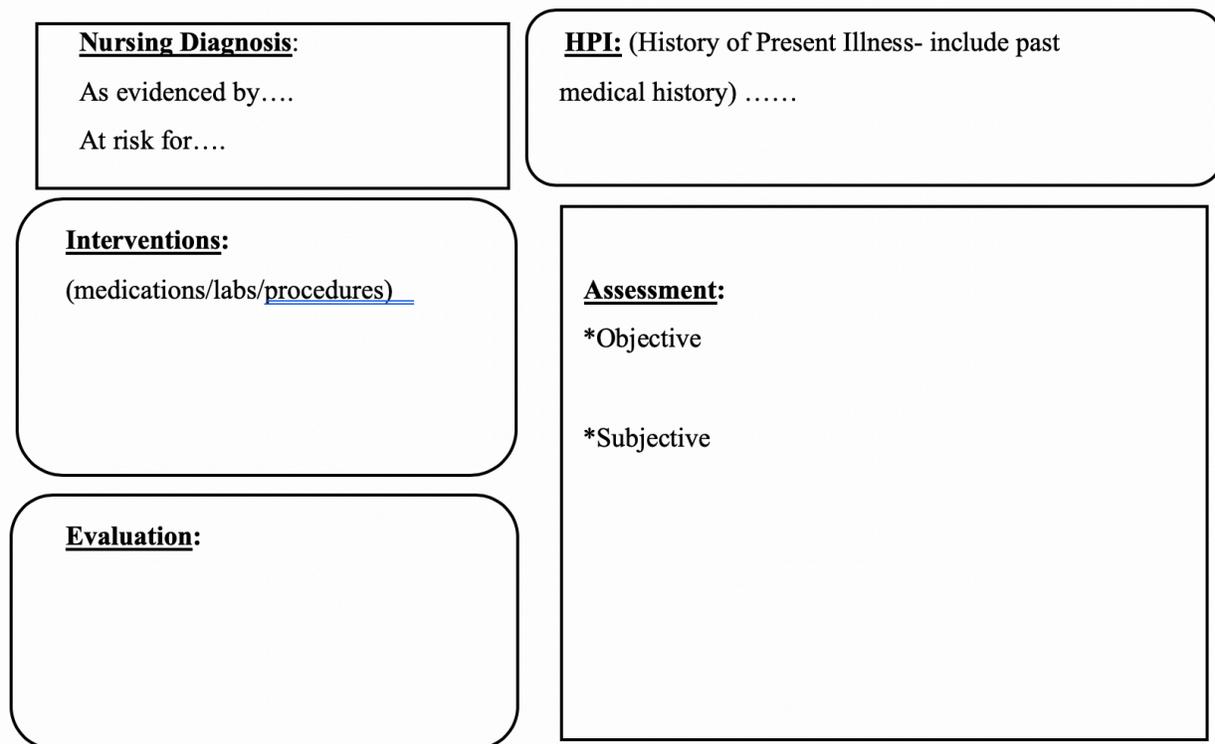
Through this month-long unfolding case study, concept mapping, and simulation, the goal is for the students to enhance critical thinking skills, build clinical judgement, and bridge the knowledge/theory-to-practice gap. Faculty use a fluid model of assessment, analysis, synthesis, and evaluation to engage students at higher cognitive domains, ultimately improving student learning outcomes. Building on previously learned knowledge, skills, and experiences through the lens of clinical judgment is the ultimate goal, and seeks to meet the desires of employers and the needs of complex patients seen in clinical practice.

