



INTRODUCTION

How do we assist students to become good decision makers? Many schools of nursing struggle to provide relevant clinical nursing experiences for their students. Simulation experiences can often fill these voids in learning. However, students also need to build foundations of knowledge in order for the simulations to be beneficial. The model illustrates the relationship between Foundations of Learning, Case Studies, Simulations and Clinical Application Activities. None of these learning techniques described in the model occur alone, students are continuously moving from one type of learning environment to another.

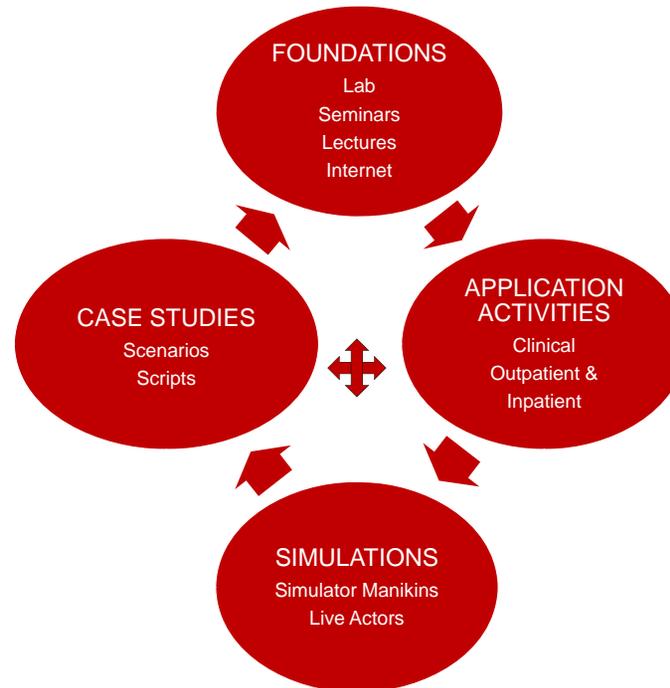
FOUNDATIONS

In foundations the students learn basic knowledge from textbooks, videos, lab, lectures, seminars and internet. Students need a strong understanding of disease process in order to formulate nursing actions in the clinical and simulation activities. For this illustration, prior to lab and clinical experiences the students were given reading assignments about the pathophysiology of diabetes and the signs and symptoms of hypo and hyperglycemia and normal blood sugar values. During lab, the nursing instructor reiterates with the students the normal glucose levels and signs and symptoms of hypo and hyperglycemia. This basic knowledge is essential to care for the diabetic patient.

CASE STUDIES

Scripts provide the student with a verbal memory of a powerful experience that they can use later in the clinical setting. These scripts are usually experiences that the instructor or other students have had in a clinical setting. The following script is an example: Initially the nursing instructor discusses with the students the normal fasting blood glucose levels (80-120). The instructor further explains that blood glucose levels lower than 50 (hypoglycemia) can result in "a rapid onset of cold, clammy skin, numbness of fingers, toes, mouth, rapid heartbeat, emotional changes, headache, nervousness, tremors, faintness, dizziness, unsteady gait, slurred speech, hunger, changes in vision, seizures and coma". Then the instructor tells the students about a nursing experience she had: Joyce, realized that her elderly husband, Jack, who was sleeping in bed beside her, was mumbling incoherently, totally soaked with sweat, and was unable to be aroused. Joyce called the hospice nurse at three o'clock in the morning to get assistance. The nurse pulled up this patient's chart on her laptop computer. As she was reviewing Jack's medical history, she was talking to Joyce, asking her if Jack was awake and alert on Christmas day which was the day prior to her call. "He was", she said, "in fact he ate Christmas dinner with us and had a snack before bed". After reviewing Jack's medication profile the nurse realized he was a diabetic and was on twice daily Insulin injections. The nurse asked Joyce to take his blood sugar, in which she responded, "I didn't even think of that, and I am also a diabetic!" Joyce then took his blood sugar, which was extremely low at 30. The nurse discussed what Joyce had on hand to give him to increase his blood sugar. The only thing sweet that she had available was Coca Cola, therefore Joyce was encouraged to position her husband on his side and elevate his head with pillows while giving him sips of Coca Cola. After being on the phone with Joyce for 1½ hours, Jack could be heard asking for his coffee and newspaper. Joyce had realized she had given Jack an extra dose of Insulin the previous night which caused the onset of low blood glucose and symptoms of hypoglycemia. The Hospice committee recognized that Joyce, elderly herself, was becoming overwhelmed by taking care of her elderly husband at home. Several days later, Jack was placed in a nursing home for respite care, so Joyce could have a break.

MULTI-METHOD TEACHING MODEL



SIMULATION

Students involved in the scenario received this oral report from the faculty member:
Your patient, J.J., is 35 year old woman who was admitted yesterday with flu-like symptoms. She was diagnosed with Insulin Dependent Diabetes 3 years ago. Last night at hour of sleep she gave herself Lantus 30 Units and Novolog 3 Units subcutaneously and ate her snack at 2100. She has had nausea and vomiting since that time. It is now 0400 and she puts on her call light to report feeling dizzy and that she is diaphoretic. Her sister is at her bedside frantic that the patient will seize and become comatose.
What is your plan of care? (The instructor would observe for appropriate actions by the student)
Correct delivery of plan of care would be to assess the patient's vital signs, O2 saturation and blood glucose of the patient.
Everything was normal except the blood glucose was 50.
What would you do?
The student would be expected to give the patient 8 ounces of orange juice or something sweet, recheck the blood sugar in 15 mins and stay with patient and sister until patient's blood glucose level stabilizes between 80-120. Educate patient and sister about the signs of hypoglycemia and what she needs to do at home when she feels dizzy and diaphoretic.
After the simulation activities are completed the students involved in the simulation meet to debrief. The leader asks what went well? What would you change? What did you miss?

Application Activities

Clinical experiences in hospitals and outpatient settings provide some of the most powerful learning experiences when students are able to make clinical judgments and perform the care they have been exposed to in foundations, case studies and simulations. Students who studied diabetes in foundations and case studies would ideally be assigned to an insulin dependent diabetic patient in the clinical setting. The learning would be connected to the previous scenario, case study and the simulation.

CONCLUSION

There are many teaching strategies that help students to understand content and use it in the practice of nursing. Any one strategy when used alone is not as powerful as when combined with other strategies. Many of the strategies that were utilized even three to five years ago are no longer valid in today's technical world. Students need to be able to use computers and high technology equipment in order to save lives. However, nursing students are often not given opportunities to participate in life and death critical decision making situations in the clinical practice settings. The Multi-Method Teaching Model which includes case studies and the clinical simulation experience assists students to gain valuable critical thinking, hands on experiences that they would not otherwise be able to obtain. The process is iterative as students return to the lectures, texts and internet for additional foundational content. The combination of teaching methods are more powerful than any single method.

Jeffries, P. (2007). *Simulation in nursing education from conceptualization to evaluation*. National League for Nursing, 61 Broadway, New York, NY 10006.
Pesut, D. & Erman, J. (1999). *Clinical reasoning the art and science of critical and creative thinking*. Delmar Publications.