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The Influence a Multiple Teaching Modalities Course on Knowledge and Self-Confidence of Newly Trained Emergency Nurses

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ABSTRACT

THE INFLUENCE A MULTIPLE TEACHING MODALITIES COURSE ON KNOWLEDGE AND SELF-CONFIDENCE OF NEWLY TRAINED EMERGENCY NURSES

Many new graduate residency programs exist supporting new registered nurses (RN) transition from theory to practice, but what is not reported in the literature are programs for RNs transitioning in practice to specialty care units, such as the emergency department. Furthermore, literature addressing the use of multiple teaching modalities as a method in course work is limited. A quasi-experimental design study explored the influence a multiple teaching modalities course on the knowledge and self-confidence of newly trained emergency department nurses. Results indicated using multiple teaching modalities provided a benefit to newly trained ED nurses with an increase in knowledge and self-confidence.

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THE INFLUENCE A MULTIPLE TEACHING MODALITIES

COURSE ON KNOWLEDGE AND SELF-CONFIDENCE OF

NEWLY TRAINED EMERGENCY NURSES

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CHAPTER 1: INTRODUCTION

The Bureau of Labor Statistics' (2013) states by the year 2022 there will be over one million vacant nurse positions. On average, between, 30 - 50% of new Registered Nurses (RNs) change their nursing job or leave nursing within three years of hire due to stress, fatigue, and burn out (Snavely, 2016). In 2014 the average turnover rate for RNs was over 17% and ten percent of those hospitals stated having a 24% turnover rate (Snavely, 2016).

The American Nurses Association (2016) maintains that in the present nursing shortage, the average age of RN's in 2010 was 44.6 years. This aging population is considering changes in their career path and retirement. Their career change directly effects the nursing shortage with an increase in vacancies. The (2010) Institute of Medicine (IOM) reports that nurses today take care of sicker patients, requiring them to work in close collaboration with chronically ill who have complex diagnoses (Clark & Springer, 2012). Due to the nursing shortage, emergency departments (ED) are challenged to find experienced ED nurses with high-level critical thinking and the ability to constantly reprioritize in an ever changing environment. With this shortage, healthcare organizations have no choice but to hire nurses who have no experience in the ED (Winslow, Almarode, Cottingham, Lowry, & Walker, 2009).

The future of nursing education has received recommendations from the IOM to support educational programs. Educational programs would benefit prelicensure nurses transitioning to practice, advanced practice degree nurses, or nurses who are transitioning in practice to an unfamiliar clinical practice area, for example, the ED (Institute of Medicine, 2011). Literature addressing new nurse residency programs are easily found, but a gap exists in literature related to

experienced nurses transitioning to new areas of practice. Transition in practice programs need to be created to support RNs transitioning into specialty areas where high acuity patients have complex presentations and multifaceted needs (Patterson, Bayley, Burnell, & Rhoads, 2010).

The research question guiding this study was "What is the effect of using a multiple teaching modalities course on the knowledge and self-confidence of nurses transitioning to the ED?" This study was designed to support all learning styles of the adult learner by incorporating case studies, simulation, games, and creative teaching activities to facilitate the learning process.

Critically thinking entails recognizing subtle changes in a patient condition, anticipating orders, and prioritizing while competently performing interventions. Critical thinking is needed to problem solve and clearly communicate a change in a patient's condition and the need for intervention (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2008). The Joint Commission of the Accreditation of Healthcare Organization Standards (2006) stated the top issues influencing patient safety errors in the past ten years are training, orientation, and the assessment of competency (JCAHO 2006, Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2008). Ensuring nurses transitioning to the ED are well prepared to handle high-acuity patients begins with training and orientation.

The ED is a high-stressed and dynamic environment. Placing new ED nurses in this type of environment without adequate training can be overwhelming and effect patient safety (Berezuik, 2010). This study focused on using multiple teaching modalities during the course to keep the learner engaged and actively participating; allowing them to gain self-confidence and knowledge which will contribute to patient safety (Haidar, 2009).

Traditional teaching has focused on teacher-centered education. This type of educational format consists of the teacher providing information in a didactic structure with learners as passive receivers. This process does not allow the teacher to recognize how much the learner understands (Haidar, 2009). A course for the novice ED nurse must involve the participants in the learning process by engaging in problem-solving and using teamwork skills (Scheckel, 2016). This will facilitate critical thinking which is directly related to patient safety (Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2008).

Definition of Terms

The following operational terms applicable to this project have been defined.

Knowledge - The understanding of basic ED nursing to deliver safe nursing care (Toth, 2012).

Nurse - A nurse who has no experience in the area they will be practicing in (Benner, 1984, Fero, Witsberger, Wesmiller, Zullo, & Hoffman, 2008).

Self-Confidence - The nurse feeling comfortable with the ability to take care of an ED patient.

Multiple Teaching Modalities Definitions

Case Studies - Examples of real patient scenarios presented to the class to encourage in-depth analysis (Kirkpatrick & DeWitt, 2016).

Creative Teaching Activities - Learning activities which keep the participants actively participating while learning.

Games - Using nursing content presented in a game show format (e.g. Jeopardy).

Simulation - Low-fidelity mannequins used for practicing skills, high-fidelity simulation (HFS) using mannequins which are computerized to simulate real patient physiological activity, such as breathing, pulses, and active bleeding, and standardized patients which are actors trained to role-play as patients with a specific diagnosis, for example, splenic rupture status post assault (Kirkpatrick & DeWitt, 2016).

Skills Practice - Practicing ED skills, for example, drawing up rapid sequence intubation medications and setting up for a chest tube insertion.

Multiple Teaching Modalities

Several teaching modalities were used in the ED course to engage the participants and facilitate the learning process. Each method used one or more of the different learning styles which helped the individuals to learn. These styles were visual, auditory, and kinesthetic (Valiga, 2012). Case studies, creative teaching activities, and games are good for the visual and auditory learner. Simulation and skills practice are good for all learning styles.

Case Studies

Case studies used in a teaching-learning process can be very beneficial for the student by bridging the gap between theory and practice. Case studies are motivating, interactive and do an excellent job in stimulating critical thinking and decision making, reinforcing ideas and problem-solving with other classmates. Many different schools and universities use them to create a learner-centered educational environment (McFarlane, 2015). This type of environment allows the participants to be active learners in their education.

Creative Teaching Activities

A variety of activities were used to enhance participation and active learning. Role-playing types of patients encountered in the ED environment were used, such as an elderly patient with abdominal pain requiring triaging. Videos are ideal providing a visual on content being discussed, for example, a young schizophrenic person hearing voices while interacting with her family who are not hearing the voices.

Games

Games are an excellent method to encourage critically thinking, challenge students, and make learning enjoyable. This form of teaching/learning enhances enthusiasm makes learning fun and stimulates learning. Promoting involvement in active learning is how adults learn best (Royse & Newton, 2007).

Simulation

Simulation is a method of active learning where real patient scenarios can be replicated safely without endangering a patient's life. Practicing with simulation allows for active participation using clinical reasoning, psychomotor skills, and teamwork (Haidar, 2009). Scenarios which are high risk and low frequency can better prepare the learner entering into high acuity environments where patients present with variable diagnoses.

