Abstract #11: Poster (Teaching Tool)

Virtual Learning: The Development of Case Study based Lab Simulation in the Clinical Laboratory Science Undergraduate Curriculum

The goal for implementing simulation into medical laboratory education is to provide students with a highly realistic learning environment to practice "real-world" situations before starting clinical internships. To encourage higher levels of thinking during simulated scenarios, the incorporation of case studies exposes the learner to problem-based learning which facilitates the development of critical thinking skills by tapping into the cognitive learning domain of Bloom's taxonomy. This research project focused on developing case study based lab simulation for undergraduate CLS students. By utilizing case studies in laboratory-simulated scenarios, the learner engages in critical thinking/problem-solving skills by focusing on cognitive learning in order to evaluate, analyze, and interpret laboratory data from all major areas of the clinical laboratory as it correlates to a specific patient diagnosis. Each learning module was based on a disease/condition the student is most likely to encounter in the hospital/laboratory setting. Learning module # 1 centered on a Type 2 diabetic with chronic renal failure and learning module #2 involved a patient with gastrointestinal bleeding due to colon cancer. The pedagogical framework encompassed the following phases: pre-briefing, analysis and test performance, student-centered discussion, and debriefing. The results of the module evaluations concluded, 100% of students strongly agreed they learned to think critically as a result of the activities in learning module #2, while 75% of students strongly agreed (25 % simply agreed) in learning module #1. Utilizing case studies, group discussions, and simulated scenarios creates a student-centered learning environment, thus allowing students to become active learners.