## Description of the Teaching Activity

### **Motor vehicle accident unfolding case study & simulation**

During the month-long clinical rotation, students spend two days/week on a clinical unit at the hospital. On the second day students spend their last four hours of clinical in the simulation lab on the college campus. During this time, they follow a patient through an unfolding case study. Each week the patient scenario progresses to involve a new complication, either from the initial motor vehicle accident or care received. The patient experience ranges from rib and leg fractures leading to pneumothorax and surgery, hypovolemia, cerebral edema, an infected surgical wound resulting in sepsis, and eventually, ending in end-of-life care. The students and facilitator walk through each patient case using concept mapping (Figure 1) to identify pertinent data, causes of the current health conditions, potential complications, interventions, and evaluation of care. In addition to concept mapping each patient scenario, students engage in specialized assessments and are introduced to critical care skills and monitoring, all of which the student will encounter in didactic content delivered throughout the semester. Students are instructed on newly introduced material and skills, and are allowed practice time before the simulation begins.

**Figure 1 – Picture of Concept Map used**



Sessions are video/audio recorded, and this is used during focused debriefing following the *debriefing for meaningful learning model*, where students engage in deeper learning through analysis of performance, peer discussion, and guidance from the simulation specialist who is leading the debriefing.



### **Case Presentation:**

*24-year-old unrestrained passenger is severely injured during a roll-over motor vehicle accident. Patient presents to the ED on a back board and c-collar with multiple skin abrasions, displaced left lower leg fracture, 4<sup>th</sup> and 5<sup>th</sup> broken ribs, possible pneumothorax, and large facial laceration.*

Week 1: Patient presents from the ED and experiences episodes of hypovolemia; treatment includes insertion of a central venous catheter for fluid boluses, and is waiting for imaging to clear c-spine/spinal precautions; outcome of the interventions is stabilization of blood pressure; students learn spinal precautions, in-line stabilization, trauma assessment, and review central line care and positioning of a patient related to their symptoms.

Week 2: Patient presents with a pneumothorax and is prepared to go to operating room for leg fracture fixation, and comes back in hypertension (HTN) crisis; treatment includes chest tube care, troubleshooting for air leaks in the chest tube, and management of HTN; outcome of the interventions is further stabilizing the patient and identifying post-operative surgical wound infection; new skill/assessment is chest tube management, and surgical wound assessment is reviewed.

Week 3: Patient presents with cerebral edema following HTN crisis during and after the operating room, and the patient's surgical incision infection worsens; treatment includes neurologic assessment/positioning, intracranial pressure (ICP) monitoring and ventriculostomy management; outcome of the interventions is continued neurologic impairment in which the student must decide if end-of-life care should be addressed as the patient has a full code resuscitation status; new skills include ICP and ventriculostomy care/monitoring, end-of-life care, sepsis screening, taking blood cultures from central line, reviewing focused neurological assessment.

Week 4: Patient presents as septic and has signs of end organ failure; treatment includes sepsis management (pseudo hypovolemia-vasopressive medication, fluid bolusing, central venous pressure and

arterial line monitoring); the outcome unfortunately is end organ failure and multiorgan dysfunction syndrome in which the students will work through end-of-life care issues, including educating and comforting family at the bedside; new skills taught are critical care monitoring parameters, zeroing pressure lines/systems, end-of-life care.

**In addition to completing the concept map, students must discuss and answer additional questions which include:** List three potential complications for this patient; For each complication list one preventative intervention with rationale; Should one of the above complications occur, list one intervention the nurse might anticipate the provider ordering; Order interventions based on highest (immediate) to lowest (needed but not immediate) priority and provide the rationale behind prioritization; Based on previous answers, what assessment findings would indicate 1) Improvement in status, 2) Decline in status, 3) Unchanged status; If status of patient is unchanged, what additional interventions may be considered?

Since Coastal Georgia has been incorporating such teaching activities in nursing courses and clinical/laboratory components, student success, retention, graduation rates, and 1<sup>st</sup> time NCLEX-RN test taker pass rates have greatly increased (2013 = 71% - 79%; 2015 - 2019 = 94% - 100%, including 5 consecutive years of at least one nursing program having 100%). Today's student needs more engaging and creative instruction that stimulates thinking in a comprehensive manner. This teaching activity is just one example of the style of education that is embedded in the ASN and BSN programs at Coastal Georgia, which have enhanced student learning and could be replicated with most programs and schools to meet the needs of today's learner.