According to Bloom's taxonomy, the easiest level of learning begins with knowledge, comprehension, and application. The higher levels of cognitive learning are analysis and synthesis. The terms are discussed as follows:

- Knowledge: The most basic of cognitive thinking. Knowledge is memorizing facts and concepts in order to recall the material taught (McDonald, 2014).

- Comprehension: Understanding the material learned then translating this material into facts. This is understanding at its lowest form (McDonald, 2014).

- Application: Using material learned and applying them into concrete situations (McDonald, 2014).

- Analysis: The ability to take pieces of information, see the relationships between them, and understand how they affect one another (McDonald, 2014).

- Synthesis: Taking elements and combining them together to create new ideas (McDonald, 2014).

By incorporating multiple teaching modalities, as in simulation, nurses demonstrate higher levels of learning by transferring knowledge to practice (Zigmont et al., 2001). The ability to analyze and synthesize data is indicative of clinical competence (Armstrong, 2016). Performance of psychomotor skills and the ability to analyze and synthesize data encourages critical thinking skills and creates the necessary proficiencies needed to work in a high-acuity environment (Zigmont, Kappus, & Sudikoff, 2001).

Skills Practice

Enabling participants to practice skills in a controlled environment provided the opportunity for the classmates to interact and help one another. Educators facilitated the learning process and provided feedback while observing the skills being practiced. Central venous pressure set up is an example of a task that occurs with some critically ill ED patients. Learning in a classroom environment allows participants to learn skills at their own pace and encourages self-confidence.

Purpose

The purpose of this study was to analyze the effects of using multiple teaching modalities on the knowledge and self-confidence of the adult learner transitioning in practice to the ED. In this environment, the educator and learner worked together to develop a shared understanding. The learner needs support to understand and grow as they transfer their experience and new knowledge into their new role as an ED nurse. Incorporating innovative teaching methods enhances the different learning styles and promotes retention of knowledge.

Theoretical Framework

Two theoretical frameworks used for this project: Kolb's experiential learning theory (ELT) (1984) and the Constructive Learning Theory (CLT). The foundation of ELT is that learning and education is a lifelong process encompassing the person and their environment. With experiences, learning becomes meaningful (Beard & Wilson, 2006). In CLT the learner is building upon their knowledge from past experiences. One has experiences, and as new ones occur, knowledge builds and may change. The belief is understanding the new knowledge will help make sense of experiences they have encountered (Candela, 2016).

Lisko and Odell (2010) explain that the traditional approach to learning consists of lectures, memorization, and clinical lab demonstration are resulting in technical mastery without critical thinking. ELT learning arises from experience transformed into knowledge. The results are a change in behavior and the way one thinks. According to Akella (2010), ELT is a humanist concept describing people as natural learners. People have experiences, and through these experiences, they reflect, and change how they proceed using what they have

learned. By engaging in the learning process, they learn, and with reflection, the participants gain understanding and clarification.

Experiential Learning Styles

Lisko and O'Dell (2010) discuss the process of understanding experience and transformation of knowledge into different ways of thinking and behavior. Kolb's theory describes four different learning styles:

- Accommodating learners learn by actively participating in hands-on experimentation, for example, new ED nurses participating in the simulation. These learners prefer "doing" instead of having material presented to them (Atherton, 2013).

- Diverging learners learn by watching, doing, and enjoy learning through experience (Akella, 2010). They absorb what they have learned, then reflect on the new knowledge. Atherton (2013) states they enjoy deep thinking and focusing on details, which later results in looking at the big picture.

- Converging learners learn outside simulation, contemplating abstract ideas that are separate from the experience. They think of practical ideas and hypothetical reasoning (Akella, 2010). They prefer real-life problem solving, as with case studies. Once they have thought about the experience, they will try their new knowledge in practice (Atherton, 2013).

- Assimilating learners learn outside simulation, but learning is internalized. This learning is cognitively focused more than all the others. They prefer didactic lectures that are structured and organized rather than hands-on activities (Atherton, 2013).

Nurses have different learning styles, educators taking this into account will be better able to present material in a manner that will be consistent with nurses' styles of learning (Akella, 2010).

Experiential learning cycles

Kolb's experiential learning cycle involves the learner progressing through four stages, where knowledge is obtained and transformation occurs. In these stages, the learners will gain knowledge from experience, take action, reflect, and then modify their behavior (Akella, 2010). Abdulwahed and Nagy (2009) describe Kolb's four stages of experiential learning cycle as:

- concrete experience
- reflective observation
- abstract conceptualization
- active experimentation

The following stages of the learning cycle are described in more depth. First is the concrete experience. During the concrete experience, the inexperienced nurse focuses on concrete ideas and gains knowledge while also identifying gaps in learning that occurred. As problems arise, there is an open mindedness to learning rather than a systematic approach. In Benner's model, novice to expert, new nurses are novice's with only textbook knowledge but they do not have the ability to analyze and synthesize information gathered. An inexperienced ED nurse will focus on the tasks to complete but fail to focus on patient outcomes (Founds, Zewe, & Scheuer, 2011).

Second is the reflective observation. The nurse reflects on what was learned from the experience and would prefer to observe a respiratory distress patient simulation scenario instead of participating. When observing, they can see

what was learned and what worked. Some experiences will identify gaps in knowledge and others will reinforce what was already known (Zigmont, Kappus, & Sudikoff, 2001).

After reflection, the nurse moves into an abstract conceptualization. The experience produces mental models of change, ideas, and concepts that will help him or her in a future experience. A nurse can use clinical reasoning and judgment, instead of feelings to handle the problems that occurred (Zigmont, Kappus, & Sudikoff, 2001).

The last stage in the experiential learning cycle, active experimentation, is when the new mental model is tested. The nurse looks at the conclusion and uses new knowledge to show the benefits of the change made (Zigmont, Kappus, & Sudikoff, 2001). For example, in the ED the nurse has a patient with a gastrointestinal bleed. On arrival to the ED, the nurses immediately places two large bore intravenous lines, draws labs with a type and crossmatch anticipating the patient needing a blood transfusion. Initially, the new nurse waits for the other team members to direct, but since experiencing the hands-on simulation the nurse knows what to anticipate and initiates care.

The following is an example of using the different experimental learning cycles when learning that a patient is having an acute myocardial infarction (AMI). Concrete experience discusses step by step how the patient having an AMI would present to the ED, the assessment focusing on the issue at hand, interventions, and evaluation. Reflective observation involves thinking about the patient having an AMI and then observes the simulation where the team of nurses is caring for the patient. Abstract conceptualization explains how the AMI patient presents to the ED and explains the pathophysiology of an MI. In active

experimentation, the nurse participates in the AMI simulation to save the patient's life.

After simulation, debriefing takes place to encourage the development of critical thinking, clinical reasoning, and decision making (Dreifuerst, 2009). Debriefing is the most important part of simulation because knowledge learned is made stronger and transformed when discussed. Perceptions, observations, and experiences are discussed, feedback is received and given amongst the participants, and a relationship of trust develops. Dreifuerst (2009) states when debriefing is done correctly, nurses openly discuss perceptions, assumptions, and reflect on practices to understand new ways of improving competency in their profession.

Constructive Learning Theory (CLT)

In CLT the learner is building on their knowledge from past experiences. As one has experiences, and new experiences occur, knowledge builds and may change. The belief is understanding the new knowledge will help make sense of experiences they have encountered (Candela, 2016). CLT becomes evident when using teaching modalities like case studies, simulation, and games. With participants engaged and interacting with one another, a social constructive learning environment is recognized. Learners will draw from one another to build on what they have experienced and learned at the same time increasing their self-efficacy (Candela, 2016). By having learners actively participate in simulation and other clinical learning experiences they will continue to feel more confident (Candela, 2016).

Summary

This chapter provided research supporting the nursing shortage, especially seen in specialty areas. Without qualified ED nurses filling these vacant positions, healthcare organizations are hiring inexperienced nurses. This problem of inexperienced ED nurses filling vacancies identifies a gap in the literature demonstrating the lack of education for nurses transitioning to the ED. The research question guided this study to examine the influence of using innovative teaching strategies on the knowledge and self-confidence of nurses without ED experience. Two theoretical frameworks framed this project: Kolb focusing on internal cognitive processes transferred into knowledge (McLeod, 2013) and CLT where individuals learning from experiences and knowledge builds from them (Candela, 2016).

CHAPTER 2: LITERATURE REVIEW

The purpose of this literature review was to research how a multiple teaching modalities course will affect experienced nurses transitioning into the ED. The research retrieved was by using a manual search and electronic databases. A large number of research articles were available on new graduate orientation programs, but not on courses or programs for experienced nurses transitioning in practice. In addition using simulation as a teaching modality was found in the prelicensure programs but limited information was found on courses using simulation for experienced nurses. Due to the literature gap found, research consisted of evaluating results from prelicensure programs using simulation and courses using teaching modalities which did not include didactic as the only method.

Teaching Modalities

High-Fidelity Simulation

High-fidelity simulation (HFS) simulates a real-life situation using a computerized mannequin. Using HFS engages the learner while promoting critical thinking, prioritization skills, problem solving techniques, and skill acquisition. The nurse learns how to manage a high-acuity patient using lifelike scenarios (Flood & Thompson, 2011). When researching simulation used as a teaching modality, many benefits were found.

Cardoza and Hood (2012) conducted a research study to examine change in self-efficacy when nursing students took part in high-fidelity simulation (HFS). A descriptive correlational study was conducted with 52 senior baccalaureate nursing students who participated at a simulation center using a General Self-efficacy

(GSE) scale. The data was analyzed using a repeated two-way ANOVA with results identifying a significant difference p=<0.001 increase in self-efficacy after participating in the simulation.

Everett-Thomas et al. (2015), conducted a research study using simulation, didactics, and preceptorship training in a new graduate residency program for new medical surgical nurses. Simulation was found to show improvement in the nurses' ability to manage the overall care of the patient. In addition the realism of the simulated environment mirrored the similarities' to the clinical area.

Gordon and Buckley (2009) found when new medical surgical graduate nurses were exposed to HFS during orientation they expressed an increase in self-confidence. In addition participants felt more confident with their technical and non-technical skills when didactics were combined with HFS.

Kaddoura (2010) researched ten, new intensive care baccalaureate nursing students' perceptions of how simulation affected their critical thinking skills and confidence level. Data collected by semi-structured interviews and demographic questionnaires. Content analysis was used to observe for common themes related to critical thinking, confidence level, and learning as measured outcomes. The results revealed new graduate nurses reported increased confidence in taking care of critically ill patients and improvement in their knowledge base and critical thinking after simulation.

Case Studies

In nursing, case studies are used to improve learning, decision making, and problem-solving. Rather than an instructor lecturing about an asthmatic patient, a case study scenario is presented with details of the patient's assessment, past medical history, medications, and lab results. The learners must decipher how the

pieces fit together by critically thinking and problem solving. The activity encourages active participation with the class members fostering collaboration and applying new knowledge which then is transferred into practice (DeSanto-Madeya, 2007).

The literature reviewed confirmed that using case studies as a teaching modality encourages active learning which enhances student learning (Popil, 2011). Kunselman and Johnson (2004) found that case studies enhance learning. They used them as a teaching method and found that students discussed complex issues and made decisions while engaging with one another as case studies were presented. Dinc and Gorgulu (2002) mentioned that students benefitted with analysis of case studies by collaborating with one another and then making decisions. Burbah, Matkin, and Fritz (2004) pointed out that while using case studies when teaching 80 students in a leadership course their pre and post scores showed critical thinking significantly improved with this type of teaching modality.

Games

Games are another strategy used when presenting new or a review of material. Gucciardo and Matera (1991) looked at a new approach to providing mandatory classes by comparing a five-hour lecture over several weeks to a one-time 90-minute jeopardy game with the same material in their 750-bed medical center. The test scores on the post material presentation were the same. The benefit to using a nontraditional teaching method was stated by the experimental group has "having much more fun," required less time away from patients, and the data showed a 75% completion for the mandatory class which was the best record of completion for this facility.

Cowen and Tesh (2002) discussed their findings of teaching content on pediatric cardiology using the traditional method of only lecture and comparing this method to using both lecture and gaming. Both groups did not differ in their pretest scores but in the post-test the control group scored 85%, and the experimental group who received both lecture and gaming scored 94%. Gaming takes more time to create and can decrease the amount of time for other classroom activities but the benefits out weight the time factor (Royse & Newton, 2007).

Summary

A literature review examining simulation as a teaching modality was found to be extensive in nursing programs, but a gap in the literature found a lack of simulation used in new graduate residency programs and almost nothing was found for nurses transitioning to a specialty area. Using simulation in pre-licensure programs was readily seen because many nursing programs use simulation hours to count towards clinical time. The use of simulation was repeatedly shown to indicate benefits with improved critical thinking, knowledge, and self-confidence with nurses. Overall the benefits of HFS incorporated into the educational courses is positively supported.

Traditionally, course material presented in a lecture format has been found to be less favorable (Gucciardo & Matera, 1991). Attendees' lack of engagement and reduced retention of material was observed. Providing an environment with active participation enhances new ED employees' enthusiasm and excitement to learn the many complexities of ED nursing.

Case studies were found to be an effective method to encourage active participation and collaboration, and critical thinking. Learners actively involved in the learning process demonstrated improved ability to problem solve and make

appropriate decisions. Review of using games as a teaching method was described by participants as more fun. In one study improvement was noted on the post-test and there was an increase in the percent of completion for a mandatory class. Further research in the area of experienced nurses transitioning in practice to specialty areas using multiple teaching modalities is needed.

CHAPTER 3: METHODOLOGY

The research question guiding this study is "What is the effect of using a multiple teaching modalities course on the knowledge and self-confidence of newly hired nurses transitioning to the ED?" Within this chapter, the methodology used, population, and how the data was analyzed have been presented.

Method

Study Design

The study was a quasi-experimental design that evaluated the nurse's knowledge and self-confidence in clinical decision making, which was evaluated both pre and post intervention. The intervention was employed that consisted of an eight-week course using case studies, creative learning activities, games, simulation, and skills practice designed to increase knowledge and confidence of nursing staff working in the ED. The nurse's knowledge and confidence were evaluated both pre and post intervention; knowledge was measured using the Emergency Department-Basic Knowledge Assessment Tool, version 2 (ED-BKAT2) and confidence using the Clinical Decision-Making Self-Confidence Scale. These tools were administered on the first day of instruction and again on the second to last day, after the intervention. Every day of instruction, a three question survey posed the following questions:

1. What helped you today to better prepare yourself to work in the ED?
2. What is something that you learned today that you can apply?
3. Is there anything else you need further clarification of?

Sample Characteristics

The study population consisted of experienced nurses recently hired and transitioning into the ED with not greater than three months of ED experience. Individuals were recommended for the course by their unit manager. Ten registered nurses attended the course. The participants varied in gender, ethnicity, years of nursing experience, and possessed either an Associate Degree in Nursing or Bachelor of Science in Nursing Degree.

The inclusion criteria comprised of: Registered nurses with a current California RN license, a new ED hire at the hospital, not greater than three months of ED experience, prior nursing experience, and English speaking. The exclusion criteria consisted of: non-English speaking and/or pregnancy.

Setting

The setting for this project took place in a Northern California conference center classroom with a high-fidelity simulation lab. The area was used for didactics, case study presentations, and practicing skills such as chest tube and central venous pressure setup. Space contained available resources for presentations and interactive activities. The simulation room resembled a hospital room with the simulator, oxygen, suction, and supplies.

Course

The course was structured as an eight-week course. The first two weeks, consisting of ten eight-hour days at the conference center where the curriculum was taught to the participants using a variety of teaching methods. Multiple ED topics were covered, such as respiratory, cardiac, and neurological emergencies, at the beginning of the class day, using one or more of the teaching modalities stated earlier. At the end of each teaching day learning outcomes were reinforced with

high-fidelity (HFS) simulation. The simulated patient scenarios mirrored the material taught on that day, for example when respiratory cases and skills were learned and practiced in the morning and early afternoon, the late afternoon ended with a HFS scenario of a patient in respiratory distress. Weeks three and four involved participants working with their assigned preceptor at their ED affiliate. Weeks five through eight consisted of one eight-hour day at the conference center learning new curriculum and participating in the simulation, 24 hours in clinical preceptorship, and the remaining four hours completing assigned modules from Elsevier's Emergency Nursing Association orientation 2.0. The topics covered in the modules focused on respiratory, cardiac, neurological emergencies, pediatrics, trauma, and sepsis.

Curriculum

The curriculum consisted of a variety of ED topics each day such as; cardiac, respiratory, and neurology. The complete curriculum has been provided in Appendix A. The Clinical Program Educator Manager and Faculty Educator facilitated the content instruction and activities. The facilitators alternated explaining concepts and demonstrating skills, occasionally using videos through Emergency Nursing Association (ENA) orientation 2.0 online modules offered by ENA through Elsevier to enhance the realism of a procedure. Participants worked in pairs practicing new skills while observed by their partner. Facilitators walked around, observing, offering feedback, and answering questions asked by the participants.

Simulation was incorporated into the curriculum, in the afternoon after content, activities, and skills were practiced. The faculty educator, trained in simulation, operated the computer which communicated with the high-fidelity

(HF) simulator. Participants in groups of four took part in the simulated patient scenario. Roles consisted of the primary nurse, a secondary nurse, a scribe, and a person who functioned in a "freeze" role. The primary nurse took the lead with the patient, assigning tasks, and delegating when needed. The secondary nurse helped with the patient care, the scribe used a white board to document the physical assessment, procedures, and any changes in the patient's condition. The "freeze" person observed the scenario as it unfolded to make sure team members were prioritizing care appropriately. The freeze person would then yell out "freeze" if they noticed the participants in the scenario needed to be redirected and at that time would discuss with the participants what they were observing. For example, the patient's respiratory rate and pulse oximetry drops without any of the team members noticing. This would initiate a response from the freeze person.

The other facilitator was the voice of the patient and the remainder of the participants observed and took part in additional roles as needed, such as a radiology technician, respiratory therapist, and emergency department technician. Positions were switched every seven to ten minutes to ensure all participants were actively participating in the scenario and experiencing different roles. During the change in roles; Situation, Background, Assessment, and Recommendation (SBAR) format was uses when report was given.

During simulation, the scenario was videotaped by the project coordinator using an IPad. The length of simulation varied from 20 - 30 minutes. A structured one-hour debrief took place every day after simulation. Debrief began with the class watching the HFS video and then discussing what they observed. Everyday a different class participant conducted the debriefing of the simulation by asking two structured questions: "What went well?" "What are areas we can improve on?" A flip chart in the front of the room allowed for key points to be documented.

The two educators helped facilitate the debriefing offering input to stimulate critical thinking, and to evaluate communication, prioritization, and teamwork. The focus of simulation was to build on previously learned knowledge and increase one's self-confidence working through "real" ED patient scenarios.

Data Collection

The instruments used in this research project were the ED-BKAT2 to assess the participant's ED knowledge and the Clinical Decision-Making Self-Confidence Scale to assess the individual's self-confidence. Permission to use both the ED-BKAT2 tool and the Clinical Decision-Making Self-Confidence Scale was granted (Hicks, Coke, & Li, 2009). The ED-BKAT2 is an 85 question paper and pencil exam, focused on critical care nursing in the ED. The ED-BKAT1 was the name of the first exam and content validity was examined by nine experts in the field of emergency nursing. The content was first evaluated regarding how pertinent the questions were, the level of difficulty, and if any of the questions needed to be reworded or additional items needed to be added (Toth, 2012). A sample of 126 ED nurses took the exam and from the results, revisions were made to create an ED-BKAT2, which is shorter in length. To test the construct validity, two groups were tested (new graduate nurses with < 1-year experience in the ED and nurses with 1 to 39 years of ED nursing experience.) Both scores were compared using a one-tail independent t-test. The results indicated a significant difference in a lower score for the new nurse graduates on the ED-BKAT2: $t(137) = 3.8$, $p < .0005$. The data collection for new graduates using the ED-BKAT2 was < 5%; group difference was not tabulated. The reliability for the ED-BKAT1 was done on 139 ED nurses. Reliability was calculated using the Cronbach's coefficient alpha with a range from 0.80 to 0.83. The percentage of correct answers showed a

mean score of 83% with 7.5 points as the standard deviation. The ED-BKAT2 was measured the same way but used 126 ED nurses showing a Cronbach's coefficient alpha of 0.82 (Toth, 2012).

The other tool used measured self-confidence, the Clinical Decision-Making Self-Confidence Scale containing 12 questions with a score of 1 "Not at all confident" to the highest number 5 "Very confident" measuring self-confidence levels when taking care of a patient with the following body system complaints: cardiac, respiratory, and neurologic. This scale demonstrated a high reliability due to the Cronbach's alphas of the scale on the pretest showing 0.93 and for the posttest 0.96 (Hicks, Coke, & Li, 2009).

In addition, there was a three question survey, requiring a written response, which was administered daily. The three questions assessed common themes from the participants' experience of using multiple teaching modalities. Both test and scale were administered to all the participants in the study by the principal investigator on the first day of the course (pre - day 1) and the last full day of course instruction (post - day 13).

Data Analysis

Data were entered into an Excel spreadsheet then imported and analyzed using IBM SPSS 21.0 (reference). Contingency tables were used to evaluate the number of cases within each confidence level before the intervention and again after the intervention. All data were double checked by the principal investigator along with the daily survey the participants were given to provide feedback on the usefulness of material presented. Frequency distribution, means, and standard deviations were used to evaluate the distribution of the variables and screen for

outliers. The repeated measure T-test was used to compare the mean differences in pre and post ED-BKAT2 scores.

Summary

To answer the research question "What is the effect of using a multiple teaching modalities course on the knowledge and self-confidence of inexperienced ED nurses transitioning to the ED?" This study incorporated case studies, creative learning activities, games, simulation, and skills practice. The variety of teaching methods support all learning styles of the adult learner facilitating the learning process. The ED-BKAT2 and Clinical Decision-Making Self-Confidence Scale was then used to assess the effect of knowledge and self-confidence pre and post course using the IBM SPSS 21.0 to analyze the data.

CHAPTER 4: RESULTS

This chapter discusses the results of differences in the ED-BKAT2 and the Clinical Decision Self-Confidence scores before and after conducting the teaching interventions. The interventions consisted of case studies, simulation, games, creative teaching activities and skills practice to increase knowledge and self-confidence when taking care of patients with cardiac, respiratory, and neurologic complaints.

Results

Seven nurses met the inclusion criteria. Three were white, two were Hispanic, one was black, and one was Asian. The mean years of nursing experience ranged from 0.5 to 10 years. Five of the subjects were female, and two were male. The highest nursing degree for two subjects was an associate's degree, five had a bachelor's degree, and one participant had a Masters in Science Healthcare Administration (see Table 1). All seven had previous varied nursing experience in the following areas: Emergency Department, Family Practice, Home Health, Hospice, Intensive Care Unit (ICU), ICU Step down Unit, Medical/Surgical, Neonatal ICU, Neurology Oncology, Orthopedics, Outpatient Ambulatory Services., Pediatrics, Postpartum, Rehab, and Telemetry.

The overall mean pre-ED-BKAT2, which assessed knowledge of working in the ED, was 72.27, ±2.95 SD and 76.64, ± 6.13 SD for the post-ED-BKAT2 (t_6= 1.88, p=0.108). Although the p-value was not statistically significant at the p< 0.05 level, the result indicated an increase in knowledge of 6.04% post intervention.

Frequency and percent of respondents' scores on the Clinical Decision Making Self-Confidence Scale before and after the teaching intervention were

Table 1

Demographic Characteristics of Nurses Included in the Study

Demographics	N (%)	Mean (SD)
Years of Nursing Experience	7 (100)	5.38 (3.41)
Race/ethnicity		
White	3 (42.9)	
Hispanic	2 (28.6)	
Asian	1 (14.3)	
Black	1 (14.3)	
Sex		
Male	2 (28.6)	
Female	5 (71.4)	
Associate Nursing Degree	2 (28.6)	
Bachelor of Nursing Degree	5 (71.4)	

presented in Table 2. The largest gains in confidence were found in the following categories: 1) Assessing and evaluating a patient with chest pain; 2) Recognizing symptoms and assessing a patient with shortness of breath; and 3) Intervening and evaluating a patient with a change in mental status.

Assessing chest pain

Before the intervention, one person was somewhat not confident, as indicated by a score of two, four people were somewhat confident, as indicated by a score of three, one person was moderately confident, as indicated by a score of four, and one was very confident, as indicated by a score of five when assessing a patient with chest pain. After the intervention, two increased to moderately confident, two increased to very confident, and the other three remain unchanged.

Evaluating chest pain

Before the intervention, five people were somewhat confident, as indicated by a score of three, one person was moderately confident, as indicated by a score

of four, and one person was very confident, as indicated by a score of five when evaluating a patient with chest pain. After the intervention, three increased to moderately confident, and the other four remained unchanged.

Recognizing symptoms of shortness of breath

Before the intervention, two people were somewhat confident, as indicated by a score of three, four people were moderately confident, as indicated by a score of four, and one person was very confident, as indicated by a score of five when recognizing the symptoms of a patient with shortness of breath. After the intervention, no one remained somewhat confident, three increased to very confident, and the other four remained unchanged with recognizing the symptoms.

Assessing shortness of breath

Before the intervention, four people were somewhat confident, as indicated by a score of three, and three people were moderately confident, as indicated by a score of four, when assessing a patient with shortness of breath. After the intervention, no one was somewhat confident, one increased to moderately confident, three increased to very confident, and three remained unchanged in assessing a complaint of shortness of breath.

Intervening on a patient with mental status changes

Before the intervention, one person was somewhat not confident, as indicated by a score of two, five people were somewhat confident, as indicated by a score of three, and one person was very confident as indicated by a score of five when intervening on a patient with mental status changes. After the intervention, no one was somewhat not confident, four increased to moderately confident, and

four remained unchanged when intervening on a patient with mental status changes.

Evaluating a patient with mental status changes

Before the intervention, one person was somewhat not confident, as indicated by a score of two, five people were somewhat confident, as indicated by a score of three, and one person was moderately confident as indicated by a score of four when evaluating a patient with mental status changes. After the intervention, no one was somewhat not confident, two increased to moderately confident, and one increased to very confident, and four remained unchanged when evaluating a patient with mental status changes.

The ED-BKAT2 did not show an increase in cardiac knowledge even though the participants showed an increase in self-confidence when assessing a cardiac patient with chest pain post intervention. There was an increase in subjects' respiratory knowledge base especially with pulmonary assessment, care, and drugs, which may correlate to the increase in self-confidence of recognizing symptoms of a patient with respiratory symptoms. Additionally, there was a four point increase on the ED-BKAT2 when assessing and caring for patient with a neurological issue, where the Clinical Decision Making Self-Confidence showed an increase in the intervention and evaluation of a patient with a neurologic complaint.

The results of three questions revealed positive responses to using simulation and skills practice to prepare the ED nurse in their new role. The nurses felt that the ED tips shared in class by the ED educators, learning to anticipate orders, and prioritizing care were beneficial. Furthermore, participants requested additional clarification on infusing blood products in the ED, using the National

Institutes of Health Stroke Scale (NIHSS) when assessing patients with stroke signs and symptoms, and using the sepsis protocol. All three of these topics were covered in the course but the results of the survey suggest that additional information provided in the course is needed for nurses to feel confident in these areas of care.

Overall the post intervention ED-BKAT2 and the Clinical Decision Making Self-Confidence scales demonstrated an increase in both knowledge and self-confidence in caring for patients in the ED. The ED-BKAT2 focused on knowledge and the Clinical Decision Making Self-Confidence Scale focused on self-confidence provided information on several patient complaints but four areas in the Clinical Decision Making Self-Confidence Scale demonstrated more of an increase in self-confidence as oppose to the other eight, which is provided in Table 2. Providing multiple teaching modalities in an ED course demonstrated an increase in knowledge and self-confidence of experienced nurses transitioning to the ED.

Table 2

Scores on the Clinical Decision Making Self-Confidence Scale Recognizing Symptoms, Accurately Assessing, Appropriately Intervening, and Evaluating the Effectiveness of Cardiac, Respiratory, and Neurological Events Before and After (N=7)

	Post-Intervention		
Pre-Intervention	Somewhat Confident	Moderately Confident	Very Confident
Cardiac symptoms			
Somewhat not confident	0	1 (25.0%)	0
Somewhat confident	1 (100.0%)	2 (50.0%)	0
Moderately confident	0	1 (25.0%)	1 (50.0%)
Very Confident	0	0	1 (50.0%)
Cardiac assessment			
Somewhat not confident	0	1 (33.3%)	0
Somewhat confident	1 (100.0%)	2 (66.7%)	1 (33.3%)
Moderately confident	0	0	1 (33.3%)
Very Confident	0	0	1 (33.3%)

Pre-Intervention	Post-Intervention		
	Somewhat Confident	Moderately Confident	Very Confident
Cardiac interventions			
Somewhat not confident	0	1 (20.0%)	0
Somewhat confident	1 (100.0%)	1 (20.0%)	0
Moderately confident	0	3 (60.0%)	1 (100.00%)
Very Confident	0	0	0
Cardiac evaluation			
Somewhat not confident	0	0	0
Somewhat confident	2 (100.0%)	3 (75.0%)	0
Moderately confident	0	1 (25%)	0
Very Confident	0	0	1 (100.0%)
Respiratory symptoms			
Somewhat not confident	0	0	0
Somewhat confident	0	1 (33.3%)	1 (25.0%)
Moderately confident	0	2 (66.7%)	2 (50.0%)
Very Confident	0	0	1 (25.0%)
Respiratory assessment			
Somewhat not confident	0	0	0
Somewhat confident	0	2 (50.0%)	2 (66.7%)
Moderately confident	0	2 (50.0%)	1 (33.3%)
Very Confident	0	0	0
Respiratory interventions			
Somewhat not confident	0	0	0
Somewhat confident	1 (100.0%)	2 (40.0%)	0
Moderately confident	0	3 (60.0%)	1 (100.0%)
Very Confident	0	0	0
Respiratory evaluation			
Somewhat not confident	0	0	0
Somewhat confident	0	4 (66.7%)	0
Moderately confident	0	2 (33.3%)	1 (100%)
Very Confident	0	0	0
Neurology symptoms			
Somewhat not confident	0	1 (25.0%)	0
Somewhat confident	1 (100%)	0	1 (50.0%)
Moderately confident	0	3 (75%)	0
Very Confident	0	0	1 (50%)
Neurology assessment			
Somewhat not confident	0	1 (20.0%)	0
Somewhat confident	0	1 (20.0%)	1 (100.0%)
Moderately confident	1 (100.0%)	3 (60.0%)	0
Very Confident	0	0	0

Pre-Intervention	Post-Intervention		
	Somewhat Confident	Moderately Confident	Very Confident
Neurology interventions			
Somewhat not confident	0	1 (25.0%)	0
Somewhat confident	2 (100.0%)	2 (50.0%)	1 (100.0%)
Moderately confident	0	0	0
Very Confident	0	1 (25%)	0
Neurology evaluation			
Somewhat not confident	1 (33.3%)	0	0
Somewhat confident	2 (66.7%)	2 (66.7%)	1 (100%)
Moderately confident	0	1 (33.3%)	0
Very Confident	0	0	0

Summary

Using multiple teaching modalities indicated an increase in novice ED nurses' ED knowledge and their self-confidence post intervention. Participants' active engagement and repetition of learned material occurred from using multiple teaching methods. This created positive change which will benefit and support the transitioning nurse into the specialty area of emergency nursing.

CHAPTER 5: DISCUSSION

This study explored using multiple teaching modalities in an ED course for novice ED nurses to improve emergency nursing knowledge and self-confidence when taking care of patients with cardiac, respiratory, and neurological complaints. Case studies, games, and simulation were the modalities used in this study and appeared to engage the subjects and facilitate actively learning.

Burbah, Matkin, and Fritz (2004) demonstrated a significant improvement in critical thinking when using case studies as a teaching method. The literature review indicated that using high-fidelty simulation demonstrated a significant increase in self-efficacy (Cardoza & Hood, 2012). Additionally, Kaddoura (2010) showed an increase in critical thinking and self-confidence after nursing students participated in simulation. In the study using multiple teaching modalities, such as case studies and simulation, showed an increase in knowledge and self-confidence on the ED-BKAT2 and Clinical Decision Making Self-Confidence Scale.

Furthermore, subjects' surveys in this study validated how fun the experience was when actively involved and how quickly the eight hour class time passed by. Gucciardo and Matera (1991) compared a five-hour traditional learning course with a 90-minute jeopardy game and found both groups posttest scores were the same, but the experimental group described the method as fun while taking less time to complete.

The study answered the research question, "What are the effects of using a multiple teaching modalities course on the knowledge and self-confidence of nurses transitioning to the ED?" The ED-BKAT2 outcome presented a 6.04% improvement post intervention. Even though the investigator was unsure of which

teaching modalities affected the positive change in the participants' knowledge and self-confidence, there was a benefit.

The Clinical Decision Making Self-Confidence Scale revealed an overall increase in self-confidence in the nurse's comfort level, especially with cardiac and respiratory assessments, and neurological intervention and evaluation. While uncertain as to why the data demonstrated a higher score in these four areas the approach may have played a role. For the respiratory and neurological topics content experts were invited to speak.

A respiratory therapist, brought in respiratory equipment and spent several hours going through assessments and interventions needed for a patient in respiratory distress. The participants practiced skills such as: initiating a hand held nebulizer and ventilating a manikin with a bag valve mask. In addition, a vendor from Genentech provided information on assessing a patient before and after receiving a thrombolytic (Tissue Plasminogen Activator - tPA) for their ischemic stroke. Participants received information on the stroke protocol and a discussion concluded with tPA administration and evaluation of the treatment.

During the eight-week course, participants spoke highly of the curriculum and the exposure they had with skills practice and role playing in realistic ED patient scenarios. One example was a patient with a gastrointestinal bleed. He required oxygen by mask, two large bore IVs, multiple normal saline boluses, lab draws which included a type and crossmatch for two units of packed red blood cells. The participants were required to carry out all of the orders using supplies in the cabinets. Administration of blood products were ordered and given following the hospital policy, and a couple of diagnostic tests were ordered and carried out by participants acting out roles of technicians.

On several occasions participants stated some of the procedures they were practicing prior to and during simulation, their preceptors had never done or had the opportunity to practice (intraosseous access, central venous pressure setup). This not only helps the learner but allows the learner to pass on their training to others in the ED. This type of learning reinforces Kolb's ELT which arises from experience transformed into knowledge. Participants then gain an understanding and clarification.

Limitations

One of the limitations of this study was a small sample size which may have been the reason for the lack of statistical significance in the ED-BKAT2 tool. Having a larger sample size may provide additional data with a clearer picture of the results. The results which were obtained showed an improvement or no change. The small sample size was related to the close approaching start date of the ED course, requirements before enrollment, communicating with multiple facilities regarding the logistics, and there were communication delays at facilities, unfortunately resulting in unexpected withdrawals in the final days of commencement.

Furthermore, the Clinical Decision Making Self-Confidence Scale is a self-reported tool which can be effected from a bias in social desirability. Participants may respond to survey questions revealing an increase in self-confidence to make themselves feel better or be viewed favorably by others. Another limitation was the timing of the post-test day and time. Participants were told the post-test would occur on the last day at the end of the day. Due to unexpected scheduling requirements on the final day, the post-test was taken on the second to the last day and after lunch. With many participants traveling one to two hours to the program

site and the post-test administered after lunch, participants appeared tired and unmotivated.

Implications for Emergency Nursing

Due to the continued nursing shortage across the country (American Nurses Association, 2016) having a multiple teaching modalities standardized ED training course provides the novice ED nurse opportunity to gain knowledge and self-confidence needed to care for the ED patient. Using multiple teaching modalities such as games, can take more time to create (Royse & Newton, 2007) and HFS can be costly, time-consuming, and require increase resources, but the beneficial outcome outweighs the former (Mould, White, & Gallagher, 2011).

One lesson learned when incorporating multiple methods of teaching during the ED course was how quickly the eight hours passed by. On numerous occasions the participants verbalized disbelief that the day was over and they had learned so much. Taking the time to create learning activities can be time consuming: preparing the game cards, creating a power point slide presentation, purchasing game pieces (e.g. jelly beans, M&M's), and providing an explanation of game rules takes time. This should be considered when planning learning activities.

High-fidelity simulation can be costly and time consuming, which may be a burden if one needs to purchase a high-fidelity simulator, premade scenarios software, or spending time programing the software with simulated patient scenarios. High-fidelity simulation has beneficial results from the literature review and this study, so an alternative proposal would be to incorporate the use of patient simulators with a script which can achieve realistic ED patient scenarios without the high-fidelity technology.

The facilitator would need to provide additional information to the participants, which would normally be displayed on a monitor and programed for the simulator to display such as; crackles in the lung bases. Purchasing intravenous practice arms and gathering expired supplies from healthcare facility or hospital vendors can be used in the scenarios so participants can practice skills common in the ED environment.

High-fidelity simulation must be as realistic as possible to the actual ED environment. Participants must actively participate in all skills. It was not enough for them to verbalize what they are doing such as, "I am going to draw blood, and give this medication." According to Lund et al. (2012), practicing skills in a controlled environment provides training, independency, and safety before transferring to the actual clinical environment where patient safety is of upmost importance. In addition, students who participated in HFS demonstrated an increase in their self-confidence and competency (Mould, White, and Gallagher, 2011).

Future Study

Additional research is needed to understand which teaching modalities specifically affected the increase in self-confidence and knowledge indicated on the ED-BKAT2. Participants commented on their survey that simulation and skills practice was their favorite teaching modality. There needs to be further exploration of their effectiveness to provide deeper insight.

Increasing the sample size would increase the statistical power of the study. Because simulation benefits from a smaller class size to allow for all participants to be actively involved, future studies would require smaller cohorts with repeated eight-week courses throughout the year to have a combined larger sample size for

data analysis. Furthermore, examining a longitudinal study of nurses participating in an experimental and a control group would provide baseline data when comparing these two groups.

In addition, the literature gap indicated limited use of simulation as a teaching modality in training nurses, the lack of using a variety of learning modalities in educational courses, and limited educational courses for nurses transitioning to a specialty care unit. Additional studies would provide educators with not only the effects on knowledge and self-confidence, but may offer insight into how participating in a similar course that provides tools to work in a fast-paced, high-acuity environment affects nurse retention.

Conclusion

This is the first study using multiple teaching modalities with experienced nurses transitioning as novice nurses to a specialty area. Benefits were demonstrated as indicated by an increase in ED-BKAT2 and the self-confidence scores. Positive feedback was provided from the survey and mentioned to facilitators throughout the eight-week course. The format used for the emergency nursing curriculum was well received and resulted in participates' engagement throughout the study. On several occasions participants complimented the facilitators on how much they enjoyed skills practice and simulation. Several said, "It is nice to practice in a realistic patient scenarios along with the skills, to accompany them."

Using multiple teaching modalities provided a benefit to newly trained ED nurses with an increase in knowledge and self-confidence. There needs to be further replication to increase our understanding of the specific types of teaching modalities that contribute to positive change. Using Kolb's ELT and the CLT,

participants can continue to learn from the transformation of their experience and build on new knowledge and skills with new experiences. The "hands-on" activities in a HFS lab provided the participants opportunity to not only preform skills but, critically think, prioritize, make decisions, effectively communicate, and use teamwork which all contribute to increased knowledge and self-confidence in preparing nurses to safely take care of patients in the ED environment.

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APPENDICES

APPENDIX A: DAILY CONTENT AND TEACHING
MODALITIES

Appendix A: Daily Content and Teaching Modalities

Goal: The goal of using a multiple teaching modality ED course is to see an increase in the novice ED nurses' knowledge and self-confidence.

Week	Outcomes	Curriculum Topics	Activities

Week 1, Day 1
0800 - 1630
	1. Upon completion of this class the participant will:
	   a. verbalize the flow of the ED.
	   b. be able to assess ED patients using focused or a complete head to toe assessment.
	   c. demonstrate how to communicate with the geriatric population.
		Introduction to ED nursing
		
		• ED flow
		• Assessments
		   o Complete versus Focused
		• Geriatrics - communication, atypical presentation
			Activities:
			
			• Prioritize a four patient assignment.
			• Role play a scenario with an older adult patient with complaints of nausea. Demonstrate positive techniques (speak slowly, ask one question at a time) when communicating with the older population.
			• Participate in a high-fidelity simulation (HFS) to learn the basics of simulation: Demonstrate basic assessment of a cardiac patient.

Week	Outcomes	Curriculum Topics	Activities
Week 1, Day 2 0800 - 1630	1. Upon completion of this class the participant will: a. be able to assign the Emergency Severity Index (ESI) acuity level correctly. b. discuss the interventions for a patient who has overdosed.	**Triage and Psychiatric Emergencies** • Triage - ESI acuity level • Assessment and interventions for patients with substance abuse and psychiatric presentation	**Activities:** • Preform a Patient Triage Activity. • Complete a SAD PERSONS assessment. • Watch a video about a patient with a psychiatric illness and then as a group discuss feelings about the patient's behavior and how best to intervene. • Participate in a HFS: Cocaine overdose with a cardiac arrest.
Week 1, Day 3 **0800** - 1630	1. Upon completion of this class the participant will: a. be able to compare and contrast different patient's complaints of abdominal pain. b. Be able to anticipate diagnostic tests and interventions for a patient with an abdominal emergency.	**Abdominal Emergencies** • Gastrointestinal • Genitourinary • Gynecological	**Activities:** • View Elsevier videos on indwelling catherization, NGT placement, and assisting with a paracentesis. • Perform an in and out urinary catheterization on a female, Hemo/gastrocult, UA dip, and urine pregnancy. • Participate in a HFS: Chronic gastrointestinal bleed.

Week	Outcomes	Curriculum Topics	Activities

Week 1, Day 4
0800 - 1630
	1. Upon completion of this class the participant will:
	  a. be able to justify the interventions needed to take care of a diabetic patient with hypo/hyperglycemia.
	  b. justify the interventions needed to take care of a renal patient with hyperkalemia.
		Endocrine Emergencies
		• Diabetes
		• Hypo/Hyperglycemia
		• Renal
			Activities:
			• Discuss the different diabetic emergencies.
			• Participate in a hyperkalemic case study presentation.
			• Participate in a HFS: Acute kidney injury.

Week 1, Day 5
0800 - 1630
	1. Upon completion of this class the participant will:
	  a. be able to demonstrate the assessment, nursing care and management of a patient in respiratory distress.
		Respiratory Emergencies
		• Exacerbation of COPD and/or asthma presentation
		  o assessment
		  o interventions
		  o prioritization of care
		• Rapid Sequence Intubation (RSI)
		• Intubation
		• Ventilators
			Activities:
			• Preform a peak flow and administer a hand held nebulizer (HHN).
			• Practice assisting the provider with intubation, including drawing up medications used in RSI.
			• Participate in an HFS: Adult patient with respiratory distress.

Week	Outcomes	Curriculum Topics	Activities
Week 2, Day 6 0800 - 1630	1. Upon completion of this class the participant will: a. be able to outline the treatment plan for a patient with a Cerebral Vascular Accident (CVA). b. state the difference between a hemorrhagic versus ischemic stroke.	**Neurological Emergencies** • CVA - Ischemic/Hemorrhagic • Tissue Plasminogen Activator (TPA) • National Institutes of Health Stroke Scale (NIHSS)	**Activities:** • Perform a neuro assessment. • Mix TPA and infuse using an infusion pump. • Participate in a HFS: Brain attack with thrombolytic therapy.
Week 2, Day 7 0800 - 1630	1. Upon completion of this class the participant will: a. recognize potential obstetrical complications. b. intervene with potential obstetrical complications.	**Obstetrics Emergencies** • Pre-eclampsia • Placenta previa • Abruptio placenta • Post-Partum Hemorrhage • Ectopic Pregnancies	**Activities:** • Assist with a pelvic exam. • Participant will participate in an HFS: Postpartum hemorrhage two hours after delivery.

Week	Outcomes	Curriculum Topics	Activities

Week 2, Day 8
0800 - 1630
	1. Upon completion of this class the participant will:
	    a. assess a patient in a shock state.
	    b. formulate a plan of care for a patient in a shock state.
		Shock States
		• Distributive
		• Cardiogenic
		• Hypovolemic
		• Obstructive
			Activities:
			• Practice narrative documentation by observing a picture of a patient in shock and describing what is seen in written words.
			• Practice using a pressure bag.
			• Practice performing orthostatic vital signs.
			• Participate in a HFS: Sepsis, Septic Shock, and Multisystem Organ Dysfunction Syndrome (MODS).

Week	Outcomes	Curriculum Topics	Activities

Week 2, Day 9
0800 - 1630
	1. Upon completion of this class the participant will:
	   a. interpret three life-threatening dysrhythmias
	   b. anticipate treatment needed for a patient experiencing a life threatening dysrhythmias.
		Critical Care Patients
		
		• Intraosseous (IO)
		• Central lines
		• Critical Care drips
		• Review Advanced Cardiac Life Support (ACLS) protocol
			Activities:
			
			• Practice placing IO needles and discuss the concept of pain that patients may exhibit during this procedure.
			• Practice calculating critical care drips and programing an infusion pump to deliver the medication.
			• Practice recognition of dysrhythmias and necessary treatments while playing HEART BINGO.
			• Participate in a HFS: Basic dysrhythmias recognition and management.

Week	Outcomes	Curriculum Topics	Activities

Week 2, Day 10
0800 **-** 1630
	1. Upon completion of this class the participant will demonstrate techniques:
	    a. when communicating with the pediatric patient population.
	    b. when preforming procedures on the pediatric patient population.
		Pediatric Emergencies
		• Presentation
		• Communication - family centered
		• Examination
		• Procedures
			Activities:
			• Place a U bag on an infant to collect a urine specimen.
			• Role play techniques used when communicating with the pediatric patient population during an examination and required procedures.
			• Demonstrate techniques when holding a pediatric patient when performing procedures, for example, intravenous starts.

Week 3 & 4	1. Upon completion of their clinical time, the participant will: a. demonstrate familiarity with specific ED affiliate protocols and procedures.	At the affiliated ED the participant will complete 36 hours/week of working with an assigned preceptor.	

Week	Outcomes	Curriculum Topics	Activities

Week 5, Day 11 0800 - 1630	1. Upon completion of this class the participant will:
	   a. create scripts for assessing patients in a violent/abusive relationship.
	   b. be able to set a patient up for a CT insertion.
		Respiratory Emergencies Day 2 and Violence
		 • Chest tube (CT)
		 • Domestic Violence
		 • Child and Elderly Abuse
			Activities:
			 • Practice assisting with a CT placement.
			 • Practice setting up a chest tube drainage system and dressing placement to CT site.
			 • Participate in a simulated standardized patient scenario: Domestic Violence
			 • Participate in a HFS: Patient requiring intubation.

Week 6, Day 12 0800 - 1630	1. Upon completion of this class the participant will:
	   a. demonstrate the management of a patient with a cardiac emergency.
		Cardiac Emergencies
		 • Acute Coronary Syndrome (ACS)
		 • Myocardial Infarction (MI)
		 • Heart Failure
		   o Acute
		   o Chronic
		 • 12 lead EKGs
			Activities:
			 • Preform a 12 lead EKG.
			 • Participate in a cardiac case study.
			 • Participate in a HFS: Acute Coronary Syndrome and Acute MI.

Week	Outcomes	Curriculum Topics	Activities
Week 7, Day 13 0800 - 1630	1. Upon completion of this class the participant will: a. outline the steps in assessing a trauma patient.	**Trauma** • Primary/Secondary Assessment • Trauma criteria • Anatomical, physiological, and mechanism of injury	**Activities:** • Practice primary/secondary assessments. • Participate in a HFS: Motor Vehicle Collision with abdominal injury, internal bleeding, and hypovolemic shock.

Week 8, Day 14
0800 - 1630
	1. Upon completion of this class the participant will:
	   a. define what a Mass Causality Incident (MCI) is.
	   b. state the priorities when assessing MCI victims.
		Mass Causality Incident (MCI)
		• Definition
		• Triaging during an MCI
			Activities:
			• Demonstrate how to triage in a mass casualty incident.
			• Practice in groups of 3-4 triaging patients in an MCI.